

# Super Intuitive Technology

## Are Obstacles Now Obsolete or

### Do Obstacles Create More Obstacles?

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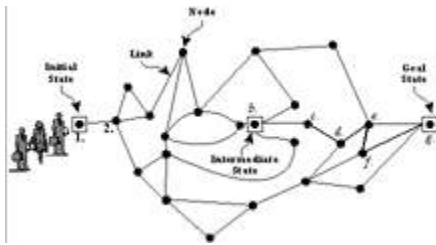
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## Synopsis

The sole determination of sustained business success and the singular cause of business failure is knowledge and/or information **content** based. Business optimization has proven to be possible only from a basis of "informed choice" and economic knowledge differentials. Richard Bellman , a noted Operations Research pioneer, described the superior policy as one which causes the critical goal relative choices to be made consistent with maximizing goal gains. The policy - "*An optimal policy has the property that whatever the initial state and initial choices are, the remaining (future) choices must constitute an optimal policy with respect to the state resulting from the first choices.*"



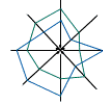
The good news in this statement is the attribute that actual achievement of goal is open to all starting points or current states. Dr. Peter Senge (organizational learning) and Dr. Gary Hamel (core competencies) describe the importance of creating the "learning organization.". The bad news is the absolute requirement to correctly measure the actual current "state" of the competency, learning and knowledge success ingredients. The success ingredients are information differentials. Information content (knowledge) creates measurable bias

toward "best" choices. John von Neumann, an early cyberspace economist explains that capturing or achieving an economic utility function requires that the goal be able to be measured (ordinal at least). Measurement systems are a foundation of all properly constructed navigation and guidance systems. A metric guidance system is absolutely required for the determination that the choices are properly goal directed. Managing and measuring are tightly connected. Navigation fails when the feed forward and feedback measures are faulty. This paper describes an economic method of measuring the high worth objects of business enterprises. The name of the formalized technique is ITOP®, an acronym for Intellect Technique for Optimum Performance.



"Experience is a dim lamp, which only lights the one who bears it."

-- Louis-Ferdinand CéLine --



## Tough Truthful Love - Can IT Exist?

**High Worth Objects in Life** The high worth, most precious objects in life are those that mean the most to each individual and/or goal seeking ensemble of individuals. People are genuinely passionate about personally precious items. Really strong bonds for things held precious create an atmosphere of life and death magnitude. People often "die for" and "kill for" such objects of affection. Goals become emotion packed objects that are hard fought. Goal attainment is akin to winning the battles against obstacles and barriers that inhibit goal achievement.

**Value Systems in Life** Given that a group society has the intention of thriving there are certain conditions of behavior that become necessary to put into actual practice. The practices that sustain the continuity and perpetuate growth must necessarily be encouraged and those that are deemed destructive are discouraged. The kind and degree of encouragement and discouragement are implementation details subject to infinite debate. The necessity becomes one of limiting the full range of individual choice to those choices that are aligned with the group goal(s). Immediately, the potential exists for conflict between the individual situational needs and the group good. To the extent that conflict actually arises, so does the need for conflict (problem) resolution. The individual is often a member and/or participant of many groups and so is subject to a cascading set of complex value systems. Some method for group stewardship or governance must arbitrate the balance.

**Conflict Resolution** In the wider spectrum of group behavior (national interests for example) the recourse for difference resolution choices include arbitration, litigation, economic incentives/penalties, and physical abuse (war). Normally accepted business practice has ruled out physical destruction because the retaliation in kind degenerates to a non-economic state that is contrary to business continuity. A continuous state of war is not economic.

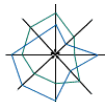
**A Group for Goods Exchange** A group of any two (or more) individuals can conduct an exchange of unlike objects. The incidence of such events is named "business." A business is more or less a collection of individuals, tools and facilities for the purpose of exchanging objects with other groups and individuals. An institutional group identity is assigned and becomes the business "name." For example, Tom and Jerry's is such a name for delivering ice cream to other individuals, businesses, governments, and institutions of learning that have a yearning and something to exchange. Although not commonly thought of as such, educational institutions are in the business of educating and governments are in the business of national stewardship.

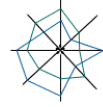
### Obstacle Removal - Breaking the Barriers

**Universal Value Scale and Scoring System** Two rapid ways to fail are (1) to devote energy and resources to low worth activities and (2) the inability to properly measure the value of work activity. Proper measurement is prerequisite to management of positive goal outcomes. The ITOP system uses a measurement and scoring system that is consistent with the Bellman described optimization approach mentioned at the top of this article. The scoring begins with determination of the quantity or proportion of right choices as opposed to wrong choices with respect to "goal." In school context, the metric score is right choices minus wrong choices. Occasionally, but not typically, this scoring system is used in school with "true/false" tests. There is no implied suggestion or recommendation for change or alteration in school. The necessity for this scoring metric arises from the proper discrete (digital) accounting of economic business actions provoked by informed choice.

One can easily see the scoring impact. A typical score of "90" becomes "80" when the right minus wrong metric is employed. A score of 70 right is altered to 40 in the revised system. Most importantly, a score of 50 becomes zero. While nothing different has happened relative to the record keeping (identical numbers) a rather dramatic alignment occurs relative to economic choice consequence assessment/measurement. The composite goal gain return is net consequence of right and wrong choices times their respective weighting of investment. In the perfect information theory, the wrong choices would never be executed, but in reality information blindness and the dynamics of competitive uncertainty provoke substantial investment in wrong choices. Ignoring the consequence of non-optimal choices seriously corrupts the proper scoring system and ultimately the navigation.

**Obstacle Removal** The item just mentioned above is significant in beginning to remove the obstacles on the journey to proper value assessment and more importantly to global business scorecards. The next obstacle is more severe. It deals with data collection necessary and sufficient to assess the differentially valueable bias





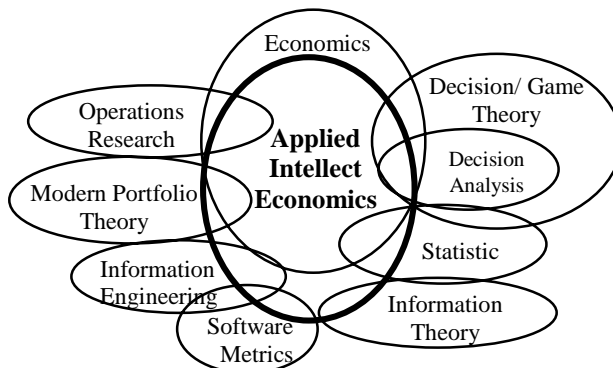
introduced by information systems, knowledge and learning. The design obstacle is one of not biasing the system being investigated. A system must be designed that is trusted but introduces absolutely no bias.

**Data Acquisition and method Obstacles** The design criteria for activating a near zero bias "measurement system" to identify, and quantify value of **intellectual assets** related to competitive edges, practices, processes, systems, information, knowledge and competencies include the most severe design restrictions.

All typical requirements for "**proper measurement**" apply. In addition, an extended set of more restrictive criteria must be included to properly address the tough zero bias requirement. The expanded list is shown below.

- **First hand.** All measurements **must** be based on first hand data that have consumed at least a bit of energy from the object being measured.
- **No people.** The measurement system **must not** depend on or utilize people to conduct it or on interventions.
- **No information added.** The measurement system **must not** introduce any information, forms, questions, queries, documents or data.
- **Cultural sensitivity.** The measurement system **must** transcend or automatically adjust to culture, language and geography.
- **Industry independence.** The measurement system **must** perform consistently and reliability in every industry.
- **Auditable/Trusted.** The measurement **must** be able to be audited for integrity and accuracy. Results must balance with audited and trusted financials.
- **Goal oriented.** The measurement **must** create metrics and measures depicting the state of goal achievement and the amount remaining to goal satisfaction.
- **Actionable results.** The measurement system **must** create measurements that foster goal directed actions.
- **Truthful.** The measurement system **must** be provably correct. The measurement system must be unimpeachable.
- **Rapid/Timely/Responsive.** The measurement **must** accomplish the task responsively such that the situation does not change during the process.
- **Repeatable.** The measurement **must** be able to be repeated such that time wise differences can be detected.
- **Measurement Impact.** The act of measuring must not substantially alter the object being measured. The bias introduced **must** be zero to claim precision.
- **Practical/Economical/Effective.** The measurement system **must** be sufficiently practical that the whole entity consumes less net resource after installation than prior to installation. The measurement system must be more practical and effective than doing "nothing."
- **Ahead of need.** The results of the measure **must** look both backward and forward in time so that the goal consequences of actions can be seen ahead retrospectively and prospectively.

The reason for such severe design criteria incorporates sensitivity to the way information works and forms knowledge. Any extraneous object entering the system for purposes of measurement will introduce bias. Our measurement is OF bias, which is what information creates and turns into knowledge.

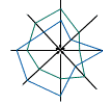


The foundation disciplines are almost never integrated into a holistic view of business. Rather, each discipline teaches an ingredient as if it were the whole. Few teach the recipe. Yet, the whole is required in practicing successful business.

**Obstacle Removal Logic** Literally, economic value is a business term always representing the exchange of goods and services between server and consumer. Monetary exchange or equivalent barter always applies in a business context. Value always incorporates the fusion of functional and emotional attributes associated with goal seeking. Both economics and operations research

describe goal and utility functions with sufficient clarity and precision for measuring. Goal seeking as in "winning" is emotional. Discrete digital logic incorporates and implements (circuits) the fact that all



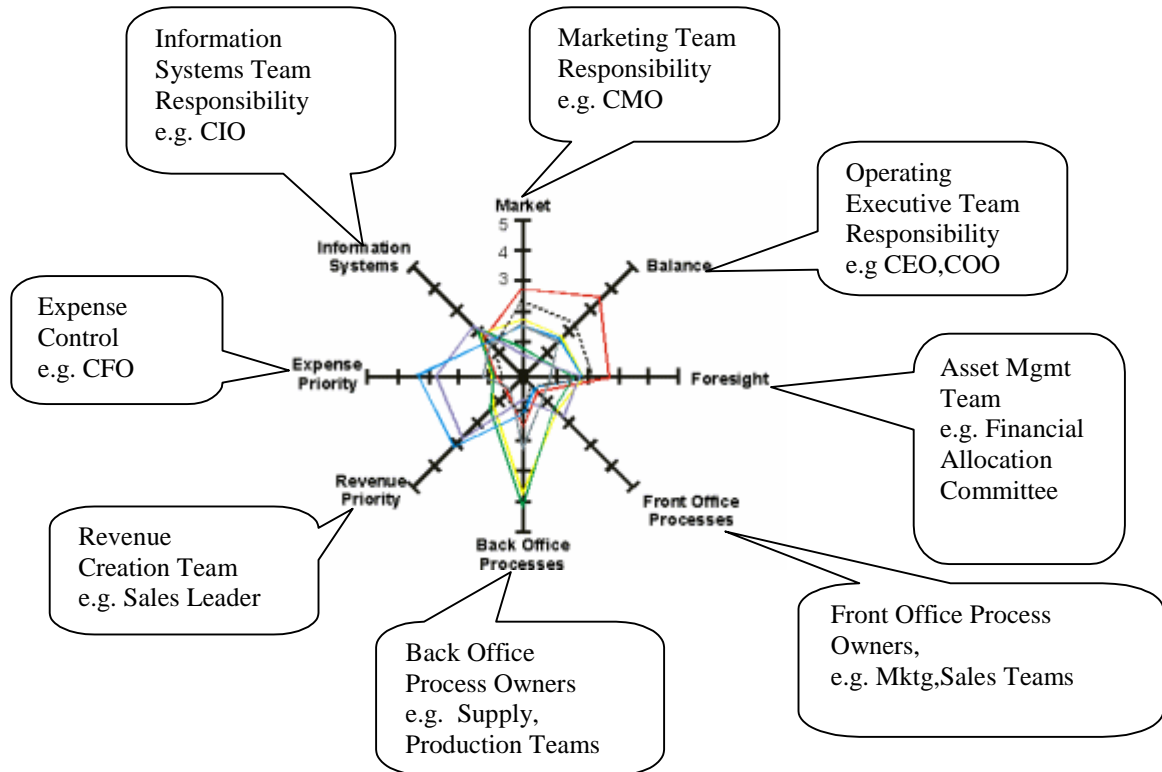


questions can be stated as a sequential series of binary true/false (flip/flop circuits) questions. Uncertainty and doubt always causes undesired goal control variance. Control is equivalent and proportional to information content. Successful navigation to a remote target always requires measurements of time, distance and direction. All forms of expense and asset accounting classify internal choices and decisions but value is only realized when an outside exchange where the receiving entity accepts and/or uses the object exchanged. In an open market all assets are available for choosing via exchange.

Nature's laws apply equally to all and are not subject to contamination or corruption by mankind. Nature incorporates an honest and truthful information system (free) to show all the imperfections in transactions. Nature's exchange laws are sufficient to describe interactions of all objects including people exchanging goods and services. Thus, there are no impossible barriers or obstacles in the road of constructing an unbiased estimator or measurement instrument for business group value. The resulting instrument cannot rely on human beings due to economics and contamination likelihood. The model is temperature measurement and/or the compass where Nature does all the work. An electro-chemical and mechanical robot is the solution. The limitation, if any, is knowing how Nature really works. That should not be difficult because millions of scientists have been working on this for thousands of years. Where exactly is the science in management science located?

### Example Results from the Measuring Robot

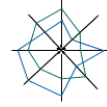
**Intelligence Value Mapping.** The supreme algorithm is sufficiently powerful to detect the distilled information and intelligence location in a corporation. The graphic below depicts a measured and scaled mapping of the value delivery characteristics from eight real corporations. The competencies are the same ones articulated by Dr. Gary Hamel in his lectures. The difference is the measurement of the impact. The performance SAVVY of the various groups is illuminated.



Gartner Group - March 1999 says:

"Strategic Planning Assumption: By 2003, Type A (leading-edge adopters of new technology) enterprises will incorporate accounting practices that formally measure and value their intellectual capital, as well as their financial and physical assets (0.7 probability)." The diagrams demonstrate that value accounting for intellectual capital has been achieved with the ITOP method. A significant obstacle has been removed.





## "Standard Knowledge Unit of Measure"

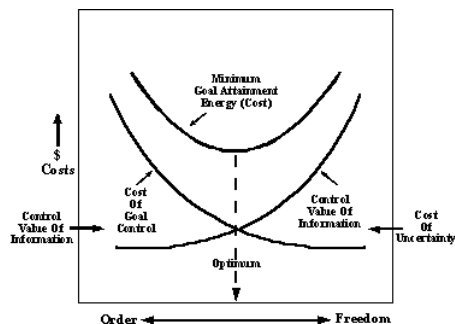
Unitizing information and knowledge with consistent "units" is an obstacle. Confusion arises because of the expectation that by this time in history an accepted "standard" metric (weight and measure) exists for everything. There is no such *standard* unit scale for information content potency and will not be anytime soon **even though a proper scale exists**. The fact that there is not a *standard* is only a roadblock to those searching for such a crutch. Every standard scale was once "pending." After thousands of years there is barely a standard temperature measurement. Instead we have Fahrenheit and centigrade and Kelvin. Note the standard process but different units. In distance measure we have yards and meters. There is no standard language. What exists instead is a set of choices and individual or group bias toward one or another. The bias is toward what works well and is most familiar. The information we grew up with and learned from trusted teachers caused a bias that we now use to advantage.

Non-standard must not be considered wrong or incorrect in the absence of an established standard. Anything really new and different will undergo a long period of evaluation, teaching and training prior to becoming a "standard". During this period people are challenged to think for themselves about the consequences of acting on the new or ignoring the evidence. Consequences follow choices.

To the extent that any goal is valuable, the incremental goal gains are valuable. Hence, the goal gain causing information is most valuable. The amount of value is equal to the number of uncertainty units reduced times the goal gain reward per unit. The significant missing element is the **quantification of the units of uncertainty**. Intuition would suggest that probability and statistics would hold the key. However, the necessary and sufficient rigor is absent in that discipline alone. One of the first things learned in statistics is that *correlation* is not *causation*. This lesson is one of the first forgotten. A appears to cause B. B appears to cause A. The two appear to be tightly connected. However, C can easily be the real cause of both. Until C is evident the endless cause-effect loop continues. The "C" is the way information works to create knowledge and intellect. It is the only scale that harmonizes the views above. All cause is information in some form. A deeper, inter-disciplinary doctrine is required.

## Prior Art

Dr. Arthur Laffer expressed a business theory resulting in a "classic" diagram (below). It has rightfully been a mainstay in economic theory despite not being able to be fully appreciated or implemented. Rigor concerning the scales had been missing. Thoreson led teams accomplished the finding and measuring of the missing scale



(order – to – freedom). A subtle warning is inherent in the Laffer diagram. The tax on control is information. At some point the cost of information for the next increment of improvement exceeds the value gained. The point of diminishing economic returns has been reached.

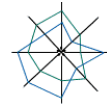
One major reason that the adoption will be slow is the major resistance from the financial and accounting profession. The fact that every penny has been corporately accounted and completely balances drives a passionately held view of completeness. Instead the entire set of formalized corporate "books" contain less than half of the sufficient "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 items in the accounting journals are exactly represented by their cost. Therefore, value content is totally illegal in an expense accounting system by design. If any item is entered at other than cost, the journals become dreadfully out of balance. As a consequence all value oriented content is purged.

Professionals that are sanctioned to police cost accounting purity make certain to eliminate all evidence of value content from their systems. The years of constant focus on expense information create 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. Given the extremes of the risks and benefits of business investments in processes, competitive edges, information systems and competencies it is easy to see how critical

it is to tell the difference between the "right" investment decision and the "wrong" one. A rational and systematic analysis of the expected costs and benefits is essential.

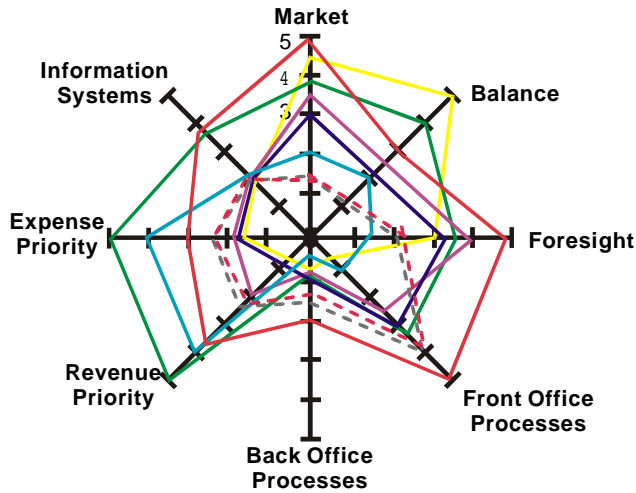




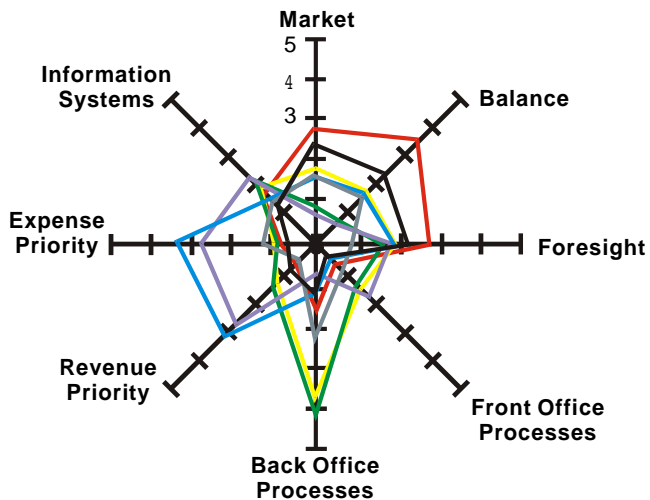
## Real Life Value Delivery Profiles and Competitive Edges

Note: The diagrams in this paper are purposely not current. These are 1995/1996 edge diagrams.

For use as instruction and illustration only. Do not use for action or decisions regarding these corporations. Things have changed since these were effective.

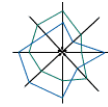


Lyondell Petrochemical  
EI DuPont DeMours  
Mapco Inc  
Amoco Corp (Amoco)  
Holly Corp  
Shell Oil  
Diamond Shamrock Inc  
Tosco



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





Pacific Resources, Inc  
 Ultramar Corp  
 Fina Inc  
 Unocal Corp (Unocal)  
 Kerr McGee Corp  
 Giant Industries Inc  
 Castle Energy Corp  
 Pennzoil Co



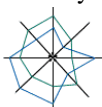
Clark R&M Holdings Inc  
 Sun Co Inc  
 Crown Central Petroleum Co  
 Wainoco Oil Corp (Wainoco)  
 Louisiana Land & Exploration Co  
 Tesoro Petroleum Corp  
 Arabian Shield Development Co  
 Transamerican Refining Corp

## Real Business Obstacles Removed

A portfolio of Value Delivery Profile Diagrams such as those in the example above are constructed for competitors, suppliers, partners, and most importantly, prospects and customers. Additional views and detail can be accomplished. Traditional obstacles in strategic planning, tactical actions, product planning and operational behavior of the creating entity are dramatically reduced. **Foreknowledge is gained as to the future economic results that will occur from the improved execution of best practices in any or all of the subject matter exposed by each "ray" or spoke of the diagrams.** Most significant of all is the identity of the "largest economic opportunity" available for gain. The largest economic gain opportunity (largest gap) is identical to the doctrine of Operations Research doctrine stating "optimal paths." The highest return for the least expense will be consistently exposed for any corporation in the portfolio. Whichever corporation holds the information in an ITOP portfolio analysis is **simultaneously informed** of the "optimal path" information for itself, its competitors and customers. Such information is potent to the point of granting the holder the largest advantage achievable by any known technique.

Highlights of some of the uses follow.

- **Product Marketing** - The economic strengths and weaknesses of individual prospects and customers are known ahead of time and constantly throughout time so that new products can be developed to be positioned in the maximum return customer topic areas. The highest need areas reduce the cost of sale and maximize the value delivered which in turn creates the largest opportunity for margins.
- **Competition Strategies** - The best and not best practices, strengths and weaknesses of competitors are exposed which yields the opportunity to exploit weaknesses and avoid operating in competitor strength zones.

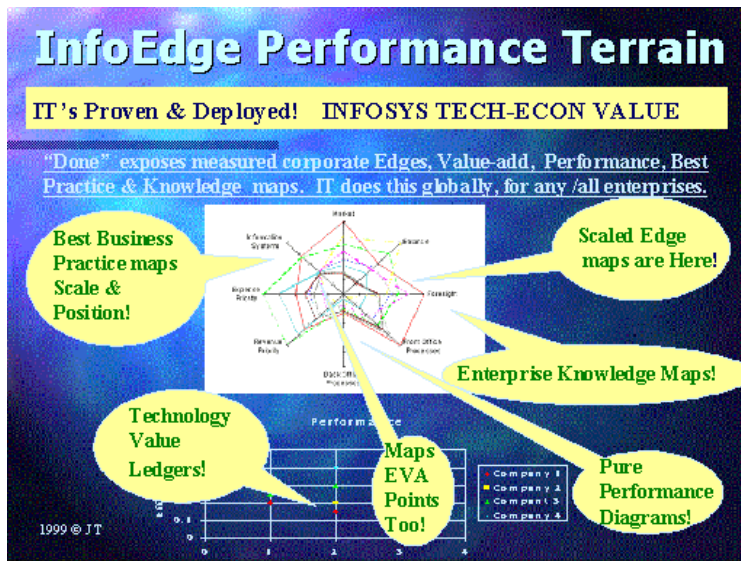




- **Sales Force Economics** - The specific name of the buyer (see page 4 diagram) is known so that specific proposals can be directed to the proper position of greatest need. The lowest cost of sale results when the offering best matches high need. Economic monetary value sizing of prospect and customer proposals can be accomplished with confidence.
- **Customer Contract Performance** - The actually delivered value of customer engagements such as information systems, reengineering and organizational learning are determinable. Customer "scorecards" include economic metrics never before possible.
- **Process Improvement Results Maximization** - The highest gain processes to be reengineered (customers or internal) are known ahead of time so that precious resources are not squandered on low worth activities.
- **Information Systems Prioritization** - The highest value return areas from information technology are exposed. Returns on new development can be devoted to the highest worth systems.
- **Human Resource Industrial Training** - The competency gaps are exposed (internally and in customers/prospects) which permits recruiting, retaining and refreshing highest return competencies/skills.
- **Performance Management Administration** - The value generating groups can be recognized for their contributions in creating wealth-sustaining excellence.
- **Resource Allocation** - Physical and intellectual capital resources can be directed to the highest return activities.
- **Global Expansion Economy** - The identical method is used for any industry in any geography thus minimizing the learning time and maximizing the span and scale. The hundreds of individual systems and methods that might otherwise be thought necessary for global business conduct can be dramatically collapsed.

In short, the enterprise has the tools necessary to consistently manage the business results to goals. Little more needs to be said. The larger edges have the greatest power to successfully compete in the marketplace. The ITOP technique is proven in science and in practice. Reference papers develop a complete and comprehensive calculus of value delivery, knowledge metrics, and describe the Super-Ordinate Optimization algorithm.

## Conclusion



Application of the proper method optimizes choices as described by Bellman and all other Operations Research and Management Science practices and processes.

Information fusion with knowledge causes directional action BIAS. That is exactly what it does. Bias is measurable. Most often bias is considered a "bad" thing. However, a **prejudice for excellence** is a good thing. A bias for the correct answer is what **knowledge** is all about. Collective-team-goal-oriented-competency for marketplace value delivery is the intellectual capital that creates and sustains the corporation. It is total unaccounted for in conventional techniques. It is invisible and therefore cannot possibly be managed consistently. Random results occur in such cases. Those who do it well, do so as an art. Until Thoreson teams developed

the zero bias tool (ITOP) for measurement, ALL other methods included the unfortunate design property of including the subjective bias of the evaluation personnel that were participating in the measurement.

Best means optimal. It is best to know the value of work activities and nurture the value creating objects over those that are worthless. The greatest advantage that can be granted by any method is to give prior visibility to the competitive state of all others.





Johann Wolfgang von Goethe -

*"Thinking is easy, acting is difficult, and to put one's thoughts into action is the most difficult thing in the world. Knowing is not enough; we must apply. Willing is not enough; we must do. Until one is committed, there is hesitancy, the chance to draw back-- Concerning all acts of initiative (and creation), there is one elementary truth that ignorance of which kills countless ideas and splendid plans: that the moment one definitely commits oneself, then Providence moves too. All sorts of things occur to help one that would never otherwise have occurred. A whole stream of events issues from the decision, raising in one's favor all manner of unforeseen incidents and meetings and material assistance, which no man could have dreamed would have come his way. Whatever you can do, or dream you can do, **begin it. Boldness has genius, power, and magic in it. Begin it now.***

#### References:

1. J. Thoreson "Ahead of Time", 1999 and "The Information Advantage" , 1996
2. Robert S. Kaplan and David P. Norton, "The Balanced Scorecard - Measures that Drive Performance" Harvard Business Review (Reprint 92105), 1992
3. J. Thoreson and J. Blankenship "Information Secrets" 1997
4. Howard J. Snavely, "Accounting Information Criteria", The Accounting Review, April 1967
5. John von Neumann and Oskar Morgenstern, Theory of Games and Economic Behavior, Princeton: Princeton University Press, 1944
6. Ray Stata "Organizational Learning - The Key to Management Innovation", Sloan Management Review, MIT, vol. 30, no. 3, Spring 1989
7. Samuel B. Griffith, Sun Tzu - The Art of War, Oxford University Press, 1971
8. W. Gibbs "Software's Chronic Crisis", Scientific American, September 1994
9. Peter M. Senge, The Fifth Discipline, DoubleDay, 1990
10. D. Powell, "The Productivity Paradox", Computing Canada, Vol. 18, Iss. 24, November 23, 1992
11. P. Drucker, Post-Capitalist Society, Harper Business Press, 1994
12. A. Lederer, J Prasad, "Systems Development and Cost Estimating Challenges and Guidelines", Information Systems Management, Fall 1993
13. S.C. Johnson, "No Doubt About IT", ComputerWorld, August 15, 1994
14. M. Parker, R. Benson, "Enterprise Wide Information Economics Latest Concepts", Journal of Information Systems Management, Fall 1989
15. J.W. Semich, "Here's How to Quantify IT Investment Benefits", Datamation, January 7, 1994
16. M. Parker, R. Benson, "Information Economics: An Introduction", Datamation, December 1, 1987
17. Barbara McNurlin "Uncovering the Information Technology Payoff", (report) United Communications Group, 1992, Rockville, MD
18. Paul Gray (book review) Information Systems Management, Fall 1989
19. Tom DeMarco, PeopleWare, Productive Projects and Teams, Dorset House Publishing Co., 1987
20. S.N. Levine, The Financial Analyst's Handbook: Second Edition, Dow Jones-Irwin, 1988
21. D. Hubbard "The IT Measurement Inversion" CIO Enterprise Magazine, April, 15, 1999 and web site <http://www.hubbardross.com/articles.htm>
22. R. Bellman, Applied Dynamic Programming, Princeton University Press, 1962

Special Unpublished Papers available on the world wide web.

23. J. Thoreson "Value Tao Grande" <http://www.edges.net>
24. Valuable Information Ltd - website <http://www.onramp.net/valuinfo>
25. J. Thoreson "The Super-ordinate Optimization Technique" <http://www.cyber-edges.com>

