

Value Proposition of DATA



Value Proposition of Operationalizing Data as a Strategic Asset:

Exploring the art of the possible within the science of the probable to maximize the potential of opportunities is vital to the strategic advantage essential in today's highly competitive marketplace. The never-ending quest for answers to fix problems is currently distracting organizations from their ability to adapt and evolve in this high-paced environment of change and transformation. This affixation upon deriving answers at the expense of exploring alternatives precludes their ability to examine quintessential questions essential to their future.

It is this imperative that they seek to explore the right question rather than find the right answer. By continuing to seek answers without understanding the circumstances, they are the self-imposed shackles that preclude their ability to find and implement the progress they seek. It is this self-imposed impediment that binds them to the past, confining them by their predisposition to accept the status quo blindly. This inhibits the essential progress necessary to derive competitive advantage as the industrial age is quickly becoming a thing of the past and the new information environment transformed our world to evolve to the age of knowledge.

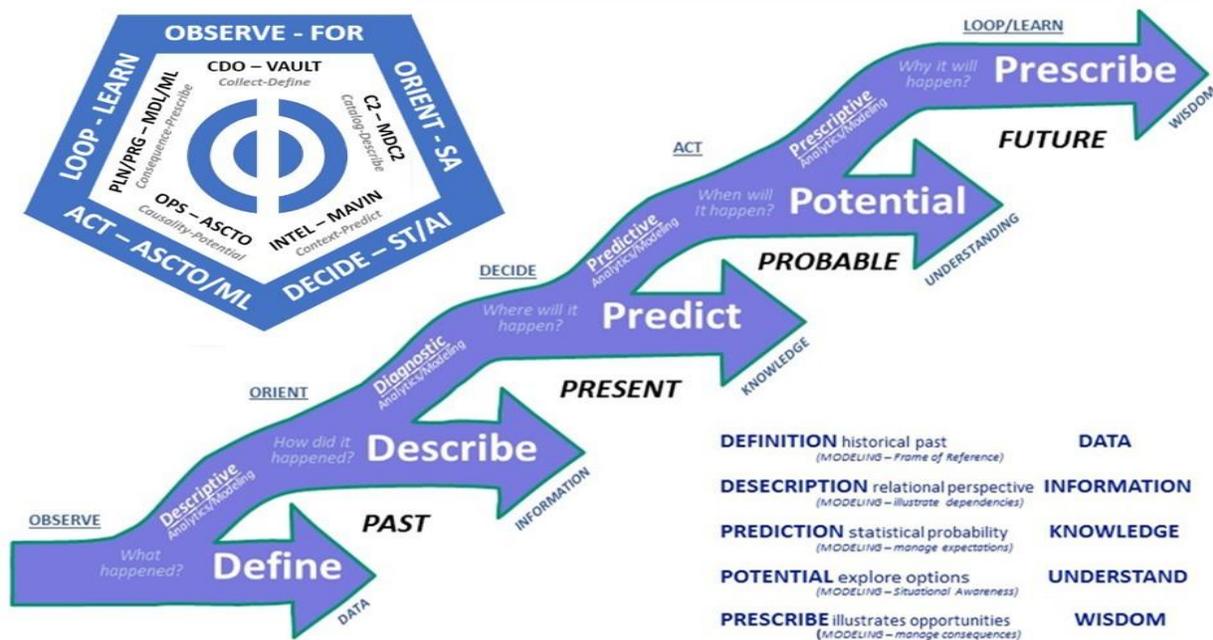
In a world with so many questions about what the future holds, where we are going, and when we will get there, one must understand that, all too often, answers may no longer be sufficient to survive in this rapidly transforming environment that is changing at the speed of light. Organizations are quickly realizing that yesterday's successes are no longer relevant and will lead to failure in this adaptive, interlinked market where the strong no longer can compete with those that are nimble and adaptive in their approach.

It is within today's information environment that organizations become enlightened and empowered to know what requirements serve their objectives, how to apply them in a way that fulfills their goals which afford the means to capitalize on those options and opportunities as they present themselves. However, without the means to operationalize the data that is growing at an alarming rate, John Naisbitt cautions us that, "We are drowning in information but starved for knowledge."

The effort to harvest the value of information to know what must be done, how to accomplish it, and why all must start with the facts that inform and derive the essential knowledge that surpasses understanding. The wise and astute individual understands that data fit for purpose will paint a picture for those willing to see it. Likewise, information in action will illustrate the relationships essential to outlining how to achieve it, and the contextual knowledge to derive awareness of those options, thereby evolving understanding of the opportunities available in today's information society.

This journey of learning and exploration of the unknowns through the validation of the knowns and explorations of the unknowable's that ascribe the potential derived from living in the art of the possible in an effort to evolve the science of the probable. This journey is a search to actualize their vision and view of the future as ascribed by Peter Pace, DoD's Chief of the Joint Staff, who advises:

"A leader who can decisively and intelligently make decisions within the context of understanding...has the ability to recognize patterns and changes and is comfortable with uncertainty and ambiguity Versatile and Creative, able to develop innovative solutions, thinking in time and context within the complex environment to bring about desired effects and thinks in terms of systems/linkages (effects) and is an expert learner."



Thus, the strategic value of data lies in our ability to leverage it as a strategic asset to inform and evolve our understanding which affords wise decisions in today's transformative interdependent world environment. It is therefore imperative that we not merely manage data but operationalize it in a meaningful way in order to derive its inherent value. To harvest the value resident in data, we must organize, structure and apply it that affords the means to inform those strategic cost/benefit trade-offs that illuminate the causality of action measured against potential consequence.

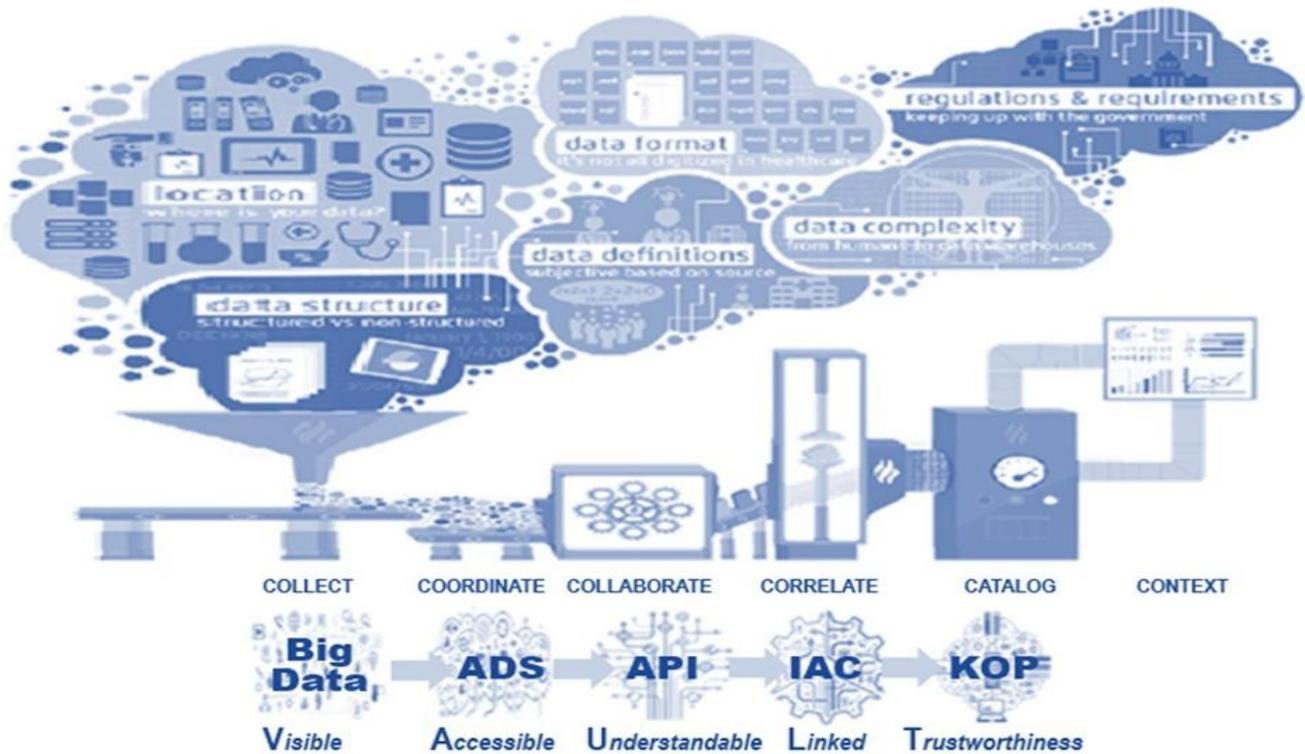
By establishing an operational platform to serve as a collaborative catalyst for collecting and storing data, making it visible, correlating it, and maturing metadata/structure into information that is accessible and contextualized to illustrate the application of knowledge, it enables informed decision-making. By linking data that is Visible, Information that is Accessible, Knowledge that is Understandable within context, one can easily Link it to establish and what level of confidence and Trustworthiness (*VAULT*) they can place in the resulting collection of facts (*data*), correlation of relationships (*information*), and contextual presentation (*knowledge*) upon which to evolve *understanding* in their ongoing effort to make wise decisions.

This platform enables leveraging data and refining processes to identify causality and analyze the consequences of actions taken, measured against the potential results to be achieved. Through a formalized program that establishes a data-driven organization (2DO), we can derive strategic advantage by illuminating available options (understanding) and leveraging opportunities (wisdom) to ensure effective decisions that influence and affect the environment in ways that assure their goals/objectives.

Analytics address the complexities of this persistent, unyielding environment, aiming to fix problems, solve challenges, and evolve in today's volatile, uncertain, complex, and ambiguous (*VUCA*) interlinked world marketplace. Without a strong foundation to facilitate data collection, a process to register it in an Enterprise Data Dictionary (*EDD*), and the ability to correlate and structure it into an Information Asset Catalog (*IAC*), presenting contextual knowledge will become increasingly complex.

The challenges associated with the exponential growth of data and the complexities of the relationships it enables manifest in the dependencies and reliance placed upon it. Throughout our assessment and analysis efforts, we can identify those critical ingredients in the cognitive process of making sound decisions and provide autonomous processes to assist in measuring and monitoring progress.

Without the aforementioned structure and approach, we are unable to validate and verify both the facts and the associated relationships underlying our ongoing efforts to ascertain causality and potential consequences. Additionally, we become transfixed and constricted, precluding the ability to evolve and transform the organization. Therefore, it becomes imperative to assess, monitor and analyze internal and external trends to ascertain the potential for progress to assure the essential adaption and transformation in today's rapidly evolving marketplace.



History offers ample evidence that enlightened decisions represent the essential core of strategic advantage. The synthesis of historical and current information is the basis for leaders making informed decisions. By organizing data into information, it can then be matured and fused into knowledge. Through the benefits of the cognitive process, the opportunity to leverage one's awareness per their frame of reference derives the antithesis of enlightened decisions.

***“Know your opponent and you will never lose,
know yourself and you will always win.”***

-Sun Tzu

To establish a data-driven organization, the focus must be on the maturation of knowledge that derives understanding. Strategic leaders must cut through the fog to mitigate the friction inherent in today's competitive environment. It is through value-informed decisions that one is able to overcome the long-overlooked and even discounted consideration of opportunity costs in the cost-benefit assessment.

A lack of learning from experience, informed by hindsight, precludes recognizing failures and shortcomings as the result of uninformed decisions based on a lack of awareness. Given the complexities of the modern world, the strategic decision-maker must be able to make enlightened decisions, facilitated by heightened awareness and sound cognitive skills. Understanding what one is aware and unaware of, or does not understand, is a critical competency if not the cornerstone of informed decisions.

It is essential to understand the strategic ends, ways and means to ensure the fulfillment of organizational objectives. Based on the foregoing, strategic critical thought elevates knowledge, which through increased situational awareness and a good frame of reference, develops understanding.



DATA DRIVEN ORGANIZATION

The world is changing quickly with new technologies, threats, and opportunities

Cognitive Influencers within Cognitive Decision Making



... Paradigms shape one's Perspective

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Execute ----- Courageously do it

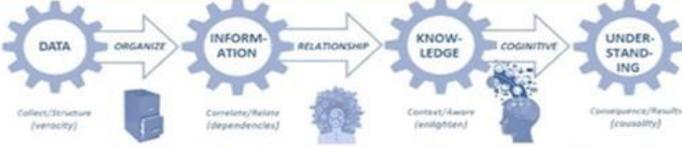
Enlighten -- Learn from the past

Evolve ----- Grow into your future



OBSERVE	PROBABILITY	SCIENCE	OBJ
1C. Collect 2C. Catalogue	Store Structure	DATA INFO	WHAT WHERE
ORIENT	PERSPECTIVE	ART	OBJ
3C. Correlate 4C. Context	Relate Understand	FOR SA	HOW WHEN
DECIDE	POTENTIAL	THINK	OBJ
5C. Cost/Benefit 6C. Characterize	Assess Know	ST KO	WHY WHO
ACT	PERFORM	ENGAGE	OBJ
7C. Coordinate 8C. Communicate	Synch Disseminate	C2 CD	TRAN- SITION
LOOP	PERTUBATION	EFFECT	OBJ
9C. Causality 10C. Consequence	Dependencies Results	Feedback Trend	TRANS- FORMATION

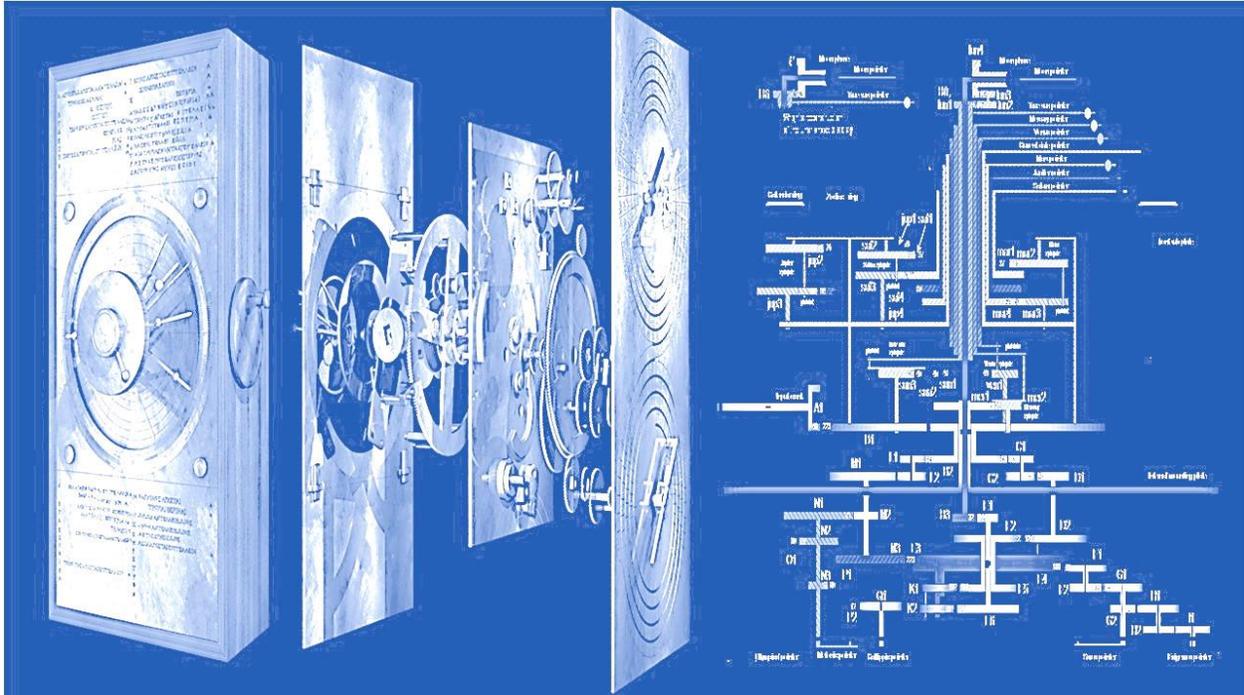




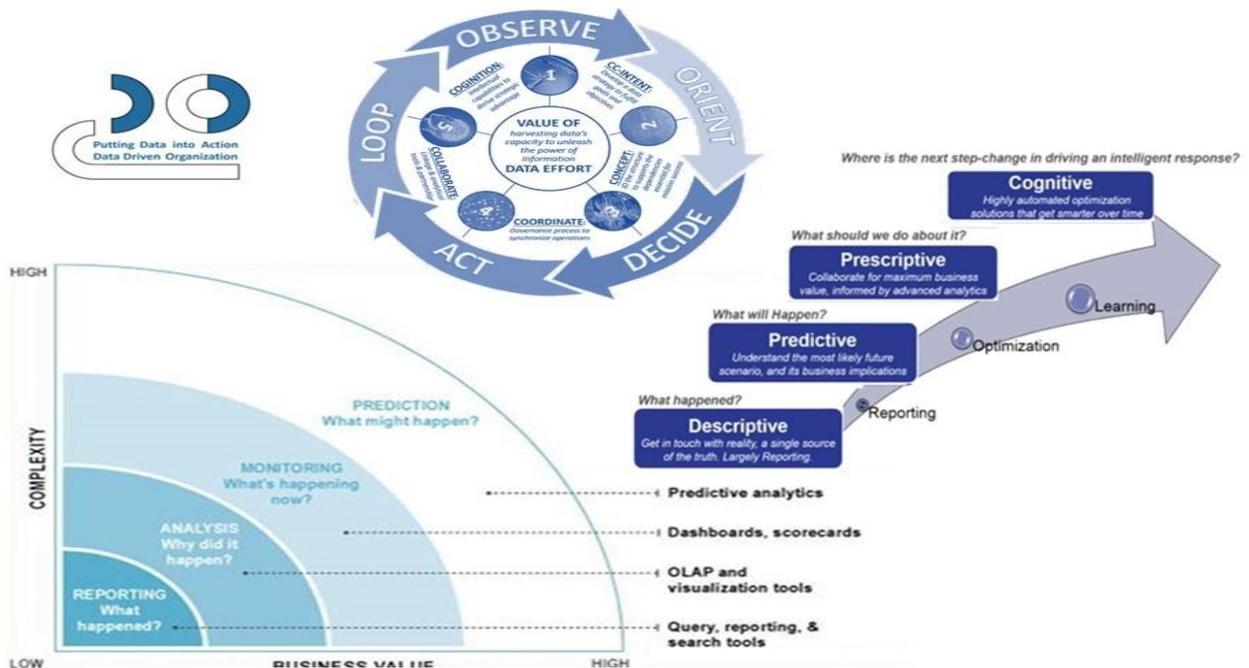
... Cognitive Understanding Inform Decisions

While we hope for the best, hope is certainly not a plan per se, it is nonetheless essential to inspire and encourage us to venture out to seek understanding of how to approach opportunities in search knowledge of what must be done to overcome extant circumstances necessary to achieve future goals in the effort to fulfill organizational objectives. By remaining incessantly curious, we can discover new opportunities to overcome old obstacles. One of the earliest examples of the benefits of leveraging technology to inform and enlighten is the Antitheta.

An analysis tool which played a pivotal role in understanding the relations of interdependent circumstances as well as the influence they exert on our environment. The Antitheta mechanism predicts the movement of the moon and stars, through relational analysis to inform and predict a multitude of events including sunrise, sunset, eclipses and tidal effects. By determining prevailing circumstances and designing efforts intended to negotiate their influence on the environment, this ancient device helped to convey the evolutionary nature of the effects those elements had on the environment.



This device serves to illustrate the causality and resulting consequence of actions taken measured against results to be achieved. However, without the benefit of data structured and correlated into information, the resulting contextual output would not derive benefit. This it is imperative that we examine how our actions effect the environment through a scientific approach to assess, characterize in a consistent manner if we are to become enlightened and empower of to evolve in today's interdependent information environment.



The core of fact-based decisions requires data that is Visible, information Accessible, and knowledge Understandable if we are to put it into context by linking it in real time to establish at what level of confidence and Trust we can place in it (VAULT). By unlocking the VAULT of understanding, a platform can afford a consistent approach to mature this process in our ongoing efforts to make wise decisions informed by fact. Over time, we will be able to identify trends that afford the means to prescribe and predict options based on past lessons learned, to understand our present environment better in order to profit on the potential of future possibilities.

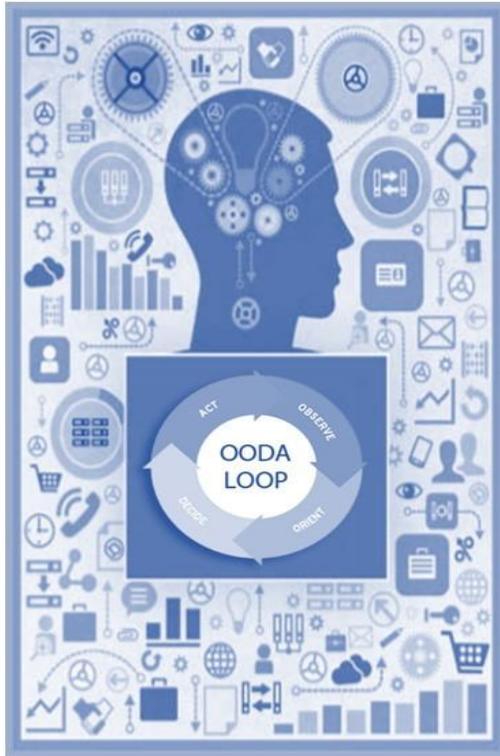
2DO - Goals and Objectives



**“All men can see these tactics whereby I conquer,
but what none can see is the strategy out of which victory is evolved.”**
Sun Tzu

The extraordinary volume and complexity of today’s challenges, and the cross-cutting nature of our interlinked and dependent society, demand that actions taken be carefully considered to determine potential consequences. For those willing to listen to their data, this cognitive endeavor offers the opportunity to consider the probable and potential causality of actions relative to desired results. Once data is visible, accessible, understandable, and linked, it conveys to recipients a level of trust that it can influence their environment in the manner they intend.

Ultimately, leaders must have the vision to seek the art of the possible, the inspiration to explore the science of the probable and the courage to think big, start small and evolve quickly. – OODA Loop (within the decision cycle...the answer is not as important as the process of evolving, adapting and overcoming the adversary). Ours is not a problem looking for a technological solution or resource-constrained limitations; rather, we are searching for a informational leader who inspires us to **think creatively, act courageously and evolve continuously.**



ARTIFICIAL INTELLIGENCE

SCIENCE – THINK – PROBABLE
SYSTEMATIC ----- REACTIONARY

CONTEXTUAL

(Assess Information -> Knowledge)

OBSERVE

AUTHORITATIVE DATA
DICTIONARY

ORIENT

INFORMATION ASSET
CATALOG

DECIDE

ANALYSIS KNOWLEDGE
TOOL
ACT

MACHINE LEARNING

ART – CREATE – POTENTIAL
ADAPTIVE ----- PROACTIVE

ADAPTIVE

(Analyze Trending -> Understanding)

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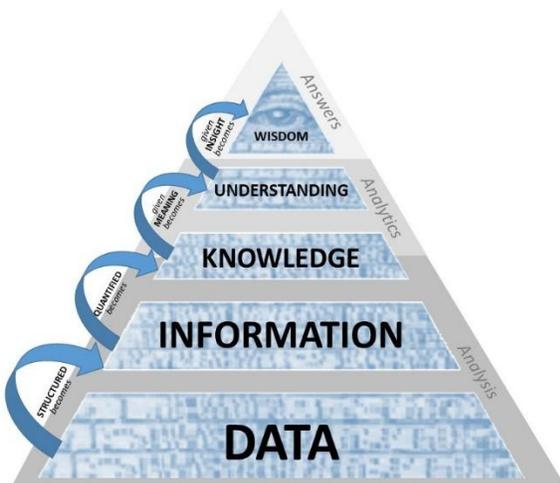
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Given the increasing number of decisions, the complexity of options and the implications or consequences to mission success, senior leaders need timely indicators and capable modeling systems that identify opportunities and potential risk as well as the probability for mission success. Compounded by the vast amount of information being generated by massive amounts of data, coupled with the persistent threats that is a characteristic of this VUCA environment, the opportunity to make fact-based decisions to assure mission success is critical in our pervasive and dynamic environment. To these ends, analytics can help today's organizations with many of the specific challenges they face to derive competitive advantage by:



- *Deciding where to invest in order to evolve*
- *Getting more value by optimizing efforts to maximize effectiveness and efficiencies*
- *Identifying the best way forward*
- *Solving complex scheduling problems*
- *Getting more cycles out of operations*
- *Optimizing a portfolio of investments*
- *Accelerating response time*

In conclusion, it is imperative that we evolve from the historic documentation, storage, and management of data to leveraging it as a strategic resource vital to the organization's competitive advantage. This is done through unbiased assessment of the facts (data), characterization of the relationships (information), to establish the resulting operational implications (knowledge) which formulate the quintessential foresight (understanding) to make decisions that assure mission success (wisdom). It is thus imperative that we seek enlightenment so that we can empower our organization to work smarter not merely harder through an effort to evolve and progress in this highly competitive environment. This is done through fact based decisions aided by analytics and AI tools which establish contextual understanding. By identifying options and opportunity to adapt, transform, and evolve, organizations can capitalize upon trends illustrated by temporal analysis through Machine Learning to know what to do, how to do it, and when it is necessary in order to maximize return on operations (effectiveness) and return on investment (efficiencies).

