



STRATEGIC THINKING IN COMPLEX THREAT ENVIRONMENT

INTRODUCTION



❖ The ability to think strategically has been seen as a requirement for top management for a long time.

INTRODUCTION (cont'd)

- ❖ Strategy is about making the right choices that support an organization's ambitions and goals
- ❖ Making those correct choices and decisions requires an awareness and understanding of the competitive and dynamic environment



INTRODUCTION (cont'd)

- ❖ Complex contexts require strategic thinking that leads to the generation of strategically relevant insight to successfully guide and sustain any competitive system or organizations



INTRODUCTION (cont'd)

- ❖ Strategic thinking is a cognitive, emotional, and behavioural phenomenon that is both high-level and tactically grounded
- ❖ Strategic thinking is fuelled by individual and group analytical and dialogical activities to address needed knowledge, enable clarity of thought, and create strategic-to-tactical linkages as well as mental models to develop enabling strategies



INTRODUCTION (cont'd)

Strategic and Creative Thinking



- ❖ Strategic thinking is a deliberate process, as both as a high-level creative and a tactically grounded process, utilizing an extensive range of knowledge, abilities, and conditions that enable clarity of thought

INTRODUCTION (cont'd)



House of Commons
Public Administration Select
Committee

Who does UK National Strategy?

First Report of Session 2010–11

Report, together with formal minutes, oral and
written evidence

Ordered by the House of Commons
to be printed 12 October 2010

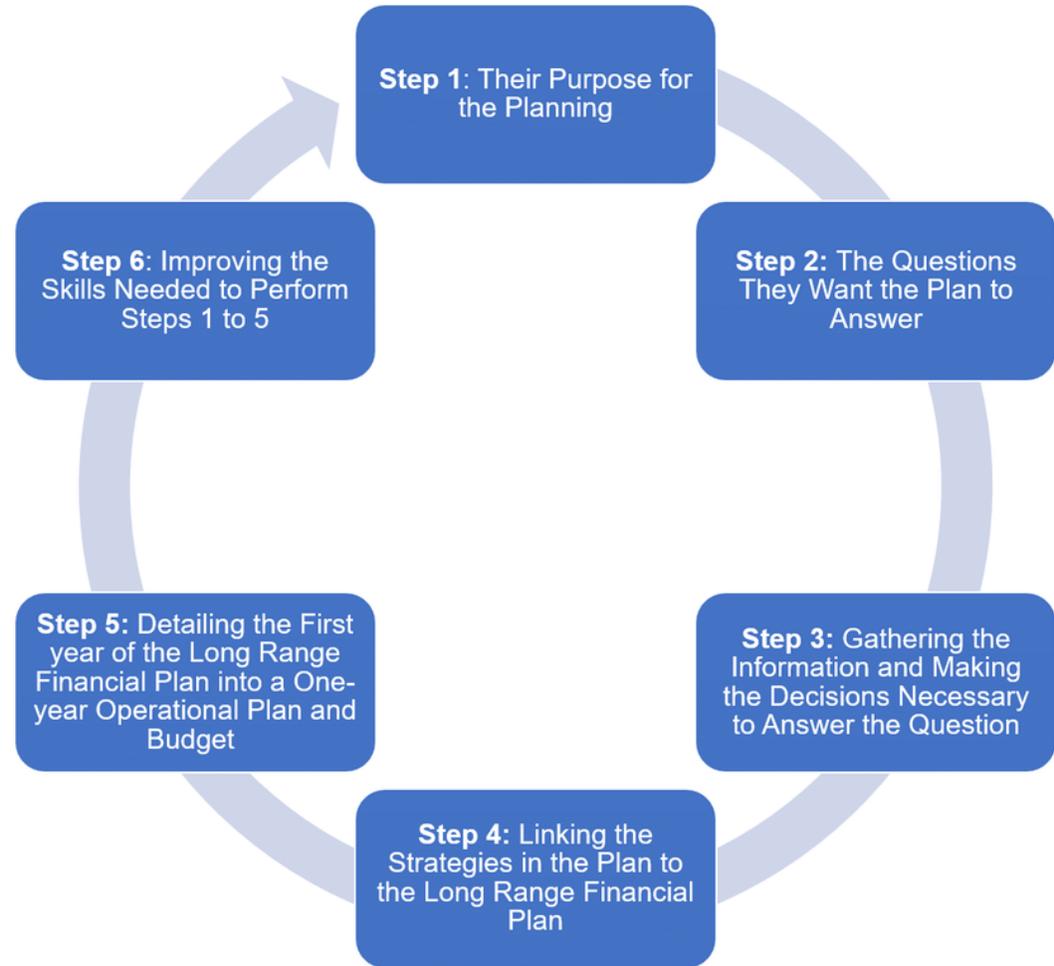
HC 400
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2010



- ❖ Strategic thinking is one of the most important abilities to foster within organizations

INTRODUCTION (cont'd)

“Strategic thinking is required to secure the long-term future of nations and organisations and is one of the six core requirements in the Senior Civil Service competency framework”



Six Steps for Leading Strategically
(Zabriskie & Huellmantel, 1991)

INTRODUCTION (cont'd)



Most Chief Executives cited the lack of strategic thinking as the main problem in their organizations

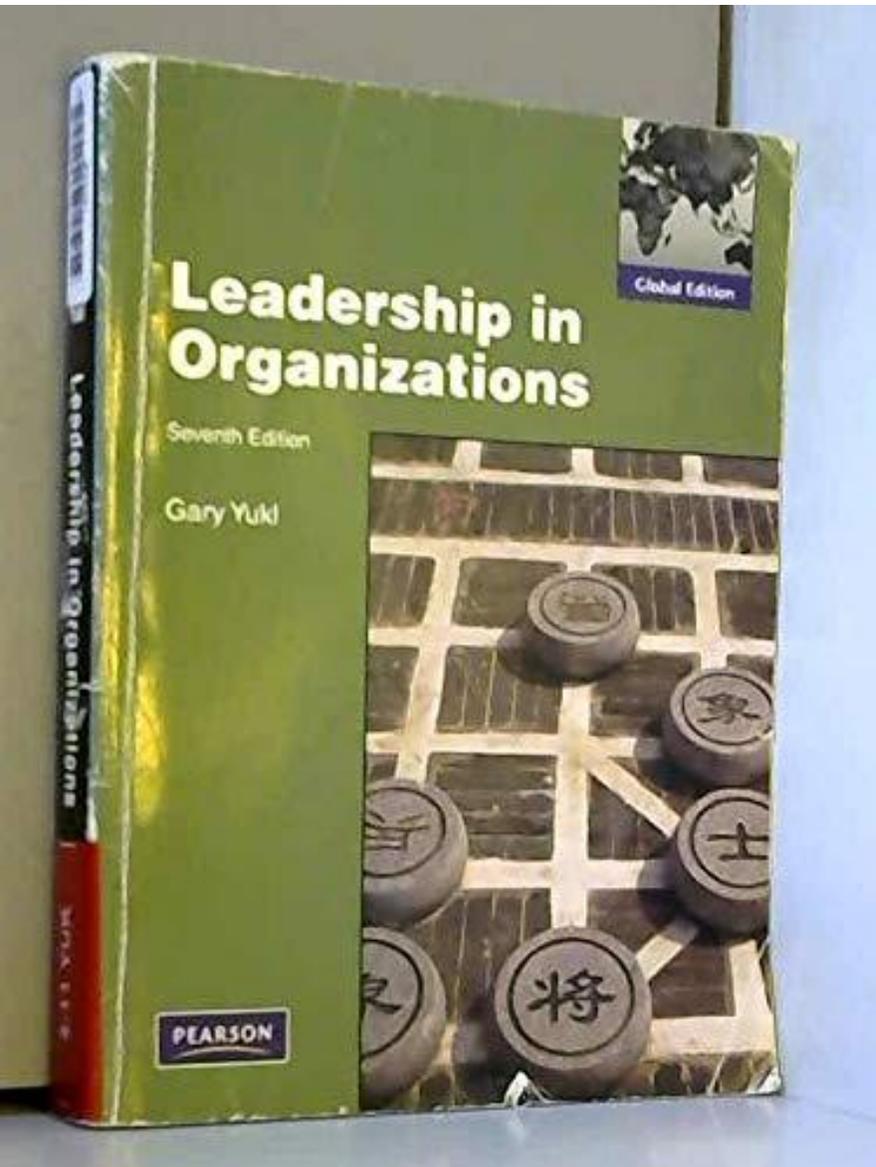
INTRODUCTION (cont'd)



UK had *'lost an institutionalized capacity for, and culture of, strategic thought'*

Sir Jock Stirrup - UK Chief of Defence Staff

INTRODUCTION (cont'd)



Leadership as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives”

INTRODUCTION (cont'd)

- Strategic thinking relates to strategy
- It is about asking the right questions and finding the right answers at the requisite level to support the higher-level or grand strategy being pursued by our system or organization



INTRODUCTION (cont'd)

- Strategic questions are triggered by challenges associated with the core purpose of the organization and its ability to compete and create value
- Thinking strategically in complex threat environments for better understanding of what is happening and how it occurs, as well as gaining important insight and perspective into the rapidly emerging phenomenon and the challenges it presents has become expedient now than it can ever be imagined

PURPOSE OF THE PRESENTATION

- TO FURTHER OUR UNDERSTANDING OF STRATEGIC THINKING IN A COMPLEX THREAT ENVIRONMENT

SCOPE OF THE PRESENTATION

- Conceptual clarifications
- Strategic thinking and complex threat environment
- Essentials, approaches and processes of strategic thinking
- Characteristics of a strategic thinker
- Concluding thoughts

CLARIFICATION OF CONCEPTS

STRATEGY

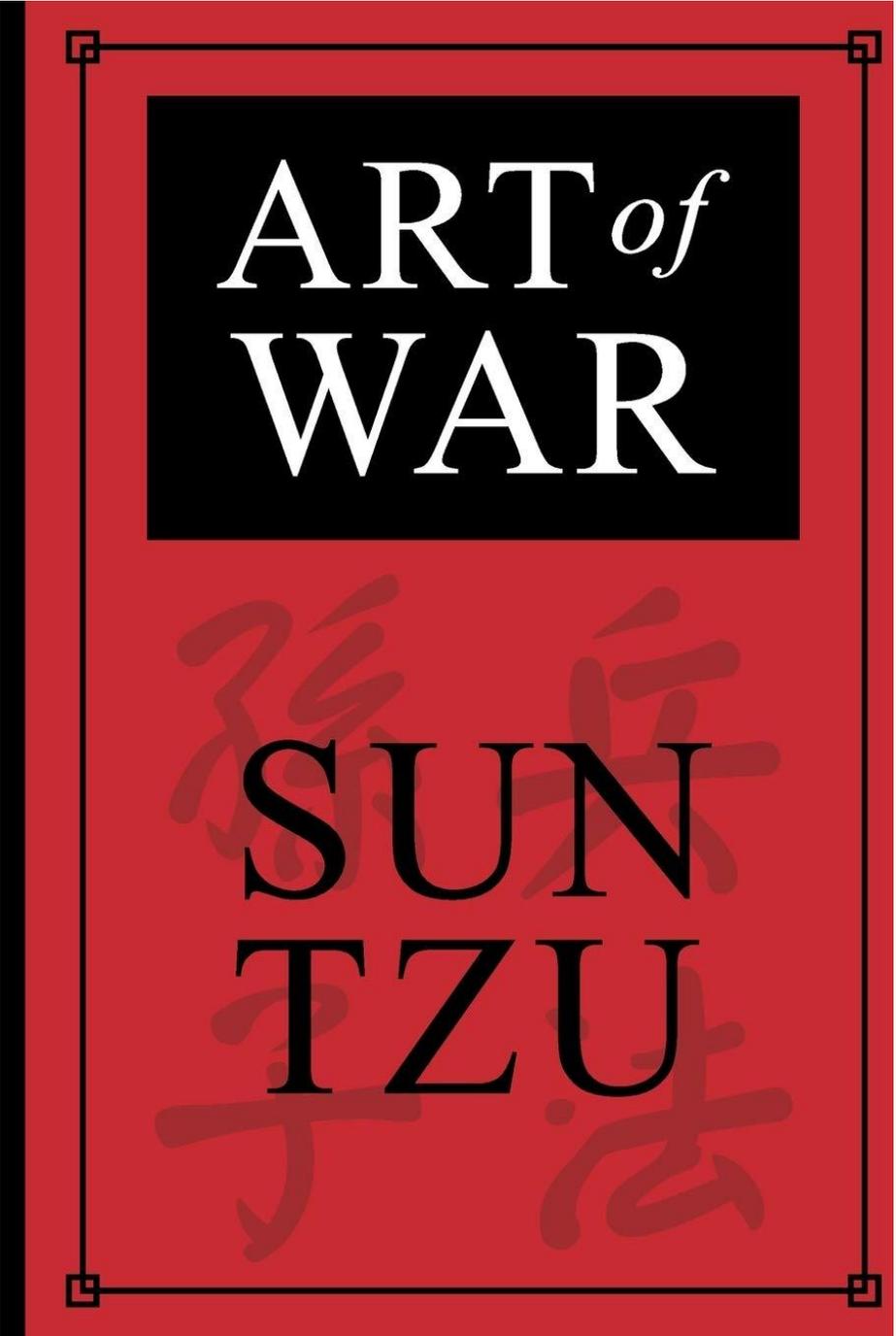
- The art of distributing and applying military means to fulfill the ends of policy



Liddell Hart

STRATEGY (cont'd)

- Sun-Tzu identified almost all the strategic patterns and principles and indicated the primary purpose of strategy as the ideal of winning warfare without bloodshed

The image shows the front cover of a book. The cover has a red background with a black border. At the top, there is a black rectangular box containing the words 'ART of WAR' in white serif font, with 'of' in italics. Below this, the name 'SUN TZU' is printed in a large, black, serif font. In the background, there are faint, stylized Chinese characters in a reddish-brown color, which appear to be '孫子兵法' (Sun Tzu's Art of War).

ART *of*
WAR

SUN
TZU

STRATEGY (cont'd)

- Napoleon demonstrated his prowess in battle strategy, where under difficult circumstances he forced the British to surrender



Napoleon

STRATEGY (cont'd)

- Strategy is “the use of an engagement for the purpose of war” and defined strategic theory as the study of “the engagement in terms of possible results and of the moral and psychological forces that largely determine its course”.



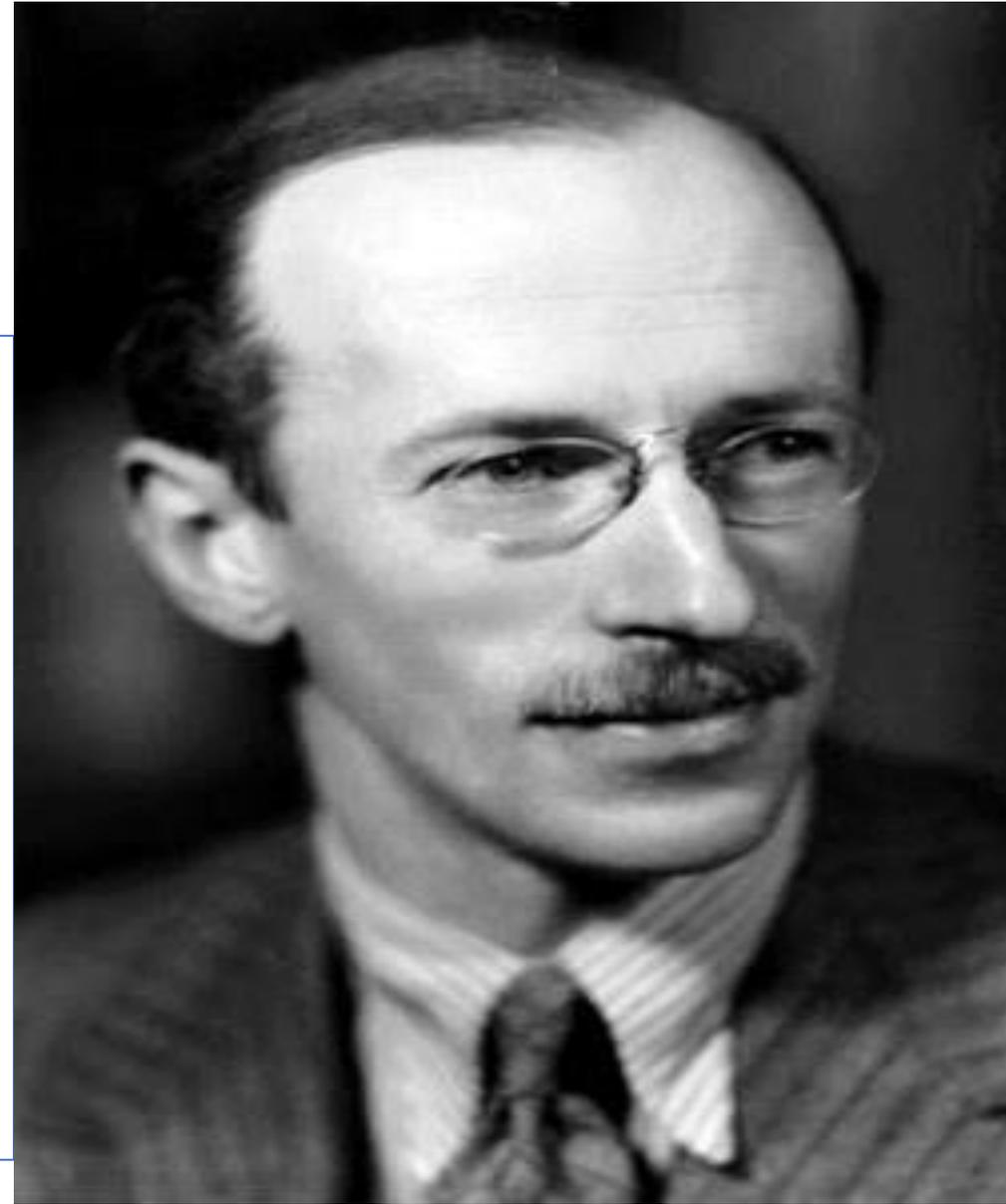
Carl Von Clausewitz

STRATEGY (cont'd)

- Carl Von Clausewitz identified the strategic elements that impact these military engagements and their classifications, including “moral, physical, mathematical, geographical, and statistical”
- This systems approach to strategy paved the way for broader conceptualizations of strategy, to include the consideration of possible scenarios and requisite planning

STRATEGY (cont'd)

- As:
 - Forming the plans for war
 - Mapping out proposed courses of action for different campaigns
 - Regulating the battles to be fought in each



Liddell Hart

STRATEGY (cont'd)

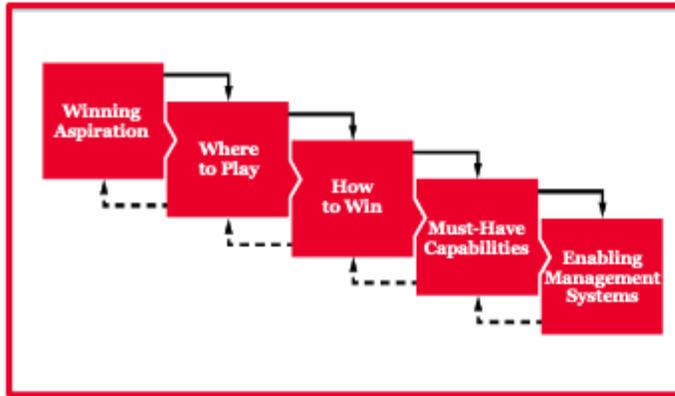
- As the industrial revolution took hold, it became apparent that the concept of military strategy was also highly applicable to the corporate world

Military Strategy and a Business Strategy

	Business strategy	Military strategy
Objective	•To conquer and control markets	•To conquer and control territories
Analysis	<ul style="list-style-type: none"> •Of the macro environment •Of the industry (microenvironment) •Resources and competences •Organisational structure •Control and co-ordination 	<ul style="list-style-type: none"> •Of the environmental conditions •Enemy's strengths and weaknesses •Own capabilities and limitations •Command structure •Leadership and co-ordination
Results	<ul style="list-style-type: none"> •Business strategy •Strategic plan 	<ul style="list-style-type: none"> •Military strategy •Plan of campaign

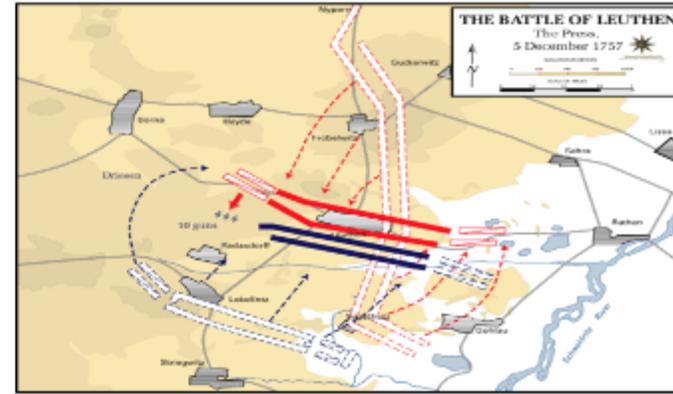
STRATEGY (cont'd)

Business Strategy



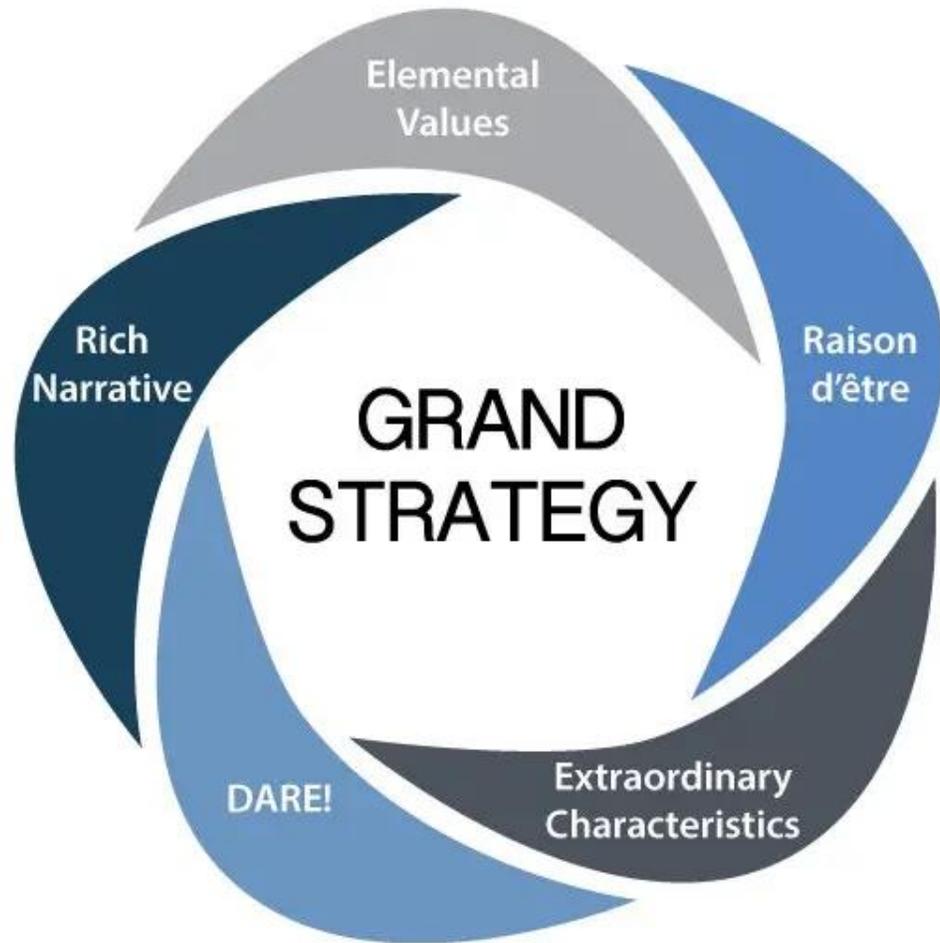
**And
/Or?**

Military Strategy



- The concepts of military and corporate strategy have converged over time across the evolving military industrial complex to assist in the development, acquisition, and delivery of weapon systems designed for tactical and strategic military purpose

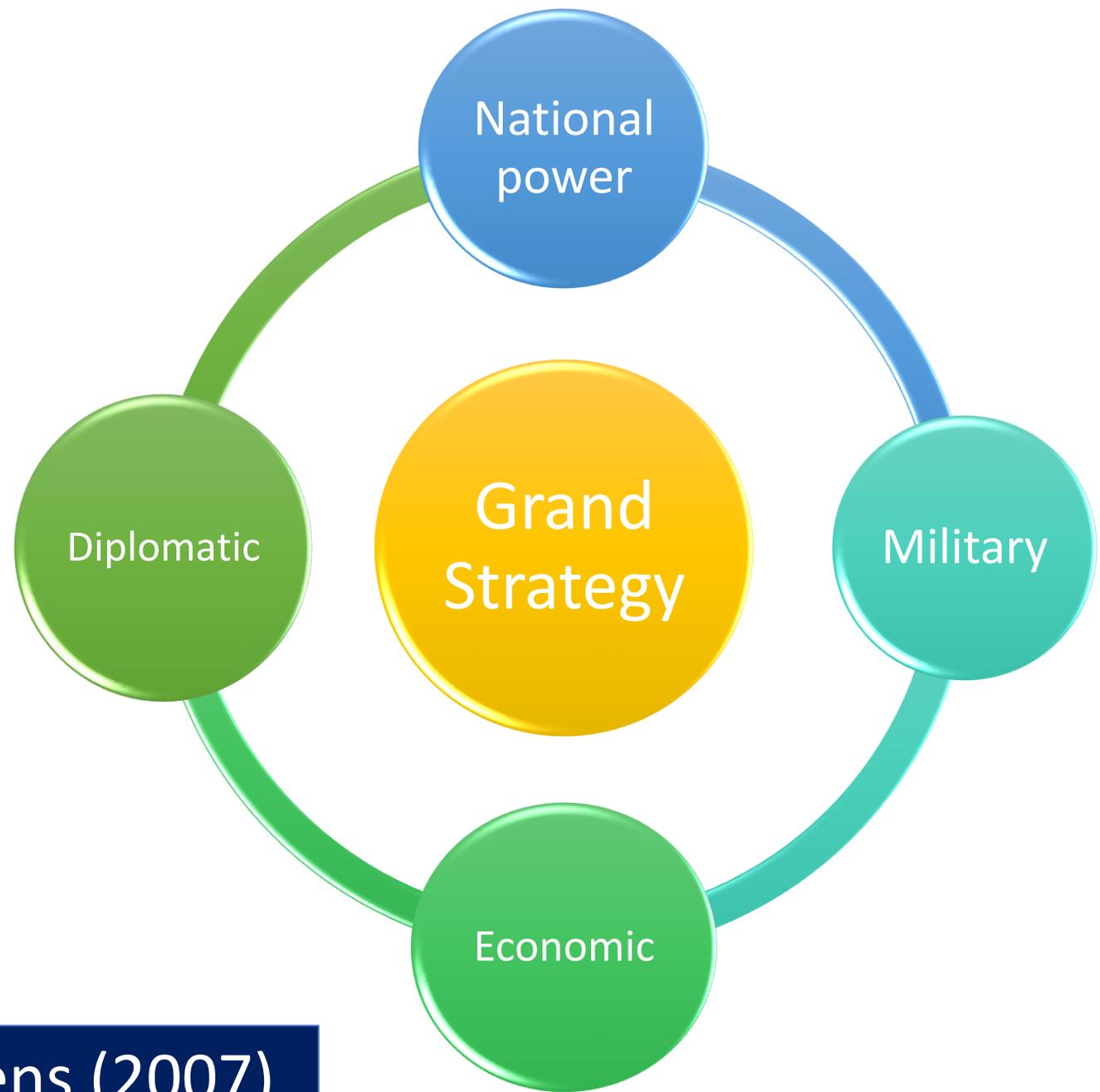
STRATEGY (cont'd)



- Liddell Hart (1954) described the concept of “grand strategy” as a higher strategy where the resources of a nation or collection of nations are used to attain a political objective: “Grand strategy looks beyond the war to the subsequent peace”.

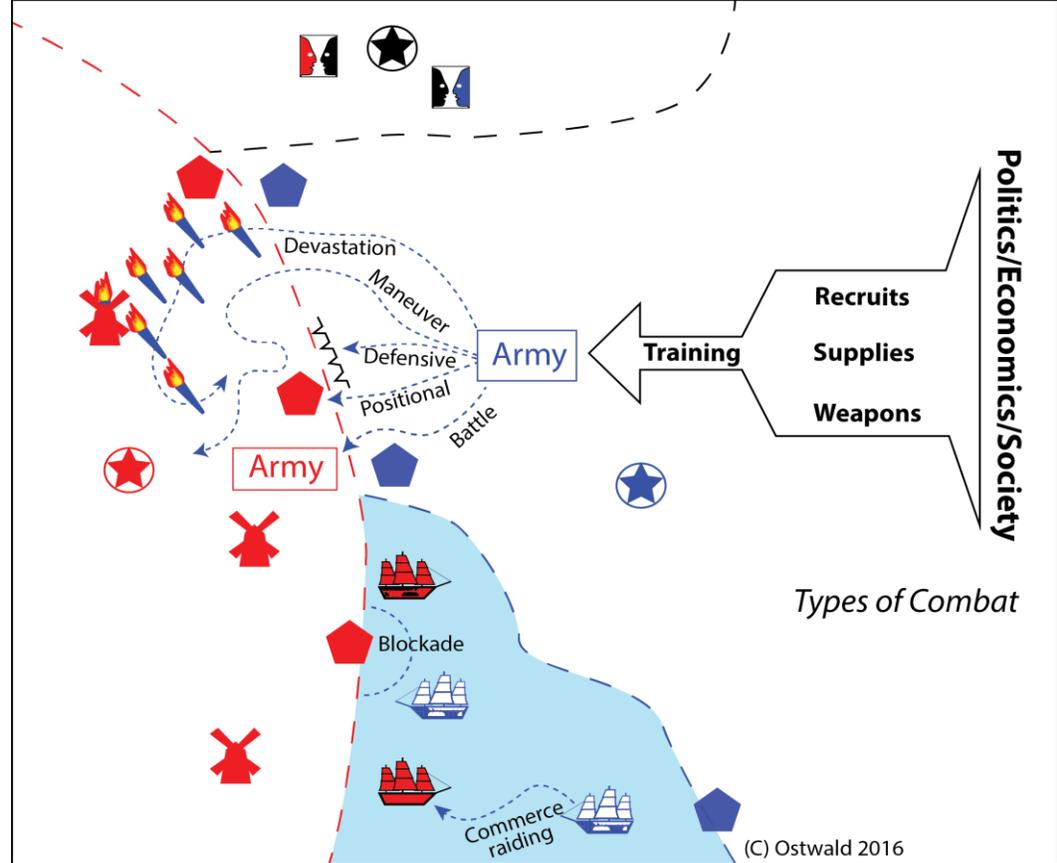
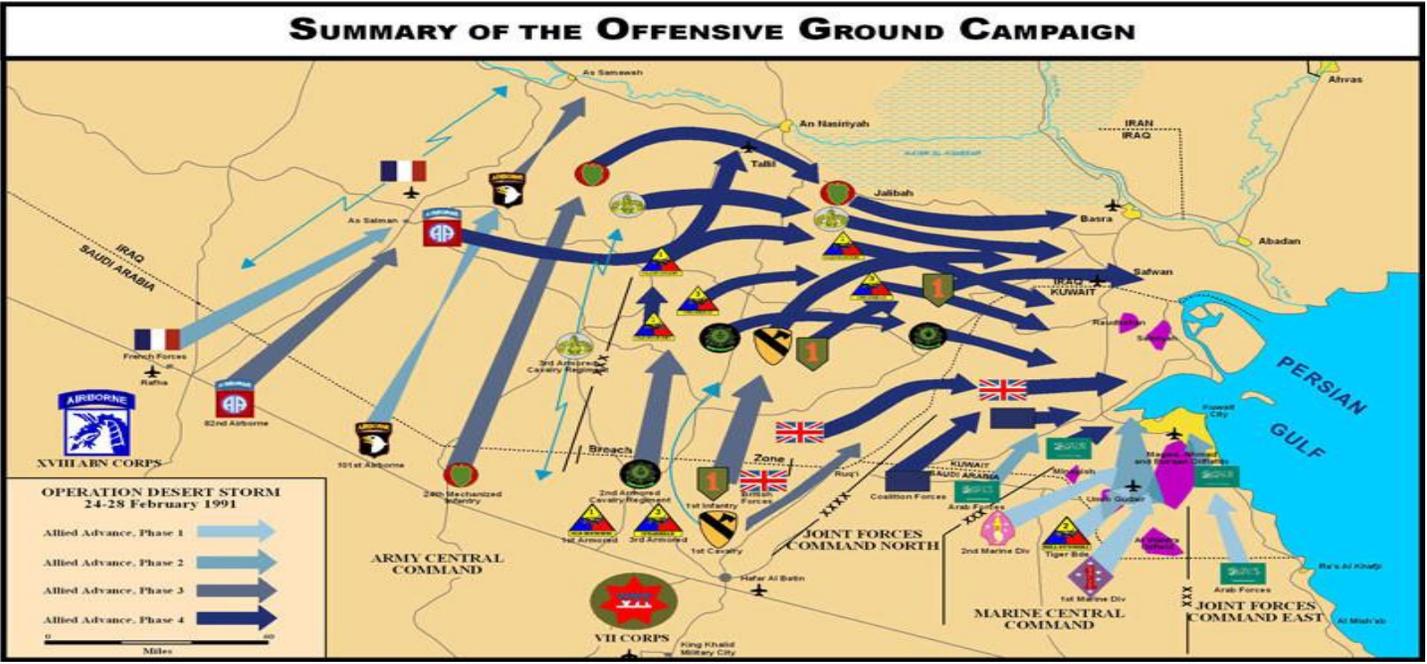
STRATEGY (cont'd)

- Owens (2007) described four levels of strategy, **Grand strategy** is linked to the elements of national power, military, economic and diplomatic



Owens (2007)

STRATEGY (cont'd)



Military strategy

- “concerned with the employment of military power in peace and war”

“Theatre strategy”

- concerns the operational level of war

“Service strategy”

- refers to doctrine

STRATEGY (cont'd)

A grand strategy may include winning a war to support a national objective

At the operational level, strategic questions may be asked about the means, methods, resources, and tactics as part of a holistic and recursive approach to thinking strategically about the situation

Strategic Thinking

- ❖ The purpose and definition of strategic thinking has evolved to accommodate the changing environment and the needs of organizational leaders

Strategic Thinking

Elements of strategic thinking

systematic strategic planning

providing conceptual, creative, and innovative foundations for strategy development

strategic decision-making;

providing strategic insight



Strategic Thinking (cont'd)

- Weber (1984) recognized the growing challenges of strategic planning in uncertainty and characterized strategic thinking as the thinking that occurs to answer questions in support of strategic planning



Liz Weber

Strategic Thinking (cont'd)

- Zabriskie and Huellmantel (1991) saw the purpose of strategic thinking as a prelude to strategic planning in support of three distinct planning systems

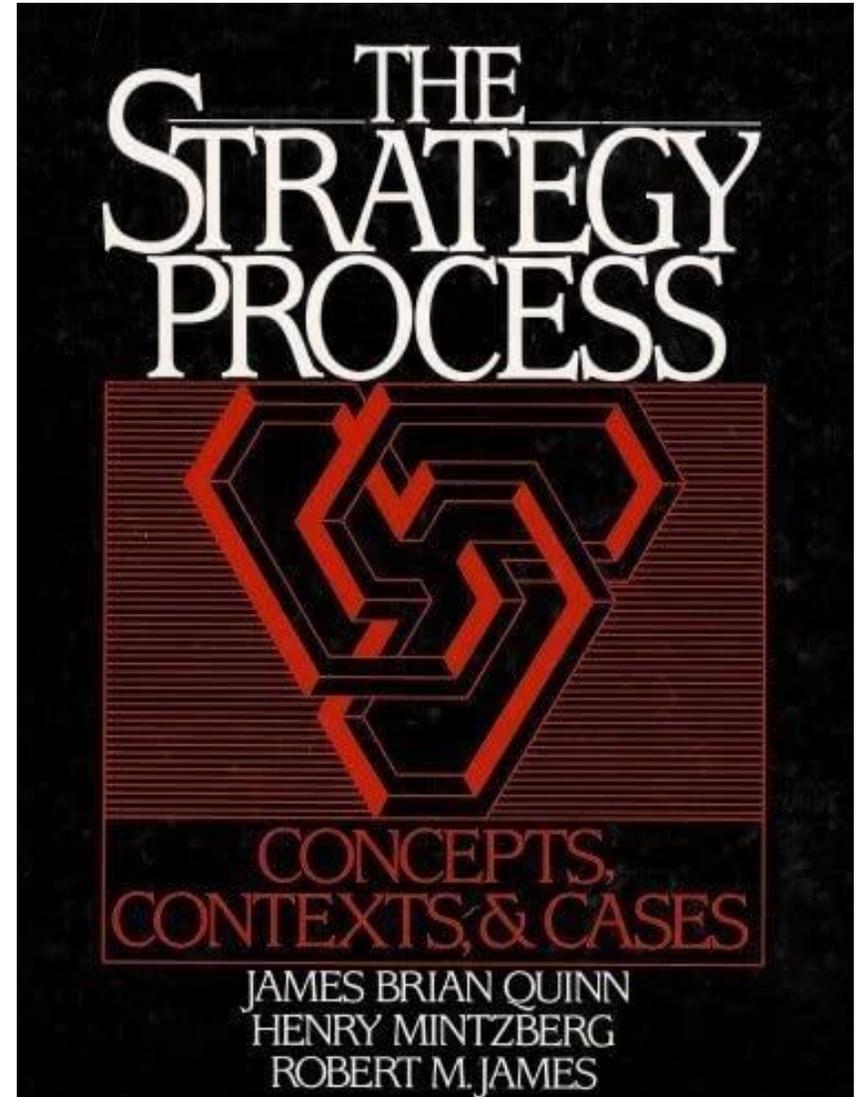


Strategic Thinking (cont'd)

- Strategic thinking was considered the process of thinking systematically about the approach that organizations would use to develop their competitive strategies.

Strategic Thinking (cont'd)

- Mintzberg (1995) understood the purpose of strategic thinking as being visionary to support competitive desires
- He characterized the nature of “strategic thinking as seeing”
- Strategy thinking seeing behind, above, below, beside, ahead, beyond and through the domains of the strategic environment



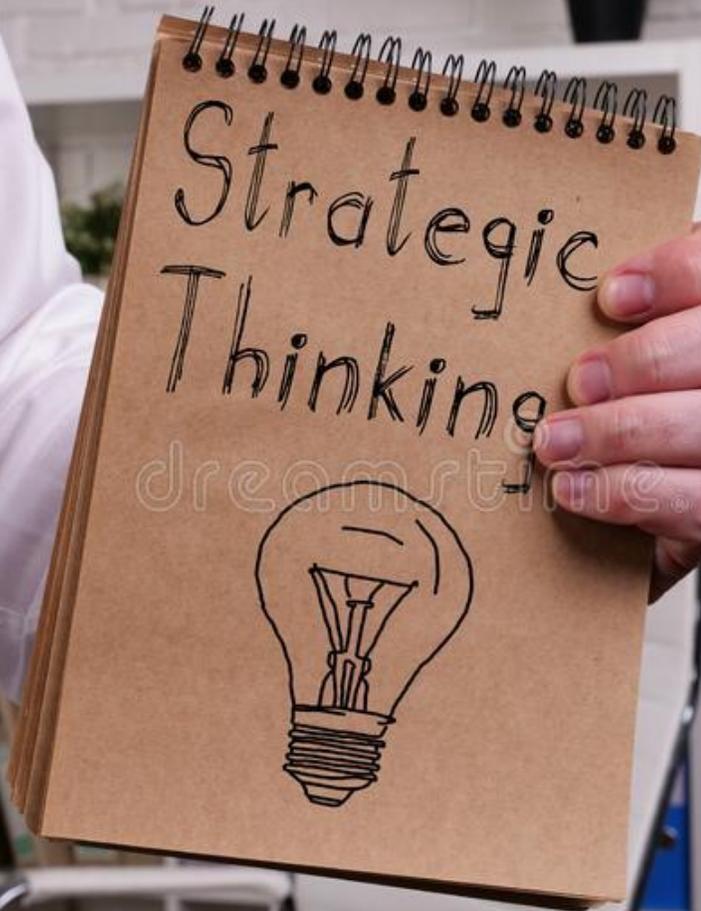
Strategic Thinking (cont'd)

- “The purpose of strategic thinking is to discover novel, imaginative strategies which can re-write the rules of the competitive game; and to envision potential futures significantly different from the present” **Heracleous (1998)**



Prof. Loizos Heracleous

Strategic Thinking (cont'd)



Strategic thinking refers to a synthetic, creative, divergent thought process that is highly analytical in nature and connects the past, present, and future

Complex Threat Environment

- In the recent past, security strategy has been oriented towards dealing with one or a few vital threats
- The prevailing approach today is to develop a set of capabilities to meet a broad spectrum of security threats and challenges

Complex Threat Environment (cont'd)

- The uncertainty and fluidity of the security environment demand faster response to emerging threats
- These response must be provided only through a 'post-modern' approach to making security strategy, an approach focusing on flexibility and adaptiveness in the development of the security sector and its interplay with other security instruments

Complex Threat Environment (cont'd)

- In this regard, the 1990 coinage describing the surrounding environment as volatile, uncertain, complex and agile (VUCA) has become a cliché in the absence of a more profound analysis

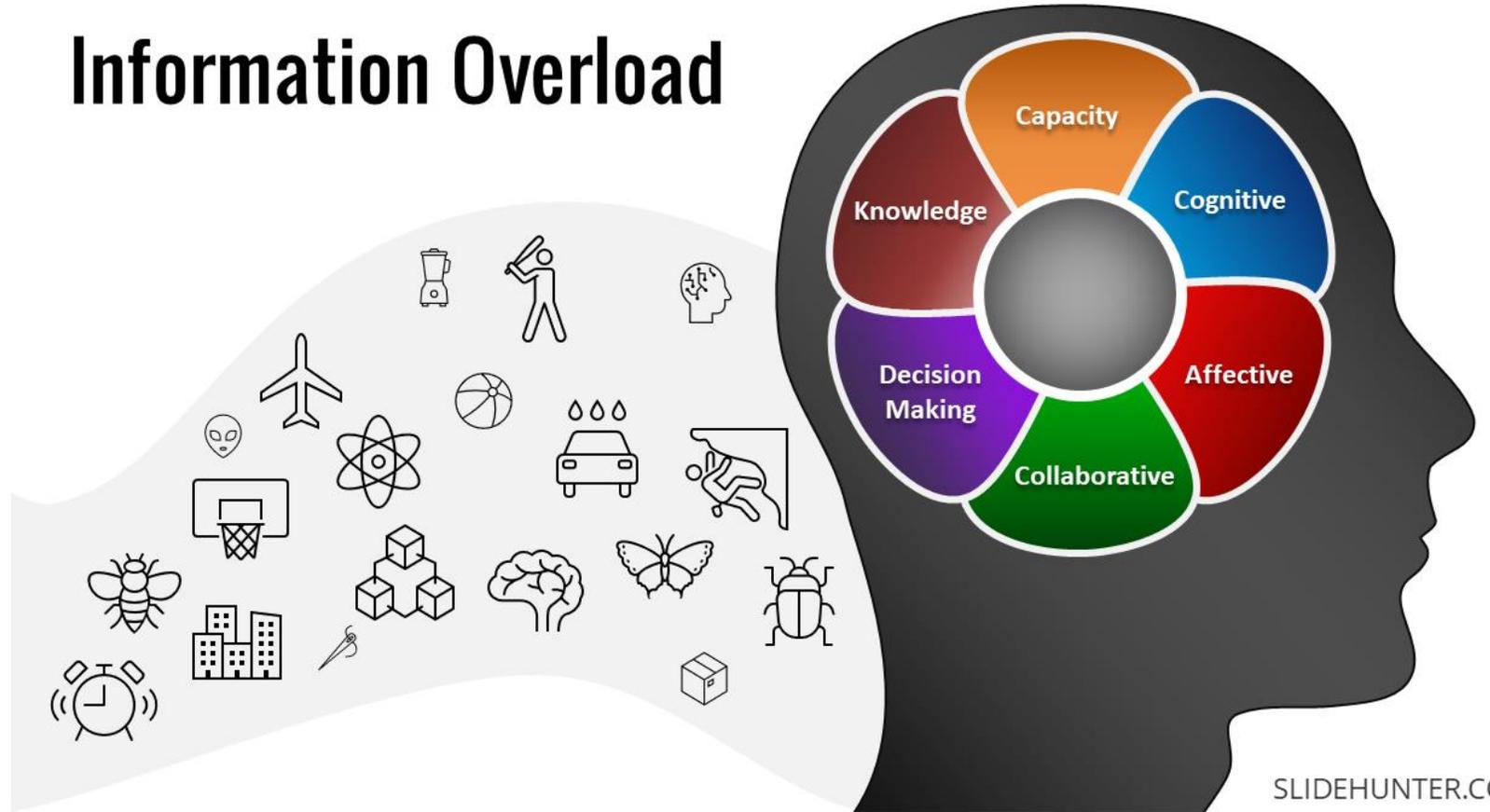
Complex Threat Environment (cont'd)

- Duncan (1972), noted that “perceptions are a joint product of properties of the environment, processes, structures of organizations, and dispositions of individuals”
- Huber and Daft (1987) identified three properties of the environment, which are “**information load, complexity and turbulence**”

Complex Threat Environment (cont'd)

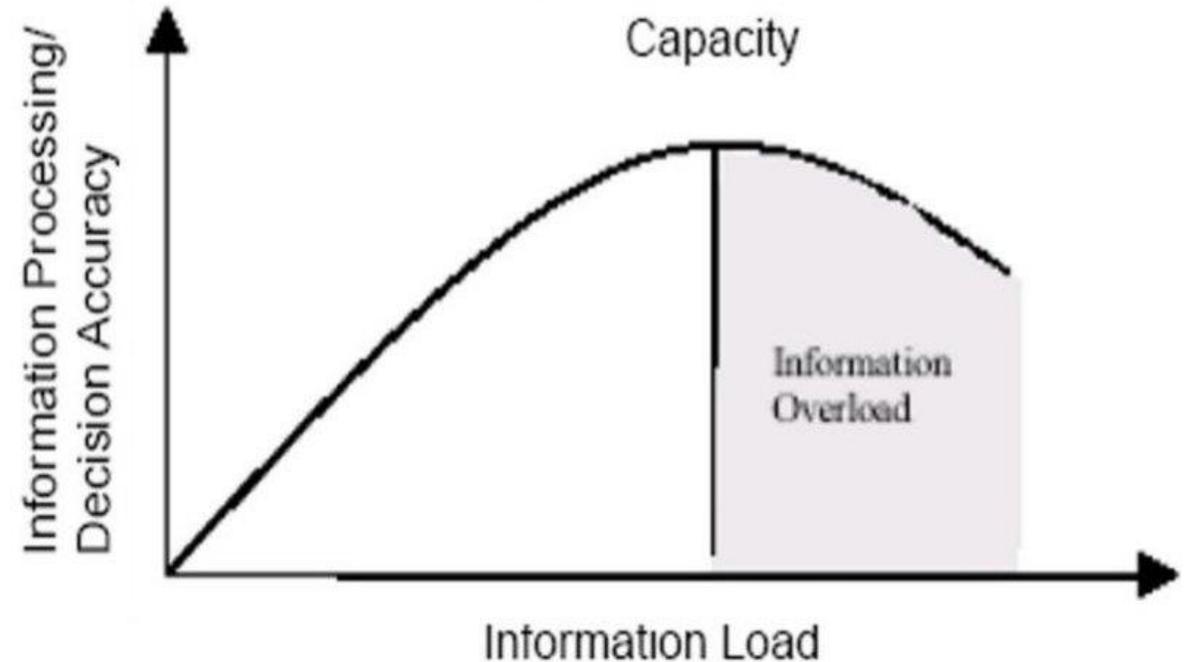
Information load is characterized by the complex mixture of the “quantity, ambiguity, and variety of information that people are forced to process”

Information Overload



Complex Threat Environment (cont'd)

- As load increases, people take increasingly strong steps to manage it
- They begin with omission, and then move to greater tolerance of error, queuing, filtering, abstracting, using multiple channels, escape, and end with chunking



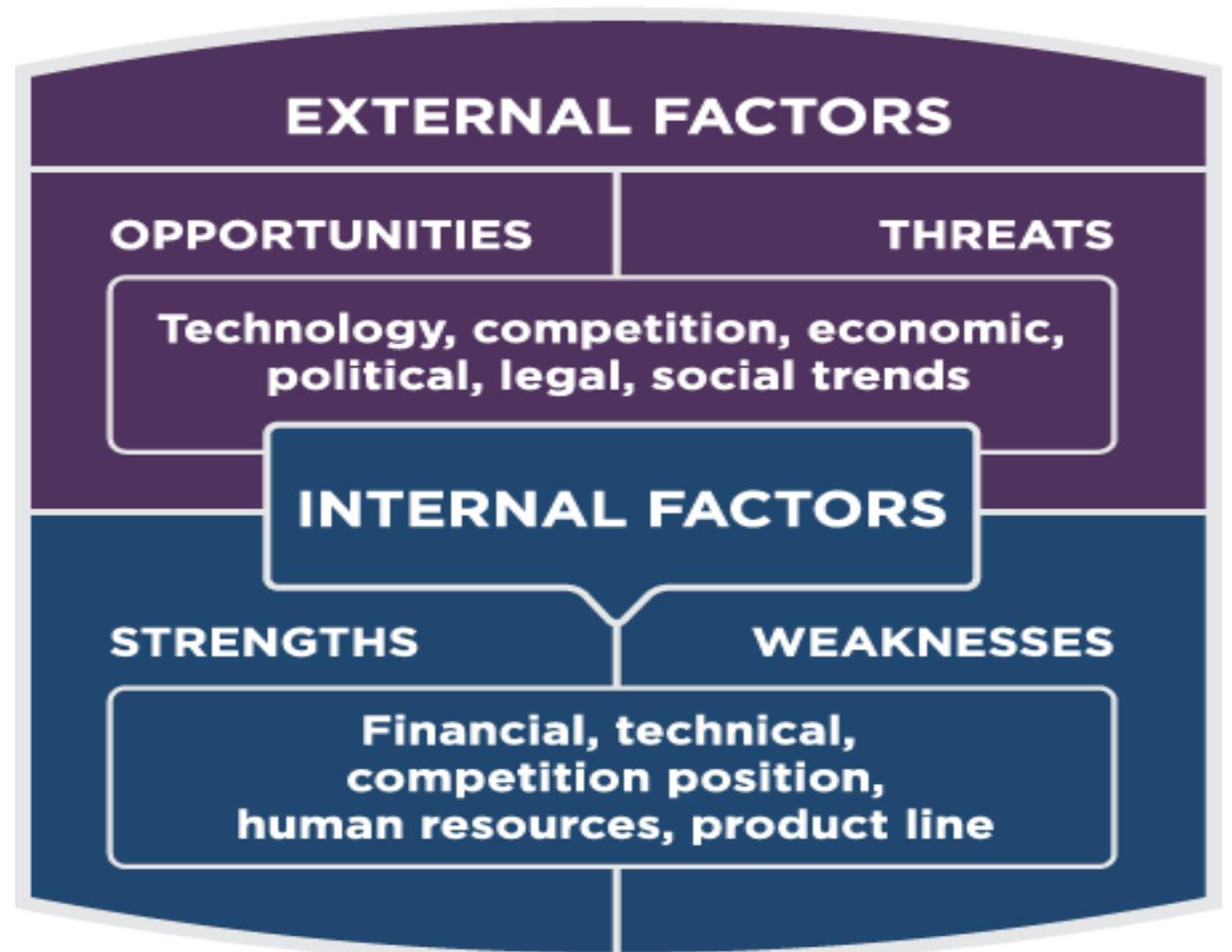
Complex Threat Environment (cont'd)

- An increase in complexity can increase perceived uncertainty
- Turbulence is a combination of instability (frequency of change) and randomness (frequency and direction of change) and as turbulence goes up, so too does intuition and heuristics

Complex Threat Environment (cont'd)

- Strategic environment consists of both internal and external complexities that directly and indirectly affect the resourcing, structuring, and operational performance of the organization

SWOT ANALYSIS



Complex Threat Environment (cont'd)

Threat perception



- Threat
- Emotion and risk perception
- Prejudice and discrimination
- Disaster and panic

Leadership



- Trust and compliance
- Identity leadership
- Ingroup elevation

Dynamics of a changing threat

Changes in international coalitions

Shifting of public attitudes

Rapid advances in technology

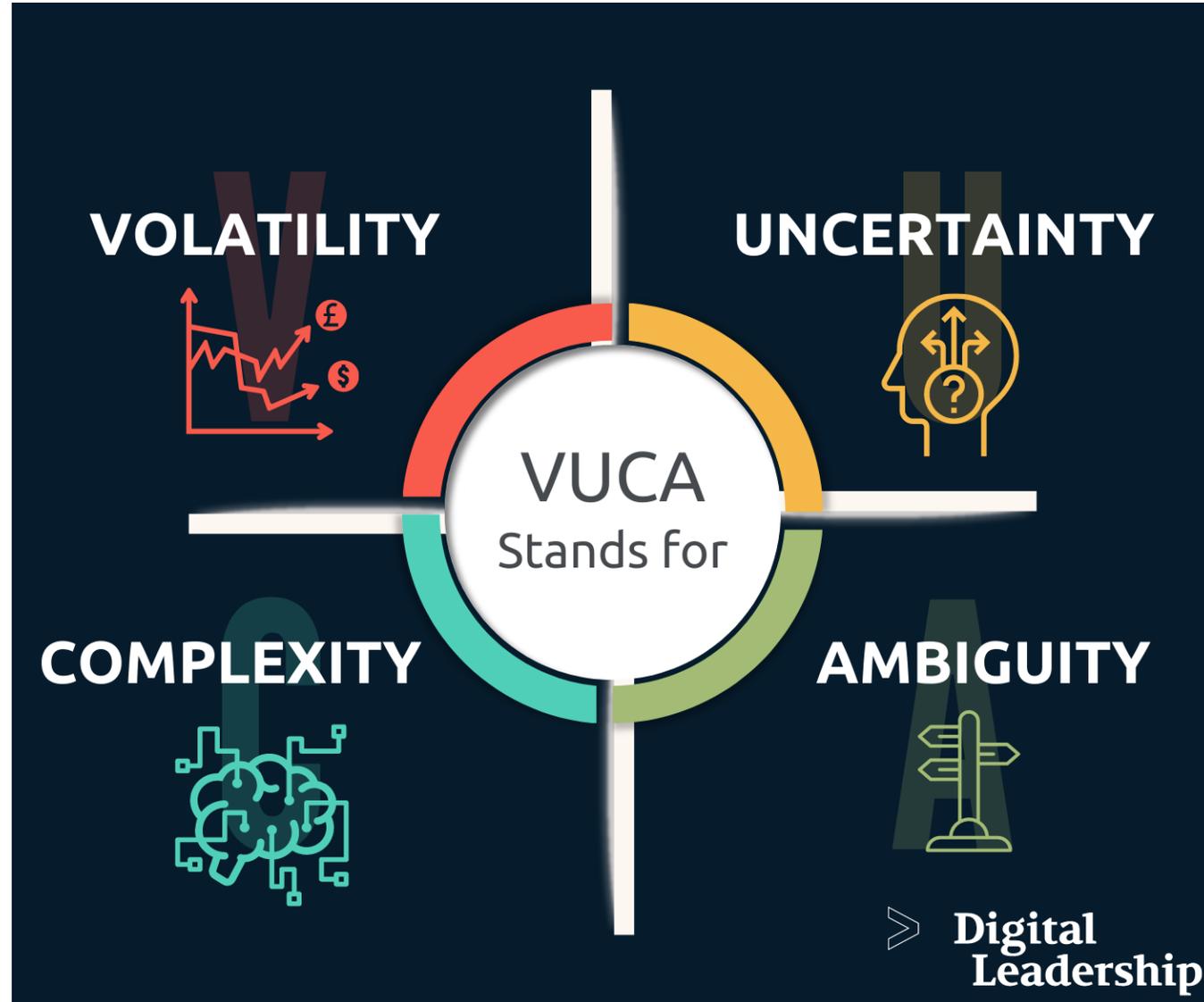
Election of new governments

Fluctuation of national budgets

Evolution of new missions

Challenge of strategic leadership that much more difficult

Complex Threat Environment (cont'd)



Complex Threat Environment (cont'd)

Concept of VUCA

Volatility relates to a strategic environment that is “subject to rapid and explosive reaction and change”

Uncertainty characterized the environment as “inherently problematic and unstable”

Complexity relates to the environment being “composed of many parts that are intricately related in such a manner that understanding them collectively or separating them distinctly is extremely difficult and often impossible”

Ambiguity is where, “the environment can be interpreted from multiple perspectives with various conclusions that may suggest a variety of equally attractive solutions, some of which will prove to be good and others bad”

Complex Threat Environment (cont'd)

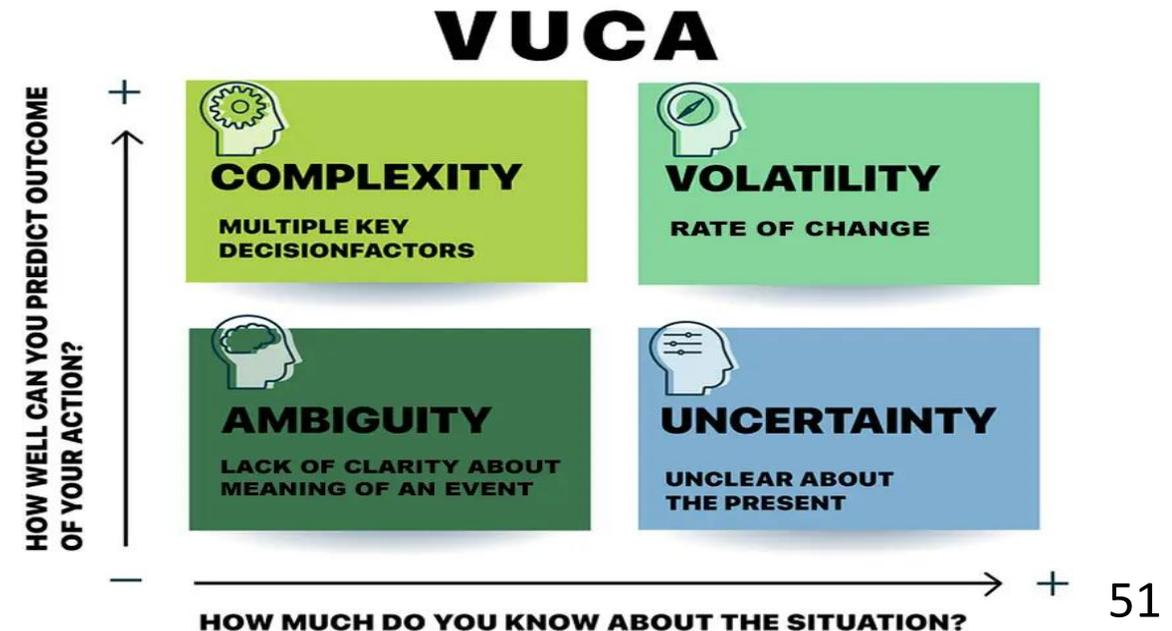
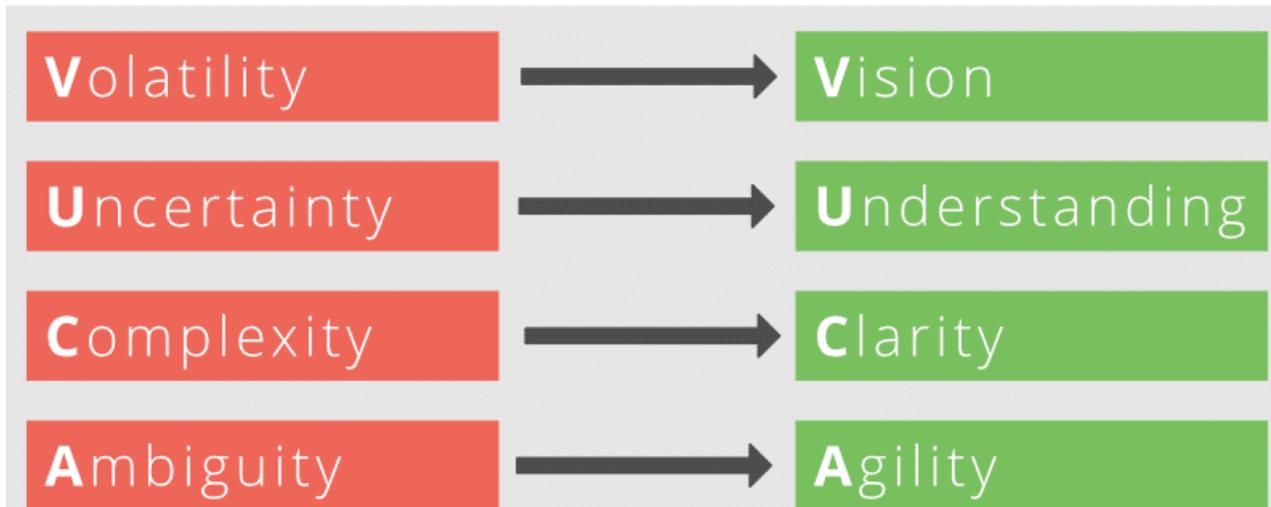
- Within this VUCA environment, organizations operate in environmental contexts that are shaped by “social, technological, economic, environmental, and political forces”



Complex Threat Environment (cont'd)

- Indeed, the elements of volatility, uncertainty, complexity and ambiguity are undeniably present in the operating environment of any organization, the only question is the degree to which each element may be in play

VUCA

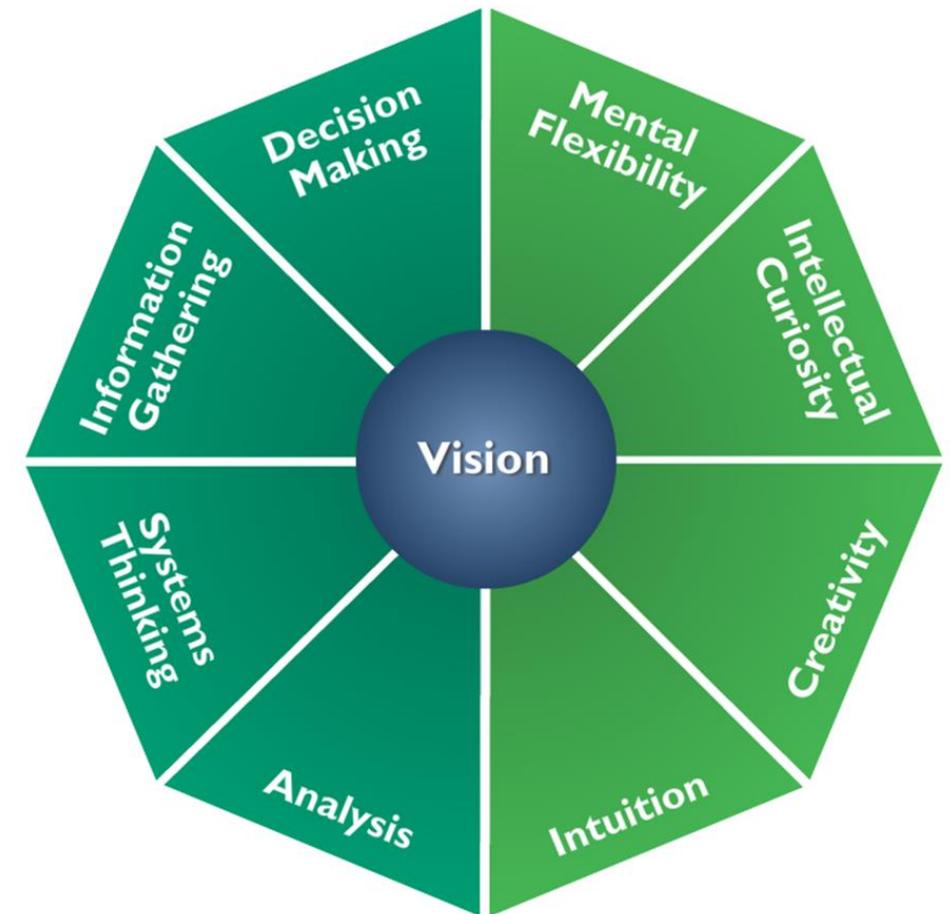


ESSENTIALS OF STRATEGIC THINKING

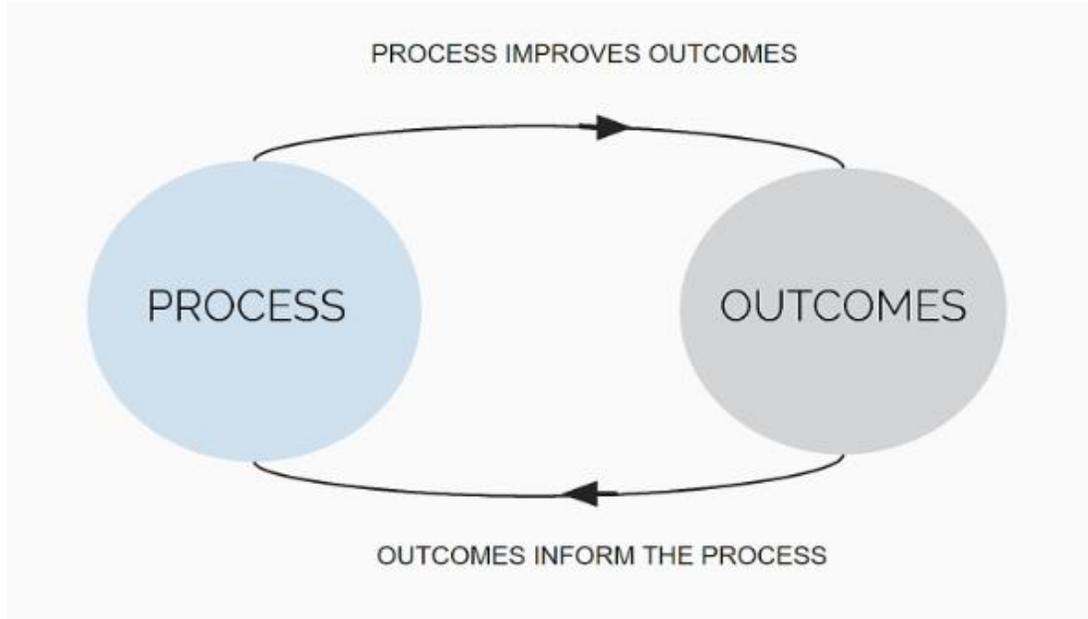
ESSENTIALS OF STRATEGIC THINKING (cont'd)

- Strategic thinking is a means-ends way of thinking
- It is future oriented and seeks to create value or an advantage for the system
- Strategic thinking allows us to recognize that there is a process (means-ends way of thinking) and an outcome (future value)

Strategic Thinking

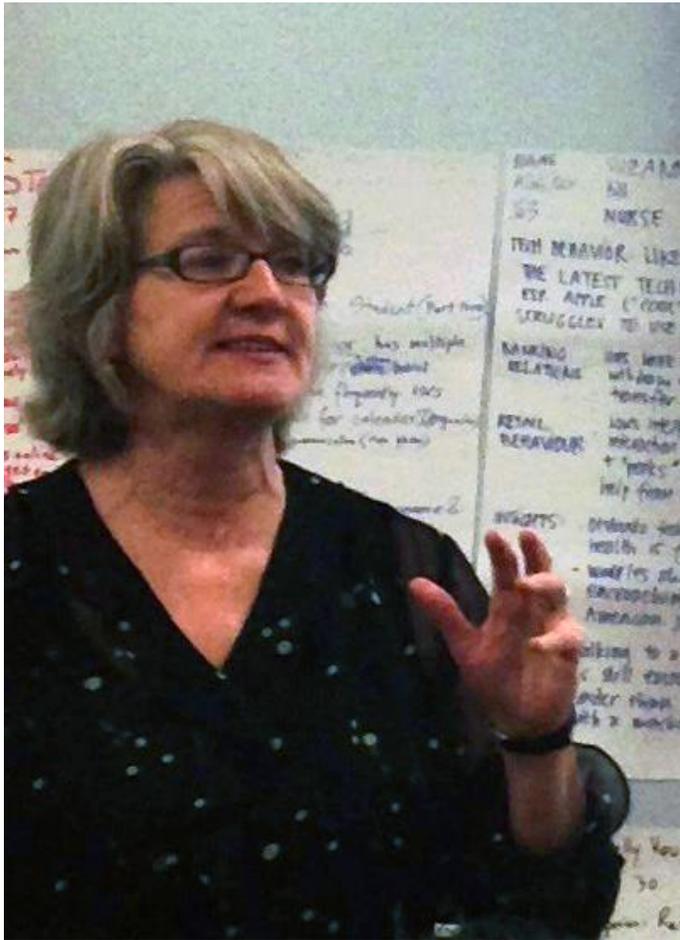


ESSENTIALS OF STRATEGIC THINKING (cont'd)

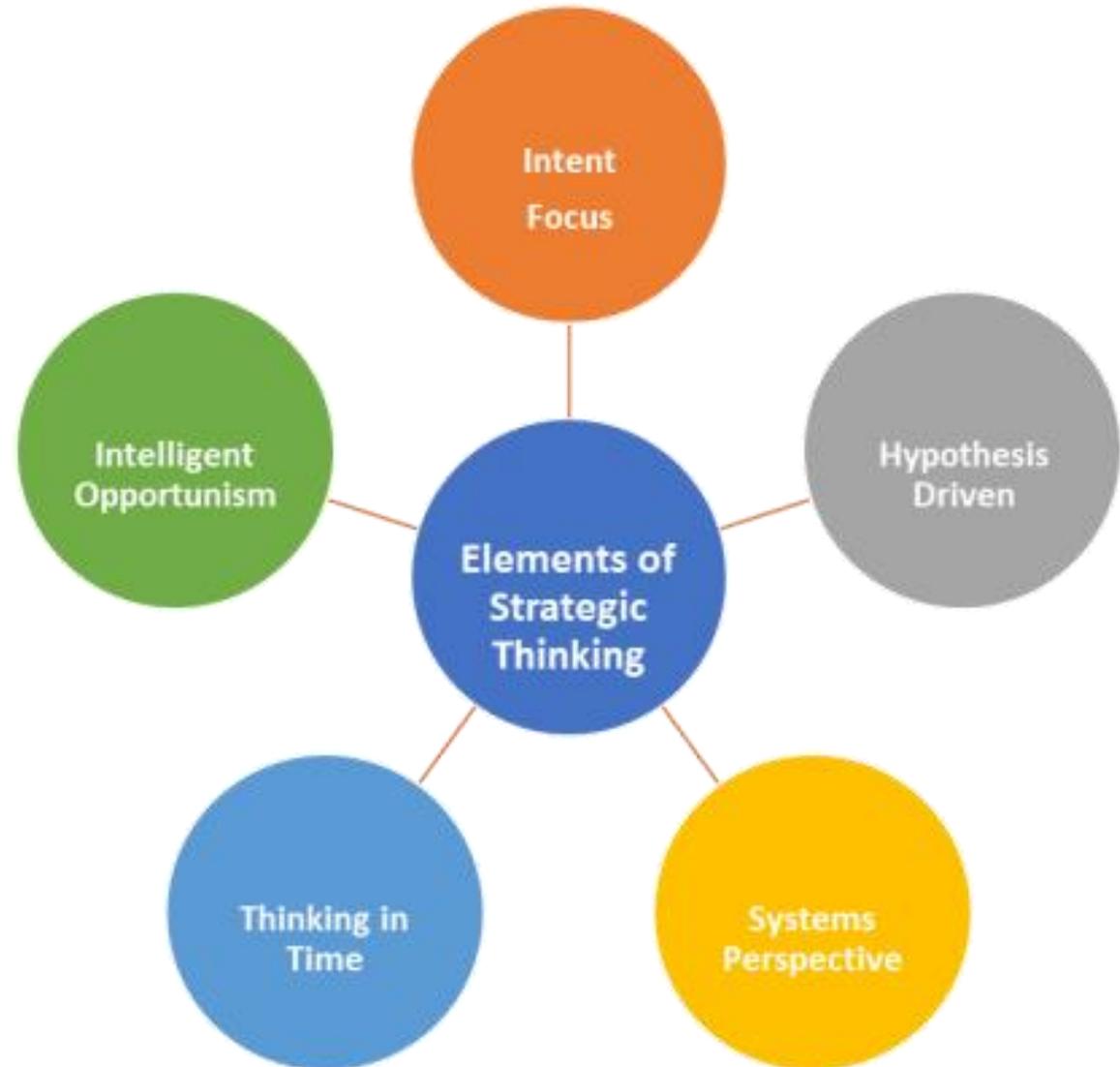


- Both the process and the outcome become important when we explore strategic thinkers and developing a strategic thinking capability

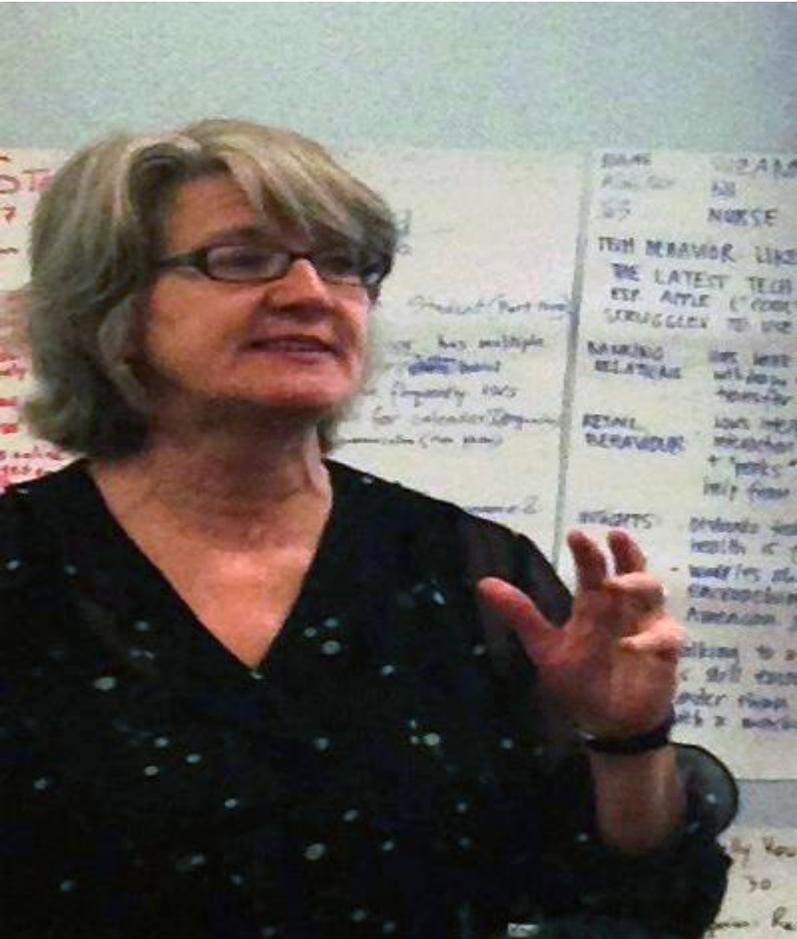
ESSENTIALS OF STRATEGIC THINKING (cont'd)



Jeanne Liedtka



ESSENTIALS OF STRATEGIC THINKING (cont'd)



Jeanne Liedtka

- Liedtka (1998) reviewed the various definitions of strategic thinking and concluded that strategic thinking is simply a “particular way of thinking, with specific attributes”
- She matched strategic thinking with Five elements:

ESSENTIALS OF STRATEGIC THINKING (cont'd)

Systems Perspective

- Strategic thinking reflects a systems or holistic view that recognizes how the different parts of the organization influence each other.

Intent-focused

- Strategic thinking conveys a sense of direction and is driven by the continuous shaping and re-shaping of intent.

Intelligent Opportunism

- Strategic thinking invokes the capacity to be intelligently opportunistic, or open to new experience, allowing one to take advantage of alternative strategies that may emerge in a rapidly changing environment.

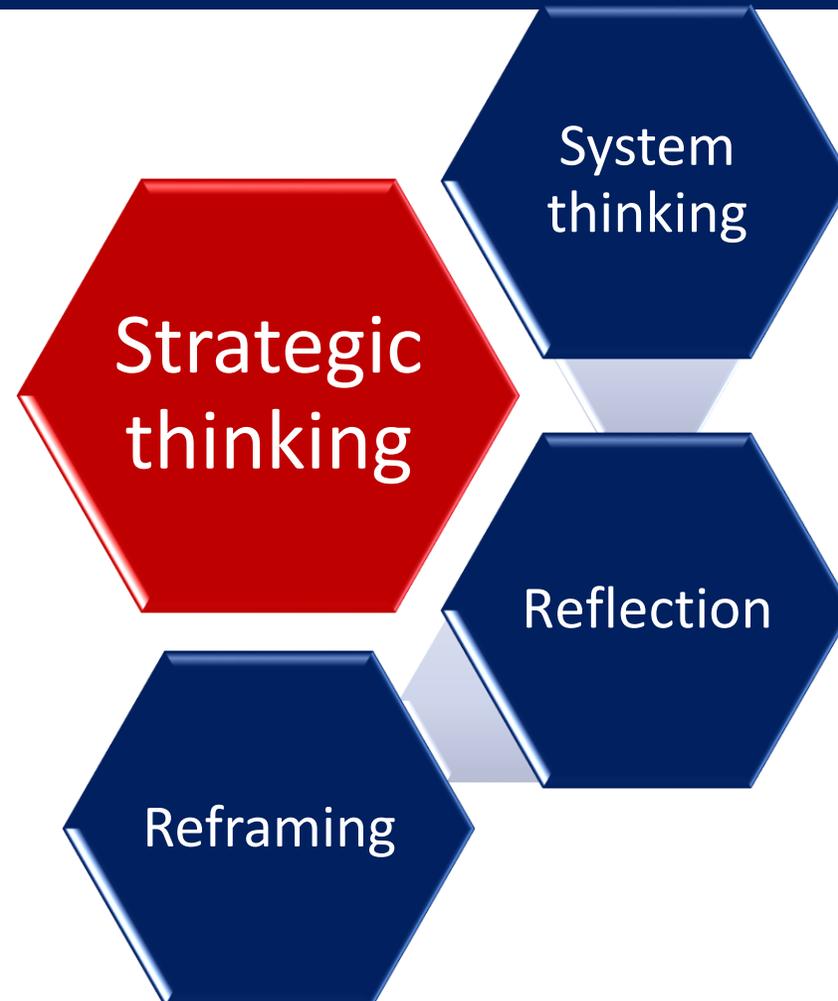
Thinking in Time

- Strategic thinking is not solely driven by the future, but by the gap between the current reality and the intent for the future.

Hypothesis-driven

- Hypothesis generation and testing is central to strategic thinking activities. It asks the creative question “What if?” followed by the critical question “If.....then?”

ESSENTIALS OF STRATEGIC THINKING (cont'd)



John Pisapia et al

ESSENTIALS OF STRATEGIC THINKING (cont'd)

Systems Thinking:

Refers to a “leader’s ability to see systems holistically by understanding the properties, forces, patterns and interrelationships that shape the behaviour of the system, which hence provides options for action”

provides clarity of patterns and supports effective change, thereby increasing creativity

Formed based on a systemic attitude

Specifies the orientation of the organization and puts it on the spotlight of the organization

ESSENTIALS OF STRATEGIC THINKING (cont'd)

Reflection

- Refers to a “leader’s ability to weave logical and rational thinking, through the use of perceptions, experience, and information, to make judgments on what has happened, and the creation of intuitive principles that guide future actions”

ESSENTIALS OF STRATEGIC THINKING (cont'd)

Reframing

- Refers to a “leader’s ability to switch attention across multiple perspectives, frames, mental models, and paradigms to generate new insights and options for actions”

ESSENTIALS OF STRATEGIC THINKING (cont'd)

- Pisapia concluded that strategic thinking is an individual's capacity to “recognize patterns, interdependencies, and make consequential decisions”
- Individual's capacity could be developed by practicing three cognitive skills, systems thinking, reflecting and reframing

ESSENTIALS OF STRATEGIC THINKING (cont'd)

- Strategic thinking denotes an individual's ability to decide under time pressure, which describes how accurately and quickly an individual reaches a solution to a given problem

STRATEGIC THINKING BEHAVIOURS

apolitical



SCANNING

Examine the environment to identify patterns in action.



QUESTIONING

Ask questions to understand different perspectives



CONCEPTUALISING

Generate ideas for how to approach the situation



TESTING

Refresh your approach based on the circumstances.

ESSENTIALS OF STRATEGIC THINKING (cont'd)

- Strategic thinking could be an indication of personality traits



PERSONALITY TRAITS

Academic
Beautiful
Calm
Dazzling
Eager
Fanatic
Generous
Hannv

Quick
Rational
Sane
Verbal
Accurate
Boastful
Capable
Decent

Noble
Optimistic
Patriotic
Quiet
Realistic
Sensible
Versatile
Adantable

Lively
Mean
Original
Polite
Reasonable
Serious
Violent
Adorable

APPROACHES TO STRATEGIC THINKING

APPROACHES TO STRATEGIC THINKING (cont'd)

Characterise Strategic thinking as a complex combination of:

environmental triggers

strategic questioning

issue framing

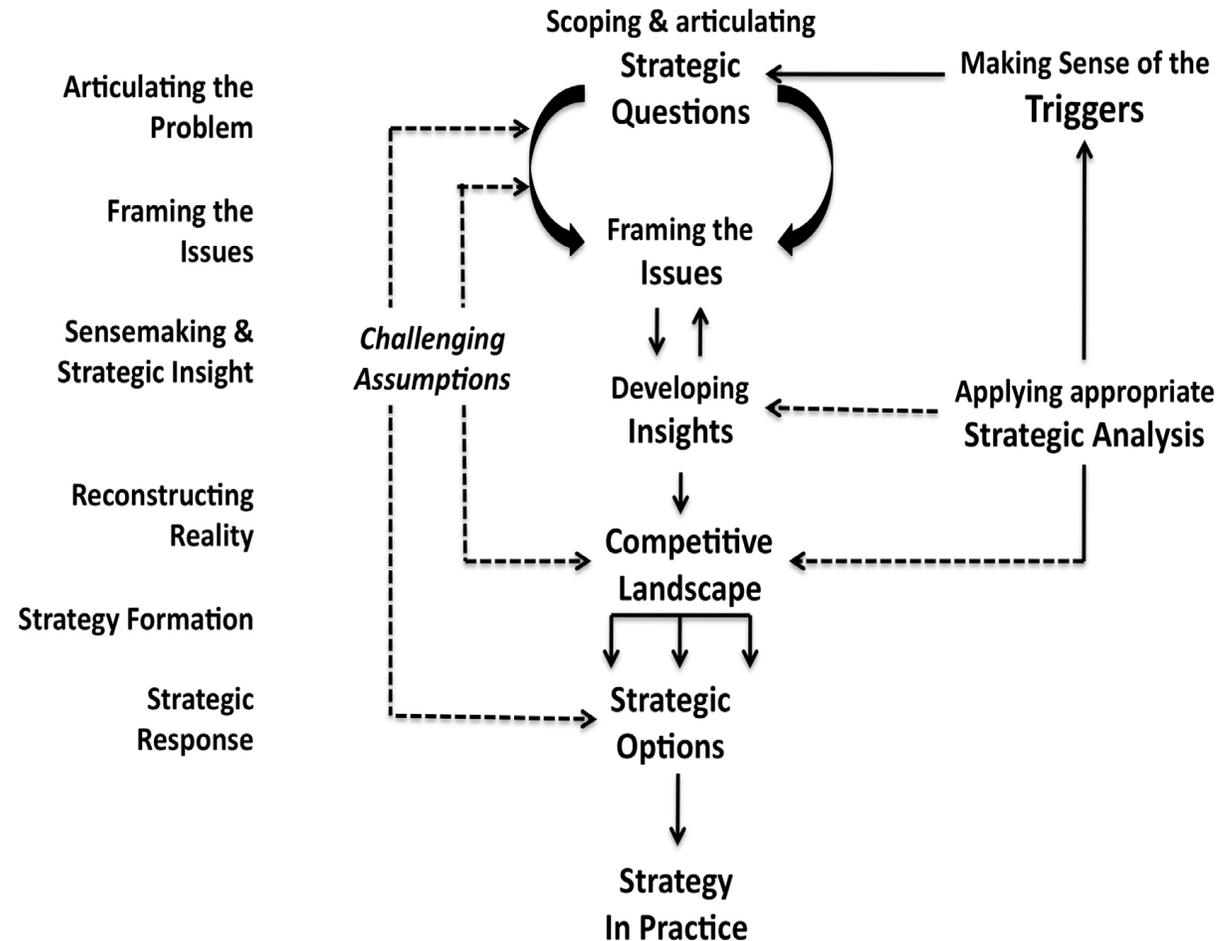
sensemaking and insight development

strategic analysis in the competitive environment

reconstruction of reality

strategic formulation in the development of strategic response

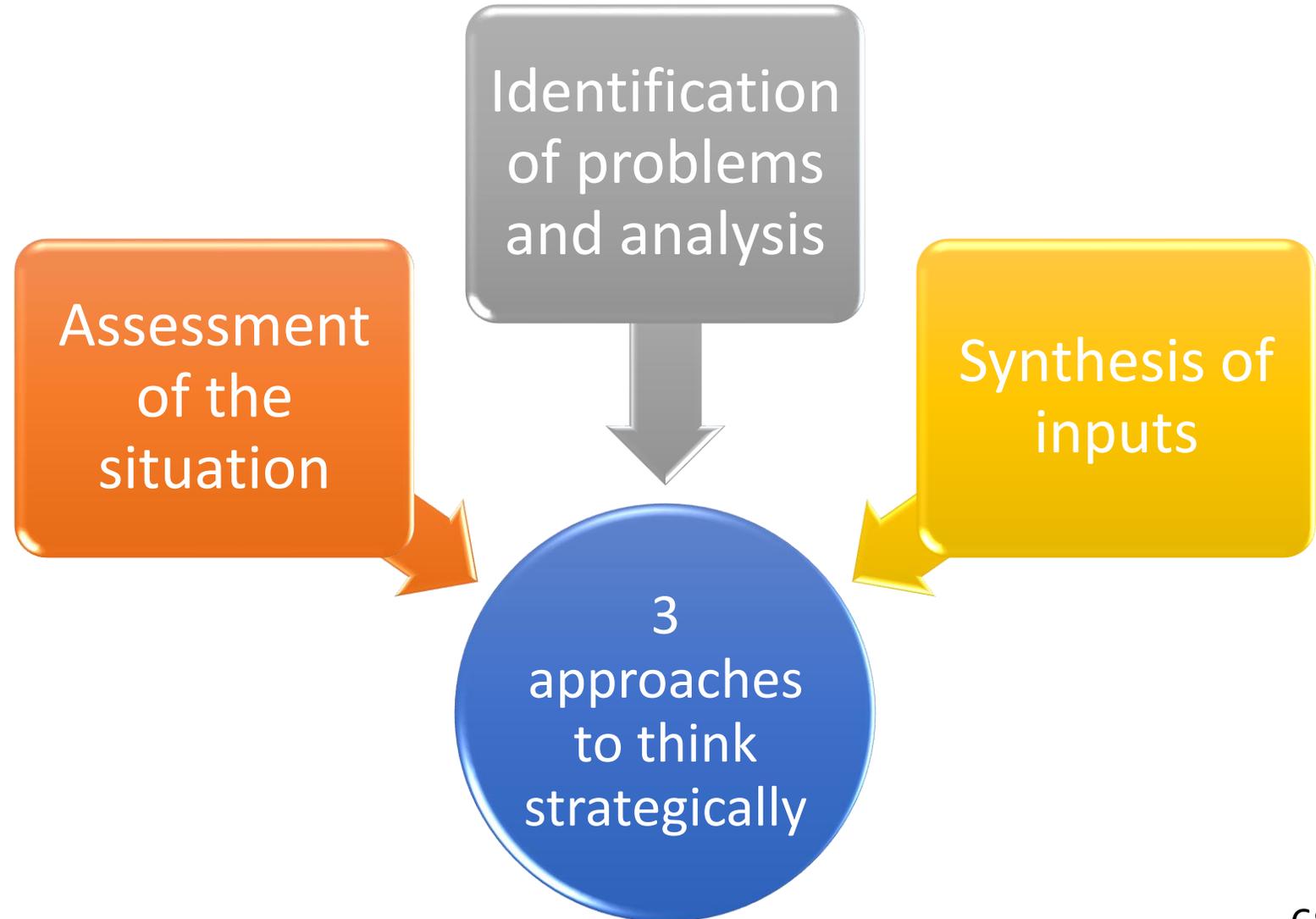
APPROACHES TO STRATEGIC THINKING (cont'd)



APPROACHES TO STRATEGIC THINKING (cont'd)



Liz Weber



APPROACHES TO STRATEGIC THINKING (cont'd)

setting
the
purpose

determining
the
strategic
questions

making
strategic
decisions
and
developing
information
inputs

linking
strategies
to the
financial
plan

linking
strategies
to annual
budgets

acquiring
strategic
skills and
capabilities

six methodical steps to thinking
strategically (Zabriskie and Huellmantel, 1991)

APPROACHES TO STRATEGIC THINKING (cont'd)

- For Mintzberg (1995), the approach to thinking strategically involved foreseeing discontinuities from all dimensions relevant to strategy, which could be used to inform creative intuition

APPROACHES TO STRATEGIC THINKING (cont'd)

Strategic thinking involves answering three basic questions:

where we are now?

where do we want to go?

how do we get there?

APPROACHES TO STRATEGIC THINKING (cont'd)

3 basic questions in strategic thinking

Where are we going?

How are we getting there?

Are we executing efficiently?

CHARACTERISTICS OF A STRATEGIC THINKER

CHARACTERISTICS OF A STRATEGIC THINKER (cont'd)

- Detailed descriptions of the characteristics of a strategic thinker were discovered in 55 sources and 18 characteristics were identified and mapped using a cluster analysis

CHARACTERISTICS OF A STRATEGIC THINKER (cont'd)

The cluster analysis revealed that there are three significant characteristics of a strategic thinker:

visionary
thinking

creative
thinking

system
thinking

CHARACTERISTICS OF A STRATEGIC THINKER (cont'd)

Visionary Thinking

- Genuine vision is a sense of direction that provides the focus for all activities within the organisation

Creative Thinking

- Creativity has attracted broad attention acquiring a complexity that 'poses major problems for measurement'

System Thinking

- The use of system thinking is not limited to any single domain.

Intuition

- Perhaps indicative of the elusiveness of strategic thinking, intuition, like the other characteristics, appears to lack a comprehensive, overarching framework

CHARACTERISTICS OF A STRATEGIC THINKER (cont'd)

Three types of intuition

Holistic Intuition

- Judgments are based on qualitatively non-analytical process made by integrating multiple, diverse informational cues into a whole that may or may not be explicit

Inferential Intuition

- Judgments based on automated analysis. Inferences and decisions that were once analytical have been automated with practice.

Affective Intuition

- Judgments are based primarily on emotional reactions to decision situations regardless of any explicit or rational support.

CHARACTERISTICS OF A STRATEGIC THINKER (cont'd)

- A strategic planner develops the plan to bridge or solve the problem
- Strategic thinkers find, or even create the problem to achieve a long-term advantage
- System thinking provides understanding; creative thinking provides novel solutions, while intuition allows for rapid understanding and decisions

CHARACTERISTICS OF A STRATEGIC THINKER (cont'd)

Four cognitive characteristics of a strategic thinker

visionary thinking

Intuition

creative thinking

system thinking

CHARACTERISTICS OF A STRATEGIC THINKER (cont'd)

- Visionary thinking proved to be quite problematic as most tests were simple judgment-based binary assessments of a vision statement
- Search for generic systems thinking assessment proved minimal. The ability to measure strategic thinking is an important step
- A comprehensive review indicated that each of these characteristics could be developed individually. Separately, a few researchers surmise that strategic thinking is strongly influenced by external events. For example, cognitive ability (general intelligence), experience and personality can be a predictor or influencer of strategic thinking

CONCLUDING THOUGHT

CONCLUDING THOUGHTS (cont'd)

- ❖ Fundamentally, strategy is about asking and answering key strategic questions and making the right decisions that support an organization's ambitions and goals
- ❖ A highly competitive, complex, and dynamic environment requires adept ways to think strategically and to gain the insights and perspectives necessary to address the key strategic questions that can competitively position the organization to remain competitive over time

CONCLUDING THOUGHTS (cont'd)

- ❖ Strategic thinking as a competence depends on the cognition of individuals to make sense of their environments and develop the requisite foresight that can be used in the development of competitive strategies
- ❖ Understanding the mind of a strategist is critical to understanding the development of strategic vision and how strategies form
- ❖ Current understanding of strategy as related to strategic thinking includes an understanding of how people think strategically while formulating strategy

CONCLUDING THOUGHTS (cont'd)

- ❖ The introduction of what has been termed the VUCA environment further complicates the challenge of strategic thinking, and new models may emerge as a result
- ❖ The place of cognitive factors as major influence to strategic thinking, in this regard, sensemaking, making sense of complex environments and foresight, which is an envisioning process that assesses the forces shaping the future must be borne in mind

CONCLUDING THOUGHTS (cont'd)

- ❖ Strategic thinking is a mechanism for making sense of strategic environments and identifying strategic insights in response to strategic questions
- ❖ The goal of strategic thinking is being able to accomplish this faster and more accurately than competitors to provide a competitive and sustainable edge

Principles 1

- Trust your instincts to make decisions, as long as you are a professional and hence your “guesses” are educated ones
- It is only thus that setting and following a vision from a pattern-based behaviour perspective becomes possible

Principles 2

- Assume accountability for your actions and thus empower others to do the very same
- In other words, to be a leader in a VUCA environment is simply setting an example and requiring the others to follow
- But to do that and ensure the right decisions are made, accountability should become the keystone for attitudes and their related behaviour

Principles 3

- Talk the talk and walk the walk. Leadership is not only about preaching, but also about setting an example
- Nonetheless, one is not possible without the other, which means that for people to follow, they need first to understand
- In other words, taking people's understanding for granted and asking them to replicate the leader's behaviour is nothing but a huge leadership mistake

**THANK YOU FOR
LISTENING**

References

Antolí, A., Cañas, J.J., Fajardo, I. and Salmerón, L., (2005) Cognitive flexibility of the strategies in dynamic complex problem solving tasks. Effects of different types of training. Theoretical Issues in Ergonomics Science. 6, 95-108

Anzai, Y. and Yokoyama, T. (1984) Internal models in physics problem solving, Cognition and Instruction, 1, 397.

Argyris, C., & Schön, D. (1978) Organizational learning: A theory of action perspective, Reading, Mass: Addison Wesley.

Back, J., Furniss, D., & Blandford, A. (2007) Cognitive Resilience: Reflection-in-action and on-action. In: Woltjer, R. and Johansson, B. and Lundberg, J., (Eds.) Proceedings of Resilience Engineering Workshop, 25–27 June, 2007. Linköping Electronic Conference Proceedings (23). Linköpings Universitet, Linköpings, Sweden, pp. 1-6.

Ball, L.J. & Ormerod, T.C. (2000). Putting ethnography to work: The case for a cognitive ethnography of design. International Journal of Human- Computer Studies, 53, 147-168.

Bandura, A. (1997) Self-efficacy: The exercise of control, New York: Freeman.

Barnett, J. and Breakwell, G. (2002) Risk Perception and Experience: Hazard Personality Profiles and Individual Differences, Risk Analysis, 21, 1, 171- 178.

Bloom B. S. (1956) Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain. New York: David McKay Co Inc.

References

Boal, K.B. & Schulz, P.L. (2007) Storytelling, time and evolution: The role of strategic leadership in complex adaptive systems, The Leadership Quarterly, 19, 411-428.

Davies. M.F. (1992) Field dependence and hindsight bias: Cognitive restructuring and the generation of reasons, Journal of Research in Personality, 26, 1, March, 58-74.

Ensley, M. and Pearce, C. (2001) Shared cognition in top management teams: implications for new venture performance, Journal of Organizational Behavior, 22, 145-160.

Frensch, P. A. and Sternberg, R. J. (1989) Expertise and intelligent thinking: When is it worse to know better?, In Sternberg, R. J. (Ed.) Advances in the psychology of human intelligence, Vol. 5, LEA, Hillsdale.

Gardner, H. (1999) Intelligence reframed: multiple intelligences for the 21st century, Basic Books

Gavetti, G. and W. Rivkin. J.W. (2005) How Strategists Really Think: Tapping the Power of Analogy. Harvard Business Review 83, 4, 54-63.

Goldman, E. F. and Casey, A. (2010) Building a Culture That Encourages Strategic Thinking, Journal of Leadership & Organizational Studies, May 2010, 17, 2, 119-128.

Hellriegel, D., Slocum, J.W. and Woodman, R.W. (1998) Organizational Behaviour, 8th Ed. South Western College, Cincinnati, OH.

References

- Heuer, Jr, R.J. (1999) *Psychology of Intelligence Analysis*, CIA 1999.
- Hiller and Hambrick, (2005) *The Role of (Hyper-) Core Self Evaluations in Strategic Decision Making*, *Journal of Strategic Management*, 26, 297-319.
- Hodgkinson, G.P. Brown, N. and Maule, A.J. Glaister, K.W. and Pearman, A.D, (1999) *Breaking the Frame: An analysis of Strategic Cognition and decision making under uncertainty*, *Strategic Management Journal*, 20, 977-985.
- Liedtka, J. M. (1998) *Linking Strategic Thinking with Strategic Planning*, *Strategy and Leadership*, (26) 4, 30-35.
- Liedtka, J.M. and Rosenblum, J.W. (1998) *Teaching Strategy as Design: A Report from the Field*, *Journal of Management Education*, June 1998, 22, 3,
- Minzberg, H. (1994) *The Rise and Fall of Strategic Planning*, London: Prentice Hall.
- Schwarz, N. (2002), *Situated Cognition and the Wisdom of Feelings: Cognitive Tuning in L. Feldman Barrett & P. Salovey (Eds.), The Wisdom in Feeling*,
- Stanovich, K. E., and West, R.F. (2008) *On the Relative Independence of Thinking Biases and Cognitive Ability*, *Journal of Personality and Social Psychology*, 94, 4, 672–695
- Zhang L. (2002) *Measuring thinking styles in addition to measuring personality traits?* *Personality and Individual Differences*, 33, 445–458

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