Chapter 1

Dynamic Organizational Capabilities: Distributed Leadership and Fractal Organization

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Introduction

Dynamic defense is a very attractive concept. In this chapter, I would like to discuss dynamic organizational capabilities using the viewpoint of the management of organizations as a reference for applying this concept.
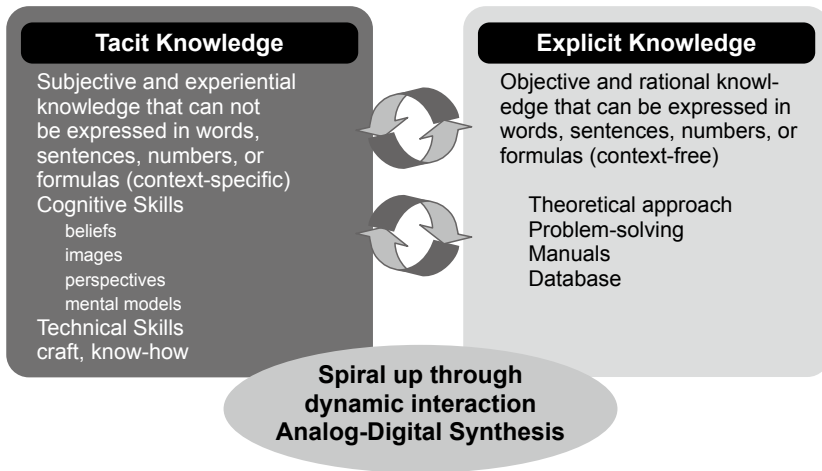
Before going into detail, I would like to clarify my stance. The methodology of perceiving the world can be categorized into one of two schools: a deductive method, as in the case of Plato, and an inductive method, as in the case of Aristotle. Plato stated that truth, goodness and beauty are closest to God, and thus they can be understood only by reason that is completely free of all five senses. In other words, truth is the purified form of reality. Aristotle, on the other hand, insisted that truth, goodness and beauty exist in reality, and can only be universalized from particular contexts. I agree with the latter.

In order to create knowledge, tacit knowledge, which is subjective and physical knowledge based in our experiences, and explicit knowledge, which is objective and rational verbal knowledge, must be synthesized and converted in an upward spiral.

In this chapter, I would like to present a leadership style that leads to sustainable organizational innovation based on the "SECI Model". This model illustrates the process of creating knowledge by converting and synthesizing tacit and explicit knowledge. First, I will briefly explain the SECI Model. Then, using this model, I will analyze successful cases of organizational innovation in history. Lastly, I will present a brief review of dynamic defense.

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Two Dimensions of Knowledge

Tacit Knowledge

Subjective and experiential knowledge that can not be expressed in words, sentences, numbers, or formulas (context-specific)
Cognitive Skills
 beliefs
 images
 perspectives
 mental models
Technical Skills
craft, know-how

Explicit Knowledge

Objective and rational knowledge that can be expressed in words, sentences, numbers, or formulas (context-free)

Theoretical approach
Problem-solving
Manuals
Database

Spiral up through dynamic interaction Analog-Digital Synthesis

1. The Organizational Knowledge Creation Process: The SECI Model

The first stage consists of a first-hand, direct experience. In the SECI model, this stage is called Socialization. One acquires tacit knowledge by using one's physical body and five senses, and then shares it among the members of the organization. This is the stage of empathizing with the reality.

Next, it is necessary to conceptualize the essence behind the reality. This stage is called Externalization. Here one becomes aware of the essence behind the reality and conceptualizes it through conversation and self-reflection, with the use of metaphor, and shares it as explicit knowledge with the members of the organization.

Then, one moves to the stage where correlations are created among these concepts. This stage is called Combination. Here theoretical models are formed by combining and organizing several pieces of explicit knowledge, after which they are used to create value in the form of technology, goods, software, services, et cetera.

Finally, these "things" are actually used in the marketplace. This stage is called Internalization. Explicit knowledge is materialized or internalized through practice and at the same time induces new knowledge in organizations, markets,

and the environment. This then leads back to the socialization stage in which the knowledge is shared and experienced as tacit knowledge among the members of the organization. Driving the SECI spiral at high speed is the synthesized power of knowledge which integrates both creativity and efficiency in a dynamic way. The SECI spiral is the origin of innovation, and therefore it can be applied to all organizations, regardless of whether they are military or business.

Organizational Knowledge Creation Process
### SECI Model
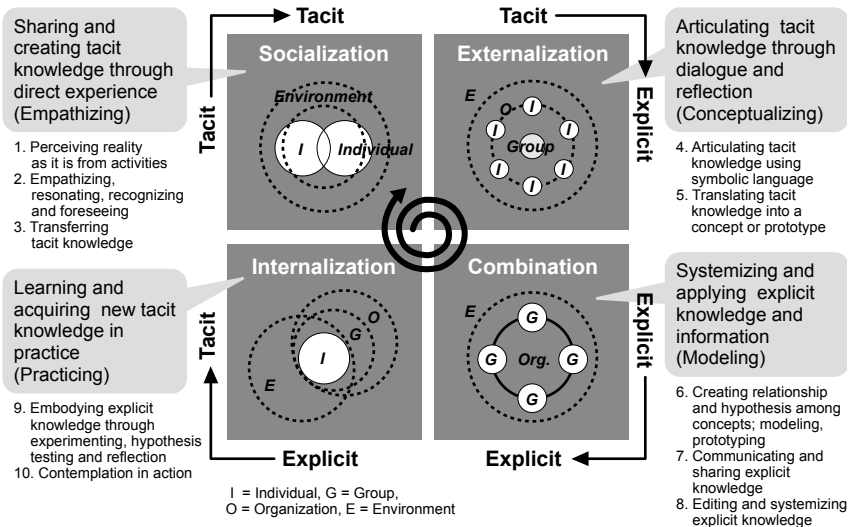
The SECI Model is different from the Plan-Do-Check-Act (PDCA) cycle proposed by William Edwards Deming, in that the SECI Model places high value on tacit knowledge. The PDCA cycle is an analytical and efficient model for quality control, which advocates having a plan from the outset. In contrast, the SECI Model places intuition as the starting point. In the SECI Model, one intuitively senses the reality with the whole body, and then grasps the essence while at the same time pursuing efficiency rationally. It aims to accommodate both creativity and efficiency in a dynamic way. The principal characteristic of this model is that it creates a SECI spiral in all types of activities within organizations.

Since knowledge is created not only in markets but in all relationships in the environment, innovation within military organizations occurs only when industries, civil service, academia and defense domains collaborate and utilize all the knowledge they have. In other words, innovation of military organizations materializes within organizational, social and global relationships. Knowledge can thus be defined as a resource that is created within relationships.

Knowledge Ecosystem
Organic Configuration of *Ba*

Knowledge is created in relationships. Knowledge ecosystem dynamically interacts and evolves the relationships between the stakeholders in the multi-layers of ba; stakeholders compete, collaborate and transcend the organizational boundaries.
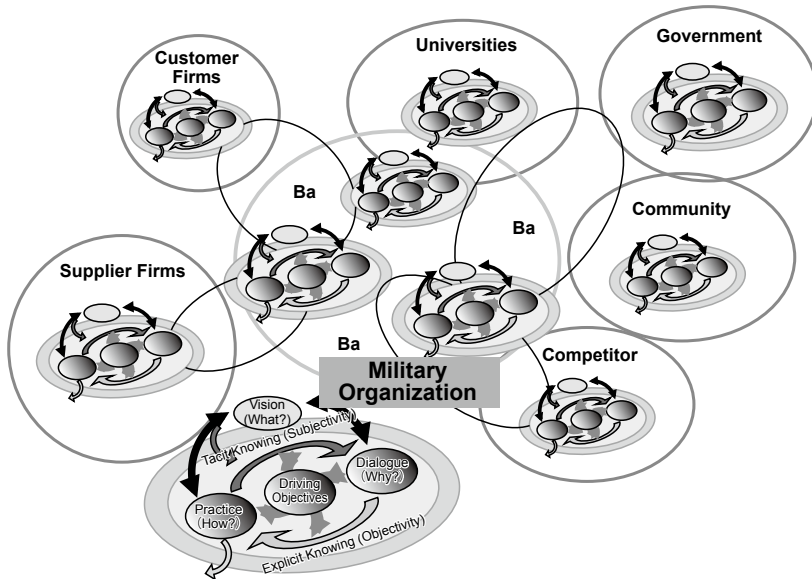
The key here is subjectivity. What is provided objectively from the beginning is mere information. Knowledge reflects one's beliefs and vision and for this reason, one can fully commit oneself to a process of creating new knowledge. That is why tacit knowledge is the basis of all knowledge. Furthermore, the process of creating explicit knowledge from tacit knowledge is essential. While searching for a consensus, objectivity is created from subjectivity, and innovation is actualized in the end. This process itself is the creation of knowledge.

2. Leadership that Generates Innovation Continuously

Let us now consider the kind of leadership or dynamism of an organization that constantly drives this process. Here we use a concept introduced by Aristotle called "phronesis". Phronesis can be translated as "prudence" or "practical wisdom".
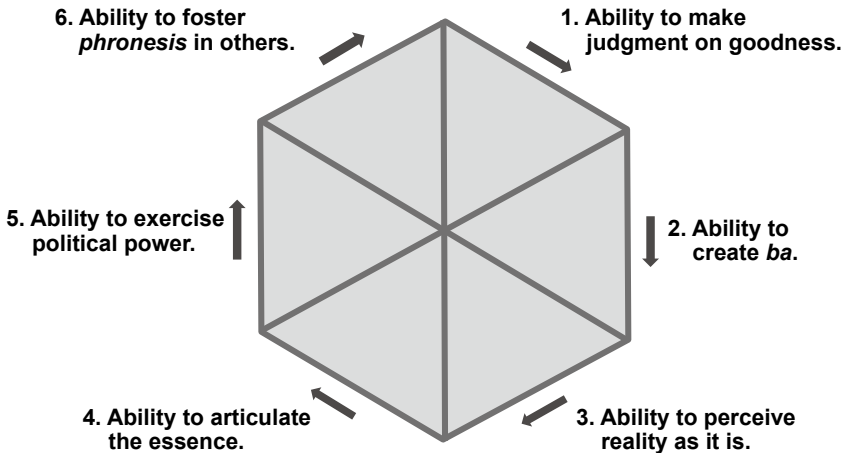
The definition of practical wisdom or prudence is the ability to have a vision of the common good, to complement it with aims such as values or ethics, and then to exercise the best judgment in a particular context or within our relationships. What is meant by "ability" here is one's innate ability to make timely and correct judgements and take appropriate actions. Because of this, it is important to synthesize the particulars and universals, that is, tacit and explicit knowledge into an upward spiral through contemplation in action. This ability includes discerning the relationships underpinning phenomena and making judgements on relationships that are not visible, by probing into their essence. This involves the ability to grasp the relationships behind the context, and the ability to take timely action. Timely and balanced judgement is the essence of "phronesis".

I have been studying top-management, middle management and front-line innovators for many years. Based on these case studies, I would like to present the following six abilities of "Phronetic Leadership".

Wise Leadership

−Six Abilities of the *Phronetic Leaders*−

Phronesis is a virtuous habit of making judgments and taking actions that serve the common good.

6. Ability to foster *phronesis* **in others.**

1. Ability to make judgment on goodness.

5. Ability to exercise political power.

2. Ability to create *ba*.

4. Ability to articulate the essence.

3. Ability to perceive reality as it is.

First is the ability to make judgments on goodness. Second is the ability to create *ba* (place) from relationships in a timely manner. Third is the ability to perceive unvarnished reality. Fourth is the ability to conceptualize and articulate the essence of what one perceives. Fifth is the political process that realizes the concept that innovation is a political process and that it is also essential for a leader with practical knowledge to have the ability to sublate conflict. The last is the ability to distribute practical wisdom within the organization. This is the ability to turn individual leadership into organizational leadership. In the next section, I will use this framework to review some examples of outstanding leaders.

3. Empirical Studies

Here I will study two examples of leadership. One is that of Winston Churchill as an outstanding individual leader. The other is that of the US Marine Corps, in which the function of leadership is distributed across the organization without

an outstanding individual leader. It is an example of "entire staff" leadership.

3.1. Ability to make a judgment on goodness

Peter Drucker pointed out that the appearance of Churchill saved Europe and the world in World War II. Churchill confronted Adolf Hitler with a strong sense of virtue, in other words, political and moral values that determined what truth, goodness and beauty were for him. Churchill held unwavering principles and philosophies such as idealism, Christian civilization and democracy.

On the other hand, in the organization known as the US Marines, innovation does not necessarily come from the top. Sometimes it arose from the middle and sometimes from the front lines of the organization. In such a way, the US Marines is an organization that generated innovation at all levels of the organization. Looking at the history of tactical innovation, lightning attacks [*blitzkrieg*], airborne operations, amphibious operations, close air support and helicopter attacks are five major innovations. Among them, three of these—amphibious operation, close air support and helicopter attack—were organizationally devised by the Marines.

One characteristic of the Marines is that they place importance on accommodating both art and science. In line with a Platonic interpretation, science refines the world, but reality is art, and it is within the world of tacit knowledge. Art, in addition, changes from moment to moment. It is the fundamental understanding of the Marines that both art and science are necessary. Therefore they set a high value on sharing within an organization a strong sense of purpose, which is to grasp the essence of the particular and concrete context of the battlefield and then to find a practical solution and act on it.

3.2. Ability to create *Ba*

It is well-known that Churchill excelled in conversational skills. We can assume that he was good at grasping the essence of debates with others and creating a space [*ba*] of empathy with others. To be more precise, he was good at reading the relationships between various phenomena, clever at theorizing and justifying his views, and furthermore, he had a good sense of humour when responding to a context. He also mobilized all available knowledge in a critical situation by calling a cross-functional team of industries, government and military in the War Room.

The Marines, on the other hand, have abundant opportunities for dialogue. High value is placed on sharing philosophy by communicating with their whole body in the ever-changing context. This is the ultimate sharing of *ba*.

3.3. Ability to perceive reality as it is

A leader is required to have the ability to see the facts as they are without being constrained by existing ideologies. Churchill saw the reality of war by visiting the front line frequently and talking to the commanders, and then inducing the essence from the experience. This is in sharp contrast to Hitler, who commanded mostly from behind.

The Marines organizationally give the initiative to the front-line troops. They understand that the front-line troops have the best understanding of the situation, and they share a command system that values the judgement of the front-line.

3.4. Ability to articulate the essence

Innovation will not occur unless intuition is shared within the organization. A leader must therefore have the ability to conceptualize and articulate the essence in the most appropriate words. Churchill, in this sense, had an outstanding knowledge of liberal arts and received the Nobel Prize in Literature. He had the rhetorical ability to come up with phraseologies like "The Battle of Britain" and used poetic verses such as "Never in the field of human conflict was so much owed by so many to so few", in referring to the efforts of the pilots of the Royal Air Force.

3.5. Ability to exercise political power

The Marines value sharing practical knowledge. Based on the understanding that every truth is particular and unique, since all battles are fought in uncertainty, there is neither one absolute answer on a battlefield nor an answer that is derived from logic. They place emphasis on the importance of thinking deeply about the essence by repeating the process of using intuition and analyzing within actual warfare.
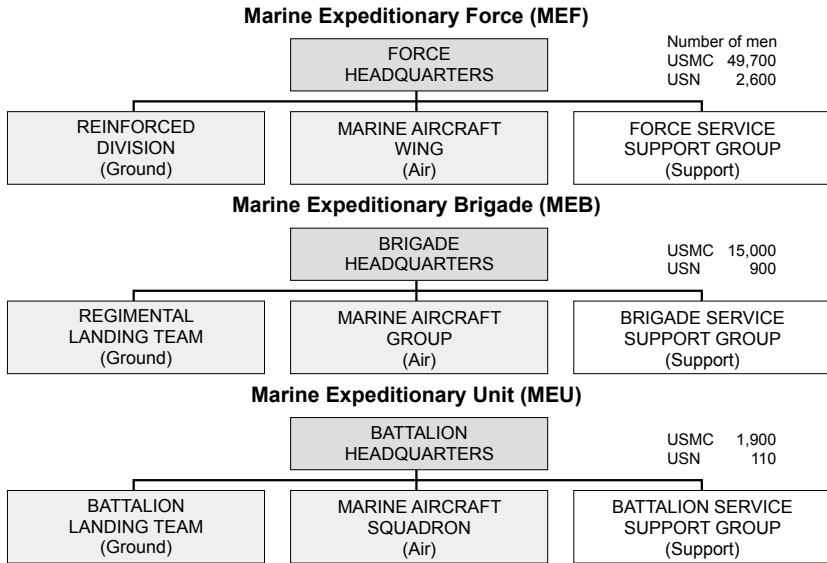
3.6. Ability to foster phronesis in others

In both cases of depending on one outstanding leader like Churchill and

implanting entire staff leadership into an organization like the Marines, it is important to convert individual practical knowledge into organizational practical knowledge through dynamic organizational capabilities. Churchill was outstanding in this area, too. He paid close attention when selecting and nurturing his subordinates, constantly challenged them with fundamental questions, and handed down practical knowledge to them through dialogue.

The Marines exercise sweeping decentralization depending on the context. The idea behind this is the fleet-marine-force concept that sustains the capability to deploy every method that applies to every situation. The exemplary organizational form is the Marine Air Ground Task Force (MAGTF). The distinct characteristic of MAGTF is that it looks like a hierarchical organization and yet it is not.

MAGTF can be seen as a form of fractal organization. Fractal is a word used in complex scientific systems, which describes a situation where the individual parts are created similar to the form of the whole. Every layer of the Marines is an integrated unit of the army, navy and air force. When the whole is created out of individual parts, the whole looks like the parts. It is an organization where the parts and the whole are analogous. Every layer has the capability to make self-contained judgements and execute missions. Every layer of MAGTF sustains a dynamic fractal structure by communicating from the parts to the whole and the whole feeding back to the parts in order to constantly maintain the smallest requisite variety that reflects the changing environment.

Marine Air-Ground Task Force (MAGTF)

Marine Expeditionary Force (MEF)

FORCE HEADQUARTERS	Number of men
	USMC 49,700
	USN 2,600

REINFORCED DIVISION (Ground)	MARINE AIRCRAFT WING (Air)	FORCE SERVICE SUPPORT GROUP (Support)

Marine Expeditionary Brigade (MEB)

BRIGADE HEADQUARTERS	USMC 15,000
	USN 900

REGIMENTAL LANDING TEAM (Ground)	MARINE AIRCRAFT GROUP (Air)	BRIGADE SERVICE SUPPORT GROUP (Support)

Marine Expeditionary Unit (MEU)

BATTALION HEADQUARTERS	USMC 1,900
	USN 110

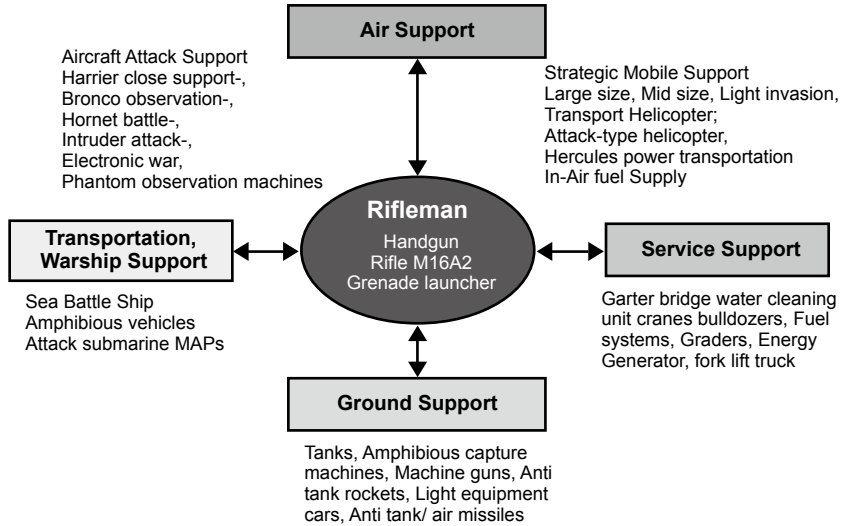| BATTALION LANDING TEAM (Ground)	MARINE AIRCRAFT SQUADRON (Air)	BATTALION SERVICE SUPPORT GROUP (Support)

1. MAGTF has a fractal structure: The number of men varies according to the operation size, but the basic structure is the same.
2. The rules of three hierarchy: Corporal leads a squad with three men, Sergeant leads a platoon with three squad, Captain leads a company with a three platoon, etc. There are eight levels, up to Colonel.

In the Marines—a dynamic fractal organization—the SECI spiral of tacit, explicit and practical knowledge occurs in every part of the organization, continuously. This leads to organizational innovation.

The foundation of the Marines is the infantry rifleman. Taking close air support as an example, one marine in the three-man team of the smallest unit has aeronautical navigation skills. Viewed from a different angle, all marine pilots have experience as a platoon leader on the ground, and from experience, they know how planes look from the ground. In the Marines, the army, navy and air force are integrated even at the lowest level.

The Organic Configuration
with a Rifleman at the Center

Air Support

Aircraft Attack Support
Harrier close support-,
Bronco observation-,
Hornet battle-,
Intruder attack-,
Electronic war,
Phantom observation machines

Strategic Mobile Support
Large size, Mid size, Light invasion,
Transport Helicopter;
Attack-type helicopter,
Hercules power transportation
In-Air fuel Supply

Rifleman
Handgun
Rifle M16A2
Grenade launcher

**Transportation,
Warship Support**

Sea Battle Ship
Amphibious vehicles
Attack submarine MAPs

Service Support

Garter bridge water cleaning
unit cranes bulldozers, Fuel
systems, Graders, Energy
Generator, fork lift truck

Ground Support

Tanks, Amphibious capture
machines, Machine guns, Anti
tank rockets, Light equipment
cars, Anti tank/ air missiles

The Marine Corps is an organization that makes such innovation possible, and at the same time puts a lot of effort into creating an organizational culture, which means sharing values such as "commitment", "picking the bones of colleagues" and "bias towards victory". There was a recent episode where a senior marine threw himself onto a young colleague to save him and contributed to accomplishing their mission. Here we can find a symbolic ethos. The whole MAGTF is organized to help a single member of the Marines as well as to support a battle. It is an ethos wherein the organization is important but it cares for the individual, too.

4. Views on Development of Dynamic Defense Capabilities

If asked whether there is a leader like Churchill in the Japanese government, one would most likely have to answer "no". From my experience as a member of the Independent Investigation Commission on the Fukushima Nuclear Accident, investigating and analyzing the response of the Japanese government, I must say that Prime Minister Naoto Kan's risk management was the polar opposite of

Churchill's leadership. Instead of dealing with the risks by consulting a variety of people and integrating the broad view of the situation and individual phenomena into a spiral, the government seemed to operate using micro-management.

In this chapter, I have discussed dynamic defense in the organizational context. According to organizational theory, there are cases where dynamic organizational capabilities culminate in an outstanding leader. But I do not believe it is possible for Japan to produce a great leader like Churchill. One exception is the former prime minister, Yasuhiro Nakasone. Mr. Nakasone established the "Ron-Yasu relationship" with US President Ronald Reagan by stating that the US and Japan share a common destiny. He exemplifies the potential for individual leadership in Japan.

Even if there is no outstanding leader, it is important to create a dynamic fractal organization through integrated operation as a team or organization, and to work on it daily. This is a completely feasible approach towards innovation within a defense organization.

From this perspective, it is worth noting that some US Marines researchers point out that there are things in common between the Marines and the Japan Self Defence Forces (JSDF). They both share a strong sense of "solidarity" and "community". Both the US Marines and the JSDF have the capability to collect knowledge from the masses. This makes me think that perhaps Japan will have a marine corps someday. Newsweek recently published an article about joint exercises between the JSDF and the US Marine Corps. However, the US-Japan joint ground exercise, which was to take place on a remote island in Okinawa in November, has been cancelled. It would have been the first such exercise to take place on Japanese soil. This cancellation begs the question of whether the Democratic Party of Japan government in fact has any sense of crisis or security strategy.

Strategy and organization cannot be separated. It is human beings that try to understand the situation and form strategies, and it is organizations that carry out those strategies. Regardless of which leadership model is applied, I believe that organizational knowledge creation and distributed leadership are the basis of dynamic organizational capabilities.