An enterprise-wide continuous process improvement framework makes it possible for various cross-functional efforts linked together through a governance structure to create synergy.

contemporary issues

ACS: A Royal Australian Air Force Perspective
AFSO21: A Case Study in Process Improvement
DLA Forward Stocking: An Economic Analysis

Contemporary Issues in this edition presents three articles: "ACS: A Royal Australian Air Force Perspective," "AFSO21: A Case Study in Process Improvement," and "DLA Forward Stocking: An Economic Analysis."

In "ACS: A Royal Australian Air Force Perspective" Wing Commander Scott Winchester, RAAF, makes the case that continuing to further improve ACS interoperability between the USAF and RAAF is in the interest of both air forces, with ACS being a fundamental enabler of air operations. The more interoperable ACS capabilities are regardless of whether the USAF or RAAF is the lead or contributing air force in a coalition, the more responsive and agile the combat support arrangements available to support the warfighter. The USAF and RAAF share a high level of commonality regarding ACS principles, with flexibility, adaptability, and scalability being critical factors of how we provide combat support.

Master Sergeant Kimberly A Fiato, USAF, in "AFSO21: A Case Study in Process Improvement" provides a comparative analysis of AFS021 with private sector continuous process improvement (CPI) concepts. The article begins with an external environment analysis which provides a foundation from which to identify external forces driving Air Force transformation and continuous improvement efforts. Next, a content review of Air Force doctrine and CPI case studies provides a frame of reference for a comparative analysis. Finally, the article concludes by summarizing the CPI similarities and differences among various private sector industries.

Previous research has investigated the feasibility of forward stocking relatively expensive, Air Force-managed parts and concluded that forward stocking was not economical. Currently, DLA only forward stocks an item if it has four-or-more demands in a year. The criteria's intent is to ensure only high-use items are stored in-theater. In "DLA Forward Stocking: An Economic Analysis" the authors expand on previous efforts by considering the feasibility of forward stocking inexpensive, DLA-managed parts according to current DLA criteria, and additional criteria developed through the research. A general methodology is presented to model and evaluate the performance of forward stocking. Although the methodology is applicable to any potential theater, only United States Air Force Central Command with storage at Defense Distribution Depot Kuwait, is considered in detail.

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AFSO21: A Case Study in Process Improvement

Master Sergeant Kimberly A Fiato, USAF

Introduction

As a result of the National Security Strategy[1] and the Quadrennial Defense Review,[2] the Air Force[3] posture statement outlines forces and major challenges that are driving current Air Force military strategy. The Air Force, and the military as a whole, operates in an ever-changing environment because of:

- Budget constraints
- Adversaries' ability to acquire technology
- Resources needed to build comparable weapon systems and communicate worldwide
- Rates of global economic growth and decline
- Changes in international law and policy
- Electromagnetic technology advances driving the exploitation of cyberspace for warfare[4]

Meeting demands and challenges of such an environment requires strategy making and strategy execution to be an ongoing, continuous process.[5]

External environmental factors, coupled with the impact of September 11, 2001 have "imposed a powerful sense of urgency to transforming the Department of Defense" into a more agile, responsive organization.[6] The strategic move to transform the military into a lighter, leaner force requires aligned efforts within each Service. The Air Force recognized continuous process improvement (CPI) to be a key component of transformation efforts that were directed by the Department of Defense, and therefore, launched a comprehensive program to integrate CPI concepts into everyday operations. This Air Force program is Air Force Smart Operations for the 21st Century (AFSO21).[7]

Since the Air Force and the private sector face similar environmental challenges and share comparable strategic objectives, a comparative analysis of AFS021 with private sector CPI concepts may expand the usefulness and application of current approaches. With that in mind, the purpose of this article is to explore such similarities. The article begins with an *external environment analysis* which provides a foundation from which to identify external forces driving Air Force transformation and continuous improvement (CI) efforts.[8] Next, a content review of Air Force doctrine and CPI case studies provides a frame of reference for a comparative analysis. Finally, the article concludes by summarizing the CPI similarities and differences among various private sector industries.

Background

Using a PEST (political, economic, social, technological) analysis helps to outline strategically relevant components of an organization's external environment.[9]

Accordingly, a PEST analysis is utilized for this case study to highlight influential factors in military and Air Force strategy; those factors are identified in succeeding paragraphs.

Political and Regulatory Influences

Political and regulatory influences impact Air Force operations in various ways.[10] Current fiscal year budget constraints and reduction in force initiatives imposed by Congress have mandated manpower reductions. As a result, the Air Force must find ways to improve process efficiency. Political influences impact operations as well. Domestic politics and international relations influence which countries military forces can enter to conduct operations and which countries the US provides allied support.

Economic Factors and Influences

There are several economic factors and influences driving Air Force strategy. The two largest are loss of buying power and international economic conditions.[11] The Air Force is experiencing loss of buying power because of the high costs of supporting and sustaining Global War on Terrorism operations, the rising cost of fuel, utilities, personnel and medical care, and the upgrade and replacement of aging weapon systems. Unexpected expenses associated with the implementation of base realignment and closure program initiatives have also contributed to a loss of buying power. Both rising costs and unexpected expenses have lessened capital funds, making conservation a priority. Other economic factors drive strategy as well. For example, international economic conditions often dictate whether the military may be used to preserve or advance global economic growth.[12]

War on Terrorism Influences

The impact of the September 11 attacks moved the global war on terrorism to the forefront and, consequently, drove a variety of changes in Air Force policy, procedures, and doctrine.[13] Terrorists engage in *irregular warfare*, which makes the enemy harder to identify; therefore, the Air Force has shifted to a capability-based approach for counter-threat measures. A capability-based approach is concerned with *how* an enemy might attack rather than *who* might attack. Such a tactic has led to the need for an increased ability to simultaneously conduct both short- and long-term operations of various types, such as security, stability, counterinsurgency, and reconstruction worldwide. Also, a capability-based approach has led to the need for increased participation in Joint and coalition operations with other Services and nations. Personnel are now required to adapt and perform nontraditional functions, such as convoy escorts and protection duties. This ultimately changes the training requirements for ground force teams and host nation escorts.

Technological Innovation

Several advances in modern warfare pose new threats.[14] Newer integrated air defense systems can handle and exchange more information quicker than current aircraft. Man-portable air defense systems—surface to air missiles capable of being fired from the shoulder—are in abundant supply at low cost, making them readily available to potential adversaries. Additionally, the number of advanced aircraft is on the rise, posing a greater threat. Weapons of mass destruction (WMD) are another major concern for several reasons:

- The proliferation of chemical and biological weapon agents is increasing.
- The production of WMD is inexpensive.
- WMDs are easily concealed, making them difficult to detect.
- Terrorists are determined to acquire WMD because they can purchase highly lethal weapons for a relatively low price.

Such concerns place greater emphasis and importance on homeland defense. Finally, advances in electromagnetic and global positioning system technology raise concerns about the future potential of cyberspace warfare.

Clearly, external environmental factors are a major impetus for transformation and continuous process improvement.[15] Although most Air Force (military) operations are different from commercial operations, environmental challenges and strategic objectives are similar in nature. Thus, a literature review and a comparative analysis of AFS021 with private sector programs can serve as a vehicle to examine the following research questions:

- How do Air Force CPI programs differ from those seen in the private sector?
- How are Air Force CPI programs similar to the private sector?
- Do they compliment each other?

Doctrine and Literature Review

AFSO21 Playbook and Concept of Operations

The *AFSO21 Playbook* and *AFSO21 Concept of Operations*[16] are Air Force publications that outline and explain the intricate details of major AFSO21 components. A content analysis revealed the interrelatedness between major components and parts. Furthermore, key relationships between AFSO21 philosophy, AFSO21 implementation, and AFS021 core components were established, thus conceptually presenting them as a unified approach. An overview of each component is outlined below.

Perhaps the main thrust behind AFSO21 is its underlying philosophy. The philosophy of AFSO21 is to employ Lean-oriented CPI concepts tailored to unique needs and integrated into Air Force culture through a systematic process which consists of five implementation steps—*the Five-Step Implementation Cycle*.

The Five-Step Implementation Cycle is a cyclic process whose overall objective is to systematically integrate and embed CPI methods into Air Force culture and day-to-day operations. The greatest advantage of this process is flexibility and scalability. It can be applied to various improvement efforts ranging from near-term to long-term. This is accomplished through the following:

Article Acronyms

AFSO21 – Air Force Smart Operations for the 21st Century
CI – Continuous Improvement
CPI – Continuous Process Improvement
PEST – Political, Economic, Social, Technological
WMD – Weapons of Mass Destruction

- **Leading Change.** Senior leaders establish vision and direction, demonstrate commitment, and set strategy via gap analysis.
- **Organize and Prioritize.** Identify improvement opportunities that are in line with higher level strategy and formalize, prepare, and train teams.
- **Process Redesign.** Define *as-is* (current) and *to-be* states, then devise an action plan to close the gap between current and desired state.
- **Improve.** Implement the action plan.
- **Measure, Assess, and Sustain.** Measure progress and readjust plans and measures if necessary; recognize and reward efforts; realign freed resources; and plan actions for future improvements—starting over at step one.

The objective of the five-step implementation cycle is to provide a systematic, ongoing method to implement CPI initiatives. The efforts and actions of each step are glued together by a sound governance structure.

The governance structure of AFSO21 functions to direct and focus improvement efforts Air Force-wide to achieve overall strategic near-term and long-term objectives. It begins at the most senior level, where overarching strategic plans and priorities are set. With those priorities in mind, mid-level leaders decide which processes need to be standardized enterprise-wide and which processes need to remain flexible to meet the unique needs of lower level operations. Process owners receive designated authority and responsibility for the improvement of core processes to include forming teams, monitoring progress, and publishing results. Steering groups are formed and senior functional subject matter experts are appointed to advise cross-functional improvement initiatives and efforts. Finally, program initiatives are championed and coordinated at intermediate levels and implemented at lower levels through teams. This forms key collaboration points which act as a binding thread that links each step within the Five-Step Implementation Cycle. Successful execution of those steps is enabled by four core components.

- **Knowledge Management.** Leverages technical know-how and tacit knowledge
- **Strategic Communication.** Establishes effective communication of priorities and initiatives in terms that resonate with members of the organization
- **Standardized Training.** Plants and sustains AFSO21 efforts
- **Information Technology Support.** Captures, stores, processes, disseminates, and reports improvement efforts

The many parts of AFSO21 make a unified approach key to operational efficiency. It starts with a philosophy rooted in Lean-oriented concepts that are systematically indoctrinated into Air Force culture and operations through a five-step implementation cycle. The five-step implementation cycle is a cyclic process that can be applied to various improvement efforts ranging from near- to long-term. Efforts are perpetuated through a binding governance structure and enabling set of core components. Similar approaches exist in the private sector.

CPI Practices in the Private Sector – Key Strategic Perspectives

The topic of CPI pertains to many elements within the private sector; therefore, a PEST analysis of each is beyond the scope of this paper. However, before analyzing private sector CPI practices, a review of key strategic perspectives may help to explain the importance of CI concepts.

Most strategic actions are proactive in nature—meaning they are deliberate and purposeful, aimed at ensuring performance objectives are met. However, strategic actions are often taken in an effort to seize opportunities and adapt or respond to threats and environmental changes; therefore, strategy can also be reactionary at times.[17] Both deliberate and reactionary strategic actions are crucial, because together they ultimately lead to a sustainable competitive advantage. Porter's definition of strategy contains similar attributes, but magnifies the importance of strategic positioning bringing greater fidelity to competitive advantage.[18]

Porter contends that strategy encompasses more than operational effectiveness. Further, he notes that differentiation is also an integral part of strategy.[19] Operational effectiveness and differentiation are not mutually exclusive and therefore should not be separated. Together they constitute actions that enable companies to strategically position themselves, equipped and primed to dominate a particular industry or market segment by outperforming rivals.

Combining aspects of both concepts may offer a more expanded definition of strategy as it pertains to CI. Sustainable actions that a company executes will, over time, allow it to strategically position itself to effectively adapt to an ever-changing environment to sustain competitive advantage. Adapting to ever-changing environments presents many challenges.[20]

According to Beinhocker, the *new economy* is a complex adaptive system capable of self-evolving when elements of or within an industry market change.[21] Now the "central challenge (for organizations) … is to be both a competitor and an evolver."[22] Although still in its infancy, this concept suggests the need for companies to employ conservative yet adaptive strategies—coined strategies on the edge of chaos—making them agile and responsive to changes in the private sector environment.[23] Thus, maintaining a delicate balance between standardization, diversity, and innovation is paramount. Key to achieving this balance are practices that are "hardwired into the organization through mental models, culture, policies, and training."[24]

Since business strategies are largely dependent upon resource capacity, a resource-based perspective may help determine viable strategic options. Frawley introduces the concept of resource-based perspective as an important aspect of maintaining a competitive lead.[25] The resource-based perspective is useful in determining what it may take for a company to benefit from its chosen strategy (competitive advantage).[26] First, several studies have revealed that competitors must possess the resource capacity (financial resources and research and development capabilities) in order to successfully enter and compete in a new market.[27] Moreover, competitive advantage results from control and acquisition of industry resources creating resource barriers that make it difficult and more costly for followers and late-movers.[28] Thus, a company must continually assess its current capacity as well as its ability to acquire adequate resources. Combining other perspectives, such as Beinhocker and Porter, with a resource-based perspective may help to further explain and justify why organizations often look to CI techniques for expanding their

resource capacities and consequently competitive advantage, making resource-based perspectives a relevant approach for analyzing CPI practices.

Private Sector CPI Practices – From Manufacturing and Production to Engineering

The use of CPI concepts began in manufacturing and production environments, but, as a proven concept, they soon infiltrated other industries. One case study conducted within the engineering community illustrated the relevant worth and use of CPI practices beyond manufacturing and production environments.[29] Like other industries, the engineering community began to search for ways to *do more with less* and to challenge *rote* practices. Additionally, practitioners recognized the need to motivate employees to exceed performance standards and strongly felt that CPI was a vehicle. However, this change in operational mindset was met with resistance.

Change, in the realm of public works engineering, is often considered risky, because it challenges proven, reliable engineering work practices and this can jeopardize project success.[30] Harrison et al., likened this to mass production and the auto industry, emphasizing it as an obsolete paradigm that should be replaced by a Lean production mindset.[31] To support this contention, they sought to demonstrate how public works engineering could benefit significantly from embracing a CI ethic, as it was considered the missing piece.[32]

A CI ethic would provide elements such as teamwork, communication, efficient use of resources, and ongoing CI vital to Lean production.[33] Harrison et al., composed a CPI process model for planning and offered it as the solution.[34] The objective of the CPI planning process is to improve processes, enhance communication, and facilitate *operational consistency*.[35]

The CPI planning process is an ongoing process, almost synonymous with process reengineering, utilized to improve the effectiveness and efficiency of work tasks and activities.[36] Leadership instills a CI mindset. Then, a team approach is utilized to carry out sets of the CI planning process. It appears that this process provides an effective means of embedding CI in the culture and processes of a company. However, success hinges on the following factors:

- The entire organization must recognize the need for change to create buy-in.
- Immediate implementation of recommended improvements illustrates management's commitment.
- A structured approach to brainstorming helps maintain order, ensuring purposeful productive team sessions.
- Using success stories celebrates and reinforces CPI.
- CPI must be institutionalized through peer collaboration groups and benchmarking.

Similar forms or variations of CPI methods emerged, offering enterprise-wide approaches to operational efficiency.

Studies revealed the synergistic value of combining various CPI methods.[37] One such study conducted by Ehie and Sheu illustrated how the integration of Six Sigma and Theory of Constraints techniques could be used to create synergistic results.[38] Combining both techniques forms a framework that focuses CI in two ways. First, the framework emphasizes consideration of system and resource constraints to drive CI efforts in order to make global improvement a general goal. Six Sigma techniques are consistently applied to identify customer requirements, to define which processes are to be improved, to analyze root causes for inefficiencies, and to develop improvement actions. Ehie and Sheu successfully applied this framework to a manufacturing company, improving the efficiency of its gear-cutting operations by $200K per year, while enhancing customer satisfaction.[39] Given the synergistic value and illustrated results, the consolidation of various CI techniques is a notion worth exploring further.

The framework presented by Ehie et al., consists of six phases which are indispensable to the achievement of enterprise-wide improvements.[40]

- **Phase 1.** Identify the constraint and determine the processes to be improved.
  - Find and identify bottlenecks (constraints) that prevent the company from meeting customer needs and productivity goals including quality of output.
- **Phase 2.** Measure current performance and identify root causes.
  - First, determine performance measures or standards.
  - Measure process against standards and analyze process to discover root causes of poor performance.
- **Phase 3.** Exploit the constraint by improving the processes.
  - Figure out how to eliminate root causes of poor performance to improve processes.
- **Phase 4.** Subordinate the systems to sustain improvements.
  - Modify goals to support change or improvement.
  - Monitor change or improvement using statistical process control methods such as value analysis, Pareto and control charts.
  - Train employees how to work with improved process.
  - Reward improvement efforts.
  - Communicate improvements to increase buy-in.
- **Phase 5.** Elevate the constraints.
  - If improvement efforts fall short of meeting goals, investigate root causes.
- **Phase 6.** Check for next constraints.
  - Continue to analyze and monitor processes to detect new constraints.

Another recent study demonstrated application of integrated methods in local governments, broadening its scope beyond business and manufacturing industries.[41]

Private Sector CPI Practices – Service Industries

The theory of production-line approach to services was initially adopted in 1976, marking the beginning of the industrialization of service.[42] As the notion of *service* in the 1990s grew increasingly important, Total Quality Management permeated production environments, placing production-line approaches in the background. However, several studies introduced the concept of Lean service, purporting the *reindustrialization of service* in which principles of manufacturing operations and service operations are converged to create mass customization—Lean service.[43,44]

The "Toyota Way in Services"[45] offers a comprehensive, unified approach to Lean service. This article also suggests that

Lean efforts are starting to take hold in various types of service-like industries ranging from government to medical and construction (technical and service operations), but merely amount to fast solutions that quickly dissipate rather than systematic practices that change the organization culture and operations in a way that produces long lasting solutions. Consequently, enterprise-wide benefits (mutually beneficial outcomes) are less likely to be realized.

Limiting Lean practices to the *shop floor* makes them insular to lower levels rather than accessible and commonly applied throughout the entire organization. Liker et al., proposed a "true systems approach that effectively integrates people, processes and technology—one that must be adopted as a continual, comprehensive, and coordinated effort for change and learning across the organization."[46] Simply put, they defined an evolutionary system focused on continuous learning and improvement.

The axioms that underpin a true systems approach are guiding principles to fine-tune processes, implant appropriate tools and technologies to enable people, piece everything together to create a coherent system, and vector check to ensure feasible, overall efforts.[47] Each axiom is covered in greater detail below.

- **Processes.** Align efforts through guiding philosophies.
  - Establish customer-defined value. Everything about the process should revolve around customer-defined value.
  - Front-load the product development process. Utilize cross-functional teams and collaboration early in the development process to preclude costly variations and changes in later stages.
  - Create a leveled product development process flow. Balance workload assignments, coordinate cross-functional activities, and allocate resources according to demand or work flow requirements.
  - Utilize rigorous standardization to reduce variation and to create flexibility and predictable outcomes. Minimize variation without stifling innovation, creativity, and flexibility.
- **People.** Place the right people armed with in-depth knowledge, indispensable skills and a CI mindset, in the right place, at the right time by orchestrating people systems.
  - People systems include values, culture, training, leadership, organizational structure, professional development, team approaches, and recognition.
- **Tools and Technology.** Implant tools and technologies that support processes and enable people through the following guiding principles:
  - Design and integrate information systems after processes, organizational structures, and work positions are defined.
  - Align your organization through simple, visual communication via: (1) *Hoshin kanri*—policy deployment, the breaking down of goals at the strategic or corporate level into understandable business objectives for tactical levels and (2) Media that effectively communicates the same message to all, enhancing enterprise-wide collaboration and problem solving.
  - Use powerful tools for standardization and organizational learning as standardization is the nexus of CI.
- **Piecing Everything Together to Create a Coherent System.** This purports that the central theme behind Lean is interdependence, in which every aspect of the organization (people, processes, and technology):
  - Must function and interact as a unified system
  - Is connected—meaning change to one part affects all other parts
  - As a system, is only as strong as its weakest link
  - Is a complex system that must be "purposefully designed, aligned and mutually supported[48]
- **Vector Checks.** Vector checks expand efforts by asking questions at a systems or enterprise level:[49]
  - Are the changes leading to new standardized processes that are the basis for further waste reduction? (process)
  - Are people throughout the organization engaged in CI and aligned around a common set of objectives? (people)
  - Are all the soft tools and harder technologies being used to support people improving the delivery of products and services to customers? (technology)

The Toyota Product Development System is regarded as the benchmark for a systems approach to Lean—reducing waste across all processes creates a Lean value chain.

As noted earlier, the idea of applying an industrial or production-line approach to service-oriented processes was first introduced by Levitt in 1976. Bowen et al.,[50] attempted to further illustrate how CPI practices used primarily in manufacturing or production environments may be used in service environments to yield comparable results. Bowen et al., analyzed the convergence of service and manufacturing principles in various service industries—fast-food and airlines—and synthesized results to compose a Lean service model.[51]

Lean service is a model which consists of four primary elements:

- **Learn.** Integrate Lean into service processes
- **Expect.** Setting Lean standards through expectation management
- **Analyze.** Compare, contrast, expand, and benchmark other service models
- **Navigate.** Leverage consultants and practitioners to navigate efforts

Based on the works of Levitt[52] and Bowen et al.,[53] Abdi, Shavarini, and Hoseini[54] propose a revised Lean model that could be used to integrate Lean efforts within service industries at the enterprise level. Although it lacks empirical backing, it emphasizes the increased need and pressure for service-oriented companies to integrate their value chains and lean their processes.[55]

Discussion

Similarities Between the Air Force and the Private Sector

The Air Force and private sector share key strategic perspectives that stress the importance of CPI. "Strategy on the Edge of Chaos"[56] requires standard yet flexible strategies, bringing the relationship between CPI and strategic positioning to the

forefront. A resource-based perspective also emphasizes the importance of resource capacity and capabilities, which further explains why companies often look to Lean methods to expand resource capacity.[57] Finally, a revised version of strategy hints that operational efficiency and strategic position together lead to competitive advantage.[58]

As for improvement practices, the comparative analysis revealed a convergence toward a global approach to CPI which possesses many of the same key attributes resident within learning organizations.[59]

- An iterative process embedded in culture and inherent in day-to-day operations
- An enterprise or cross-functional view and management of processes based on the notion that the changes in one part or subsystem invariably affects the whole (systems thinking)
- Reliance on high-functioning, empowered teams
- Full-circle feedback and information exchanges among all levels of the organization to expose tacit knowledge
- Interdependence and cross-functional collaboration
- Change management (to reinforce commitment and behaviors through use of success stories, recognition and rewards)
- Technology that supports processes and enables people

Key Note

Componation and Farrington's study complements the topic of this article in that it helps to highlight the use of teams to better support CI initiatives.[60] Results indicated that "the duration of team activities and the size and scope of the tasks undertaken" make problem solving ideally suited for CI teams.[61] Additionally, training coupled with time was found to be a major influencing factor in successful and effective use of problem-solving tools. Therefore, it was found to augment the research content compiled for the comparative analysis of Air Force CPI with private sector CPI. Further, the majority of case studies researched highlighted teamwork as a key element of Lean efforts, alluding to the criticality of team building in implementing CI initiatives.

Differences Between the Air Force and the Private Sector

The results of the comparative analysis conducted for this article demonstrate that an elaborate governance structure is the most significant and apparent difference between Air Force CPI practices and those seen in the private sector. While the cross-functional collaboration and strong leadership involvement found within the private sector might constitute a governance structure, extant literature has not explicitly characterized it as such.

Conclusion

The Air Force and private sector share key strategic perspectives that call for increased use of enhanced variations of CPI methods, which can be likened to the systems approach inherent in learning organizations. Perhaps elements of both can be coalesced to build an enterprise-wide CPI framework.

An enterprise-wide CPI framework makes it possible for various cross-functional efforts linked together through a governance structure to create synergy. Synergistic results are exploited to facilitate continuous learning and improvement across the enterprise, which enables organizations to maximize resource capacity, optimize value chain activities, and enhance operational efficiency, posturing themselves to employ sustainable actions. Executed over time, this allows organizations to strategically position themselves to effectively counteract rival actions, adapt to ever-changing business environments, enhance financial and operational performance, and capitalize on strengths and competencies to seize opportunities resulting in unmatched competitive advantages.

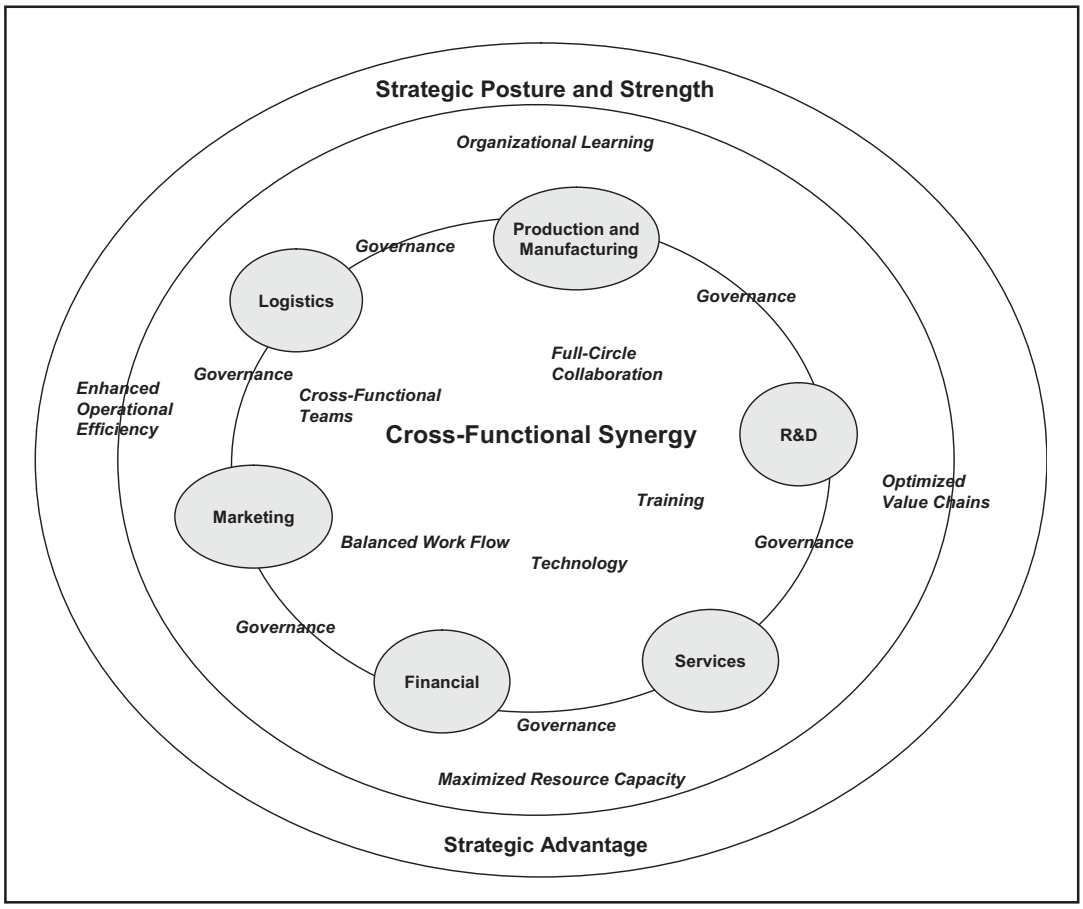

Figure 1 Enterprise-Wide CPI Framework

Future Research

Figure 1 illustrates a proposed Enterprise-wide CPI Framework. However, at this state of development, it is purely theoretical and further research is necessary to test its validity and usefulness.

Since existing AFSO21 literature is somewhat scant, additional research and case studies are also suggested to illustrate various uses of AFSO21 across Air Force operations.

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