Chapter 3
A Strategic View of the Digital Enterprise

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CHAPTER LEARNING OBJECTIVES

After reading and discussing this chapter, you will:

- Understand the complex business environment and the evolving roles and responsibilities of complex project management within that environment.
- Discuss the Objectives/Strategies/Tactics Model and how it links complex project management to the strategic plan of the enterprise.
- Have a working knowledge of the project landscape, the four types of projects that populate that landscape, and the ability to classify a project into the appropriate quadrant.
- Be able to explain the Enterprise-wide Project Portfolio Model (EPPM).
- Know the complexity and uncertainty of management decision making within the EPPM.
- Understand the connection between projects and the need to maximize the return from effective resource utilization.
- Appreciate the constraining impact of resource dependencies on the scope and scheduling of projects, programs, and portfolios.
- Define the RASCI Matrix and see it as a foundation for understanding the actualization of the EPPM.

This chapter introduces the Enterprise-level Project Portfolio Management (EPPM) Model. A project-based enterprise is not new, but what is new is a practical governance model for a project-based enterprise. This is the first book to do so and it is introduced in this chapter.

Historically books on project management assume the existence of a project with little discussion of where that project came from; the business validation and expected business value; and why there is even a project and how to manage it within the constraints of other projects, programs, and portfolios of the enterprise. In effect, projects are treated as if they were islands unto themselves and independent of external constraints and factors. For example, project management methodologies discuss project planning independent of any constraints imposed by other projects. Nothing could be further from the truth! A holistic view of the project within the enterprise environment is essential if one really wants to assess the business value of a project in the face of other projects competing for those same resources.

There are certainly situations where that is appropriate, but there is another world to consider—the enterprise level. Imbedding the project into an enterprise context introduces a number of factors external to the project that impact the project life span. Many of those factors are related to the generation of business value, resource capacity, and resource availability.

WHAT IS STRATEGIC PROJECT MANAGEMENT?

The project world has been called a VUCA World [Johansen, 2012]. VUCA stands for: Volatility, Uncertainty, Complexity and Ambiguity.

To be successful in today's complex project world calls upon the sponsor, project manager, development team, client manager, and client team to forge a partnership that is very different than the one that characterized the project management models dating from the 1960s. In this chapter, we establish today's project world and provide a basis for crafting project management approaches that make sense, given the vagaries and dynamics of the business situation.

Projects cannot be viewed as islands unto themselves any longer. Projects are investments aligned to the strategic plan of the enterprise, and for completeness must be approved and managed within that context. In this holistic view of projects, program and portfolio managers, they are then seen as enablers of the strategic plan and their tactics are the projects that have been approved for their management. Their decision environment is also holistic, and for many, that will be a revelation. The Hybrid Project Management (HPM) Framework prepares these managers to function effectively from the tactical, to the operational, to the strategic levels. That is a unique characteristic of the HPM Framework. Project management has always been labelled as an enabler of the firm's strategy However in the complex project landscape project management can collaborate with business management to formulate strategy. That is the domain of strategic project management. Some have even labelled it Strategic Project Business Management [Bowles, 2007].

So, we will begin our journey with an understanding of the business environment from the top and continue to drill down into that environment until we reach the individual project level.

At the project level, we will establish the project landscape and project management types, and specific PMLC Model Templates. This is the foundation on which an enterprise can build a version of the HPM Framework specific to their needs.

THE BUSINESS ENVIRONMENT – A VIEW FROM THE TOP

The contemporary project environment is characterized by high speed, high change, lower costs, complexity, uncertainty, and a host of other factors. This presents a daunting challenge to the C-level managers and their project managers, who are the enablers of the tactics that comprise the strategic plan of the enterprise.

Figure 3.1 illustrates the business environment from the highest levels, down to and including the project level. Processing it and making it your own is fundamental to our discussion of projects, programs, and portfolios in the proper context of the enterprise. It "takes a village" to effectively manage an ACPF and generate sustainable business value. Defining that village, and how each of its citizens interact and depend upon one another, is critical to the success of an adaptive complex project framework.

As we prepare for strategic project management we will conduct several in depth analyses of our internal and external strengths and weaknesses and align those with market opportunities. There are several tools and processes that we can use to do this. This will give management insights into what needs to be included in their strategic plans.

Figure 3.1 illustrates the business environment from the highest level. The External Factors define the realities that impact that environment in which the firm operates and we have tools and processes to assess those factors. The Enterprise Capacity is profiled by a number of Internal Factors that position the firm within that external environment and we have the tools and processes to assess those factors. Integrating those assessments with a SWOT Analysis the firm can construct its strategic plan. That plan will be a portfolio of projects, programs and portfolios that are defined by the Objectives, Strategies and Tactics profiled by the Scope Triangle. Processing it and making it your own is fundamental to putting the discussion of projects, programs, and portfolios in the proper context of the enterprise. It takes a village to effectively manage the Enterprise Project Portfolio Model (EPPM) (See Chapter 12: Project Portfolio Management Process.) and generate sustainable business value. Defining that village and how each of its citizens interact and depend upon one another is critical to the success of the EPPM.

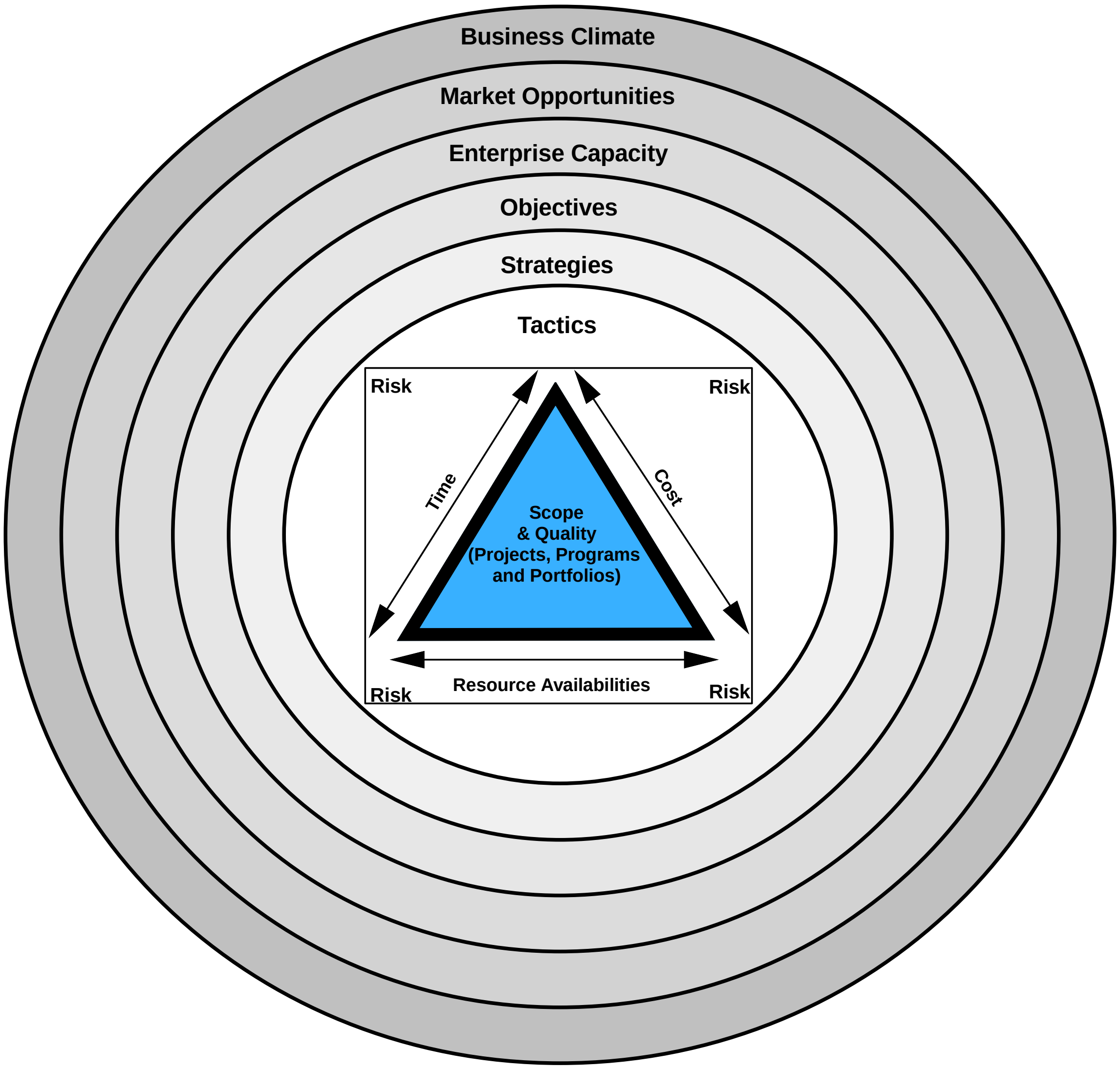

Figure 3.1: The Business Environment

Business Climate

The feeding frenzy that has arisen from the relentless advances of technology and the Internet has had several disruptive effects on the business climate. These effects are global and have unknowingly put many businesses in harm's way. The Internet is the gateway for anyone, anywhere to create and sell their products and services! Business sustainability now depends on how effective a business can erect barriers to entry for new competitors, and how it can "out create and outpace" the competition. Anyone, regardless of their physical location, can be a competitor. Even if you don’t sell in the international markets, your competitors can and do, so you are pulled into the global marketplace and may not even be aware of it. Your business decisions must consider actual and potential global impact.

Specifically, our business case must answer the following questions:

- Who are the potential competitors in our market?
- Who are our suppliers?
- Who are our customers?
- What are the substitute products and services?

Our objective is to create barriers to entry into our markets. The EPPM can be instrumental in achieving those objectives.

The business environment is fickle, unpredictable, and continuously changing. In the past 50 years it has been heavily influenced by the relentless march of technology and the intrusion of the Internet and social media into all aspects of our economic and social lives. Creativity and speed to market are now the watchwords for business success. Competition is virtually global, with an Internet connection being the gateway to sell products and services anywhere from anywhere!

- **Business is global**—Outsourcing dominates the support service businesses (call centers and help desks, for example) and software development (I am constantly solicited by Indian-based businesses looking for software development contracts). The U.S. is trending toward becoming a knowledge-based economy and has suffered the loss of many jobs that will never return. The number of displaced workers continues to grow as businesses struggle to recoup their market positions. You may not sell in the international markets, but your competitors sell in your markets and your business decisions are forced to take on an international perspective.

- **Success belongs to creative and courageous managers**—Those who can envision new products and services for business growth are playing a game that puts them in harm’s way and at great risk. The early entrants into social media applications are testimonials to that success. But the secret is more than a matter of creativity and courage. The business idea must include barriers to entry, or any software developer could replicate your idea from his dining room table anywhere in the world and become a competitor. Your business will now be in harm's way.

So, the business environment is one of high speed and high change with technology and the Internet as the driving forces. On the positive side, the world is your market. You are no longer the corner store selling to your neighbors. Your customers are spread across the planet at the end of an Internet connection. Except for service delivery businesses that require physical presence (landscapers, plumbers, and so on), place is not part of the marketing mix! It is obvious that an EPPM is a critical success factor (CSF) in the Business-to-Business (B2B) and Business-to-Consumer (B2C) twenty-first century marketplaces.

PESTEL

The external environment of the firm is best explained using the six factors known as the PESTEL factors:

- **P**olitical
- **E**conomic

- **S**ociocultural
- **T**echnological
- **E**cological
- **L**egal

The PESTEL Framework (Figure 3.2) provides a model that a firm can use to scan, monitor and evaluate the six major external factors that will affect the firm's strategic plan. Those factors will lead to the creation of both opportunities and threats. Our strategic plan will have to include projects that take advantage of those opportunities as well as projects that mitigate those threats.

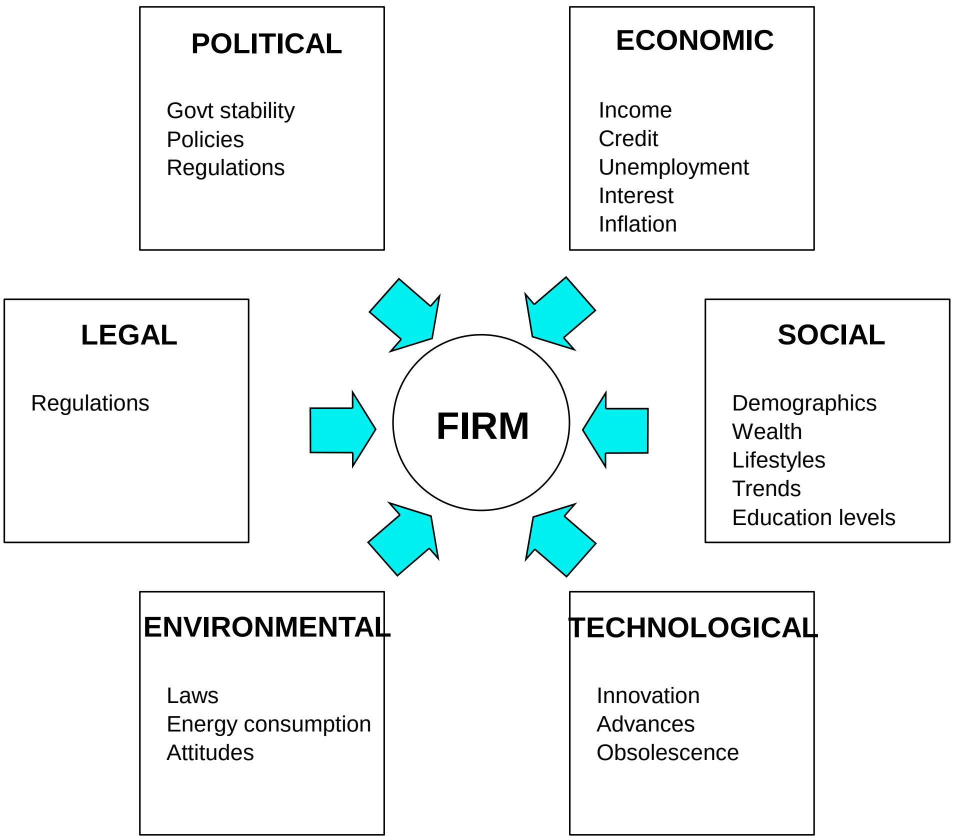

Figure 3.2: PESTEL Framework

- **Political** To the extent possible a firm will engage in strategies that will positively impact the political environment to their advantage. Lobbying, contributions to political candidates or contributions to social programs, public relations, involvement in community programs, etc.

- **Economic** Depending on whether the economy is growing or declining will cause the firm to take different approaches – more conservative during bust and more risk taking and aggressive during boom.

- **Social** Changing life styles will have a big impact on products and services. The population is trending towards more health-conscious life styles affecting diets and exercise.

- **Technology** It is no secret that technology has been advancing at a fever pitch. Most would agree that that pace is faster than can be utilized. That puts applications at risk of being obsolete.

- **Ecological** The use of natural resources has often contributed to pollution prompting legal responses. In some cases that forces firms to conserve and look for more efficient processes.

- **Legal** The current administration has focused on a relaxation or elimination of regulations in favor of increasing business activity and the reduction of related costs. That will significantly impact businesses and competitive positions.

Porter's Five Forces Model

As the enterprise develops its business case, it must pay close attention to Porter's Competitive Forces Model. Figure 3.3 is an application of Porter's Model [Porter, 1980] to the Workforce and Business Development Center (WBDC) Case Study (See Appendix B.).

An analysis of each of the five factors provides the starting point for building s firm's strategy. In general, the stronger the five forces, the lower the industry's profit potential. The reverse is also true, the weaker the five forces, the higher the industry's profit potential. The goal of the firm is to create value (V) while containing cost (C). So, the gap V – C is a measure of the firm's strategic position.

SWOT

A SWOT Analysis puts several questions on the table that a strategic plan should address. For example:

- What are the Internal Strengths that can be used to create External Opportunities?
- How can the firm use its Internal Strengths to reduce the impact of External Threats?
- How can the firm reduce Internal Weaknesses to take advantage of External Opportunities?
- How can the firm reduce Internal Weaknesses that make External Threats a reality?

The strategic plan should address all of these questions and seek answers through the proposed projects. For the Internal Factors the firm can adjust those in order to mitigate the External Factors to which it can only react.

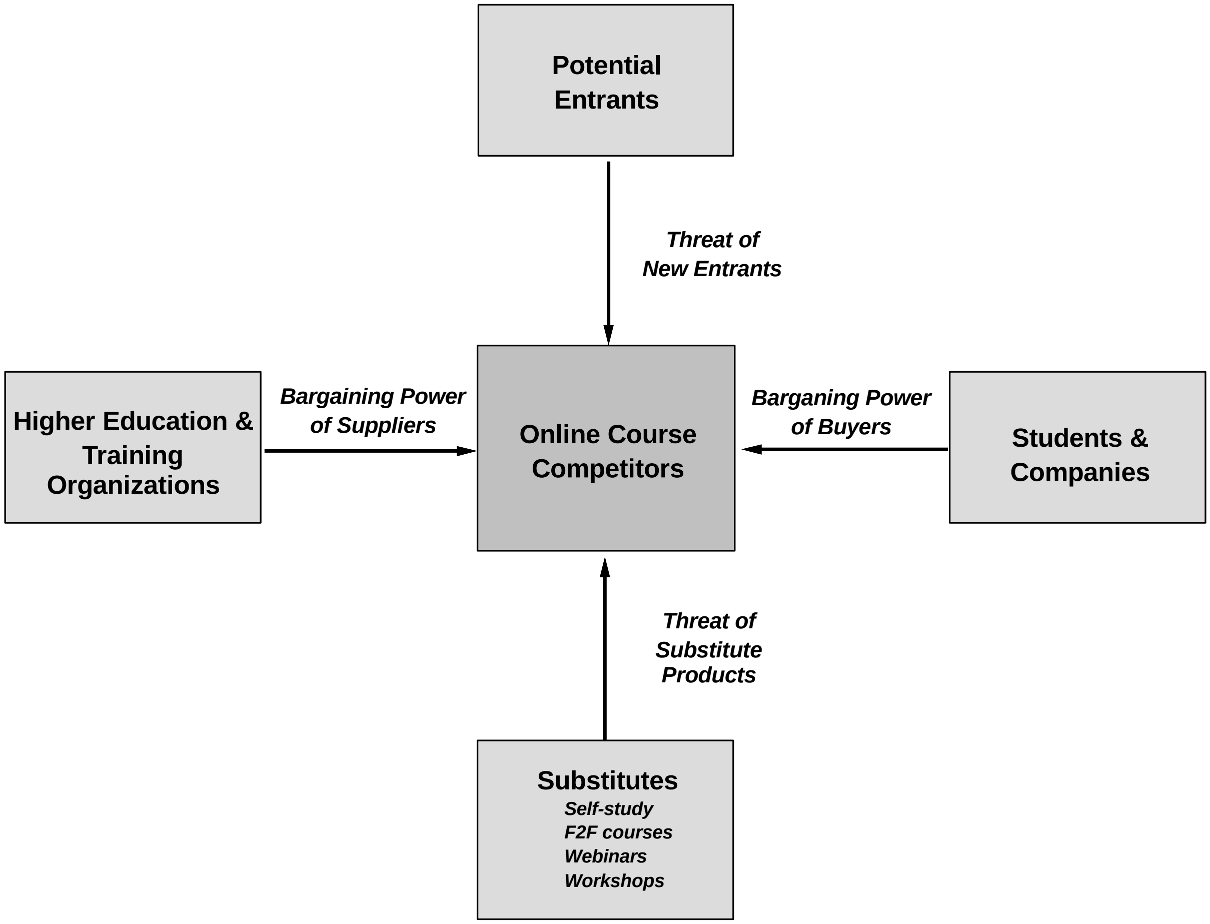

Figure 3.3: Porter's Competitive Forces Applied to the Case Study: WBD Center

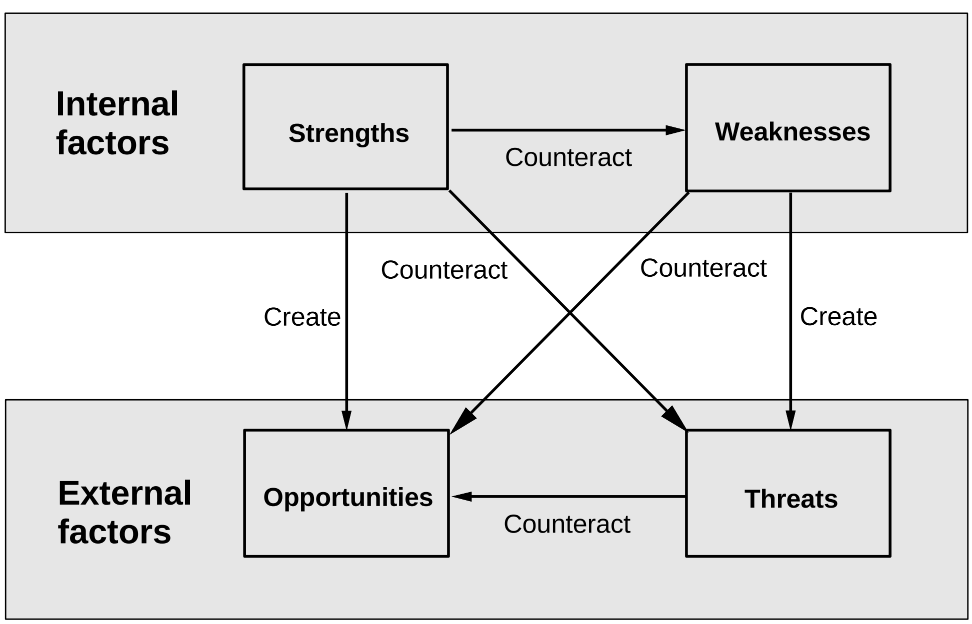

Figure 3.4: SWOT Analysis

Market Opportunities

Market opportunities will come and go, and not on a schedule that organizations can predict or even be able to accommodate. Whatever project environment your organization embraces, it must be able to respond immediately. The opportunities can be internal (problem solving and process improvement to maintain or improve market position, for example) and external (new product, service and processes for meeting the needs of an expanded customer base, for example). The HPM Framework is an environment characterized by flexibility, rapid response, openness, and creativity. It is lean and has eliminated all nonvalue-added work. This is the business landscape that the HPM Framework was designed to exploit. The HPM Framework is the first project management approach of its kind to do so.

With your understanding that continuous change in the business environment is a reality that an EPPM must be able to accommodate it, we can proceed. Market opportunities will come and go. If you can't seize the opportunity immediately, someone somewhere on the planet will! The opportunities will be internal (problem solving and process improvement to maintain or improve market position, for example) and external (new products, services, and processes for meeting the needs of an expanded customer base, for example). Taking advantage of these opportunities requires a culture characterized by flexibility, rapid response, openness, and creativity. And business practice managers who are not afraid to take reasonable business risks are essential. Windows of opportunity open and close, sometimes without warning (due to the introduction of new technologies, for example).

Projects and their effective management are the primary enablers in this business environment. Projects that thrive in this risky environment are complex projects and require solid collaborative efforts between business managers at all levels and project managers as the enablers of business ideas.

EPPM includes four tools that can be used to assess not only market position but market opportunities. They are described below.

BCG Growth-Share Matrix

The BCG Growth-Share Matrix is a well-known model that has been used for several years. It defines four categories of products/services based on their growth rate and competitive position, as shown in Figure 3.5.

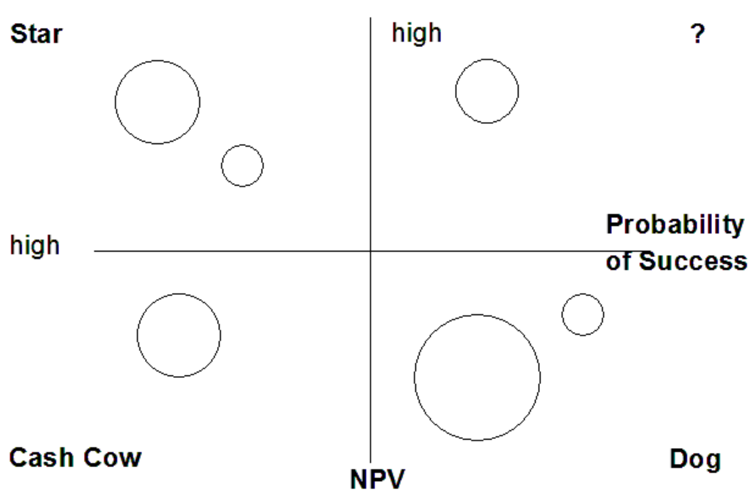

Figure 3.5: BCG Growth-Share Matrix

Cash Cows

These are well-established products/services that have a strong market share but limited growth potential. They are stable and profitable. Projects that relate to cash cows are important to the organization because the company will want to protect that investment for as long as it maintains that market position.

Dogs

Because these products/services are not competitive and have little or no growth potential, any projects related to them should not be undertaken. The best thing an organization can do with dogs is phase them out as quickly and painlessly as possible. Don't throw good money after bad!

Stars

These are products/services that have strong market positions and clearly strong growth potential. Projects related to stars are good investment opportunities. Stars are the future cash cows.

?

The question mark represents the starting point of the model. Products/services that are untested in the market but appear to have strong growth potential are worthy of spending research and development (R&D) dollars. Projects linked to those efforts are good investment opportunities. The objective is to turn them into stars and then cash cows.

How to Use the BCG Growth-Share Matrix

Only a diversified firm with a balanced portfolio can use its strengths to capitalize on its growth opportunities. The balanced portfolio contains:

- Selected Stars whose high share and high growth assure the future
- Protected Cash Cows that supply funds for that future growth
- Selected Question Marks to be converted into stars with the added funds
- Dogs have been removed from the portfolio

Each of these products and services will define a balanced collection of projects, programs or portfolios to be included in the strategic plan.

How Are You Going to Allocate Your Resources?

The answer to this question depends on the current market position of the enterprise, the business outlook, and a variety of other considerations. Except for the dogs, the other three categories will have some level of investment. If the industry is stable, such as cement manufacturing, more resources might be spent on the cash cows to ensure that they maintain their market position, fewer resources will be allocated to the stars because the enterprise will always want to keep some growth opportunities in the pipeline, and even fewer on the ? category because the industry isn't in the R&D mode. In a volatile, high-growth, high-tech industry, the allocations might be very different. More resources will be spent on th the stars and ? projects and fewer on the cash cows. Cash cows have a very short useful life, and any investments in them are risky.

Enterprise Capacity

This goes beyond the current capacity of the enterprise. The Strategic Plan is a multi-year plan and its capacity in the future will be different than its current capacity. So, the Strategic Plan will also include projects that position the Support Services so that they can to provide the needed capacity when that capacity is needed.

Management can entertain all sorts of new business opportunities and envision processes and practices that work perfectly. Someone has to pay attention to the ability of the enterprise to deliver on these dreams. In most organizations, human resource capacity, among all other resources, usually happens by accident rather than as the result of a human resource management system that aligns resources to the strategic plan of the organization. Resource availability was first added to the "Iron Triangle" and reintroduced as the "Scope Triangle" [Wysocki, 1995]. That Scope Triangle has been updated and occupies the center of the business environment as illustrated in Figure 3.1.

Market opportunities can only be exploited within the capacity of the enterprise to support them. Two of the big questions for senior management is how to spend current enterprise resources for maximum business value, and how to grow those resources to align with the resource needs of future strategic portfolios.

Enterprise capacity is both a constraining factor and an enabling factor. As a constraining factor, what the enterprise should do is limited by what the enterprise can do in the near term, and finally leads to what the enterprise will do. As a counter measure to the constraining factor, the enterprise needs to assure the alignment of not only resource supply, but also resource availability against the business demands for those resources. So, enterprise capacity is a dynamic tool that can be adjusted as a deliverable from the planning exercises. Expanding or enhancing resources will reduce the schedule contention between resources, but that is a business decision that arises during the fulfillment of the strategic plan.

As an enabling factor, resource managers collaborate with functional business managers and line of business (LOB) managers to creatively solve resource availability problems and enable the exploitation of new business opportunities. These collaborative efforts result in the commissioning, scope revision, rescheduling, postponement, and termination of projects, programs, and portfolios. This is the reality imposed upon the HPM Framework. We have no choice but to deal with it!

Clearly, enterprise capacity is also another enabler of any strategic model. So, any tactic that relates to the creation or maintenance of enterprise capacity will be seen as having a strategic impact. Capacity is defined at the resource level and was first discussed in EPM1e in 1995 [Wysocki, 1995]. When we elevate the discussion to the enterprise level, resources take on a different perspective and become an enabling factor as well as a constraining factor. Management decisions regarding enterprise capacity are complex and challenging due to the number of dependent factors and options available (for example, contracting for temporary resources).

Market opportunities can only be exploited within the capacity of the enterprise to support them. The business environment is in a constant state of flux as market opportunities come and go. Any of those opportunities can be exploited if and only if enterprise capacity can be adjusted to align with those opportunities. One of the big questions for senior management is how to spend enterprise resources for maximum business value and how to adjust that allocation as the performance of the various strategy portfolios occurs.

The reference here is to the resources that are available for allocation to projects. In a multi-year planning horizon, enterprise capacity might be upgraded or increased through projects, programs, or portfolios designed for the purpose of expanding or enhancing it to more effectively align to and to support attainment of the objectives defined in the strategic plan. For example, replacing a manufacturing plant with one that accommodates new technologies and can scale would be a likely program.

As stated previously, enterprise capacity, availability, and the interdependencies among those resources is both a constraining factor and an enabling factor. As a constraining factor what the enterprise should do is limited by what the enterprise can do and finally leads to what the enterprise will do. As a countermeasure to the constraining factor the enterprise needs to assure the alignment of not only resource supply, but also resource availability against the business demands for those resources. So, enterprise capacity is a dynamic tool that can be adjusted as a deliverable from the planning exercises. Expanding or enhancing resources will reduce the schedule contention between resources, but that is a business decision that arises during the fulfillment of the strategic plan.

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SWOT

The Internal Strength and Weakness factors (Figure 3.6) are one of the several tools that you can use to begin building a profile of the Enterprise Capacity.

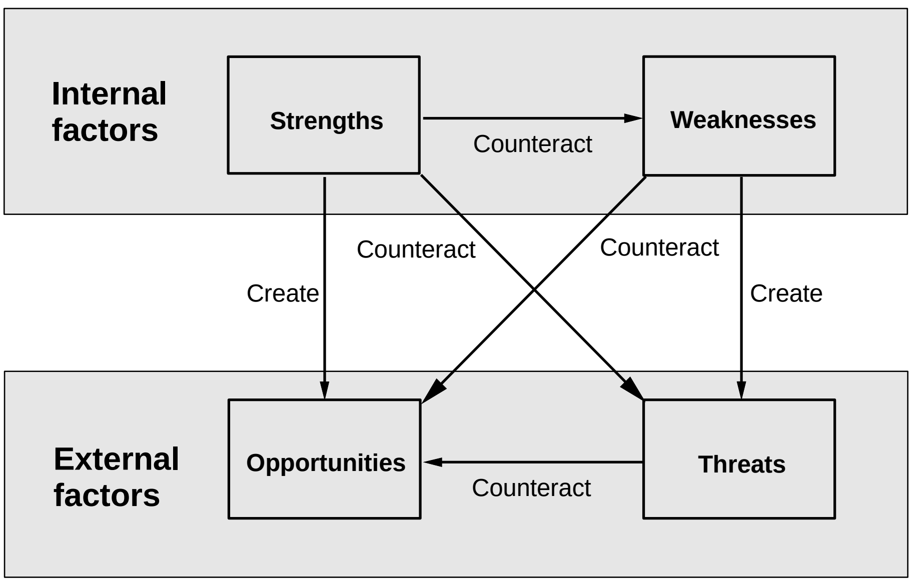

Figure 3.6: SWOT Analysis

Value Chain Analysis

Value Chain Analysis (Figure 3.7) provides an in depth understanding of the Strengths and Weaknesses identified in the SWOT Analysis.

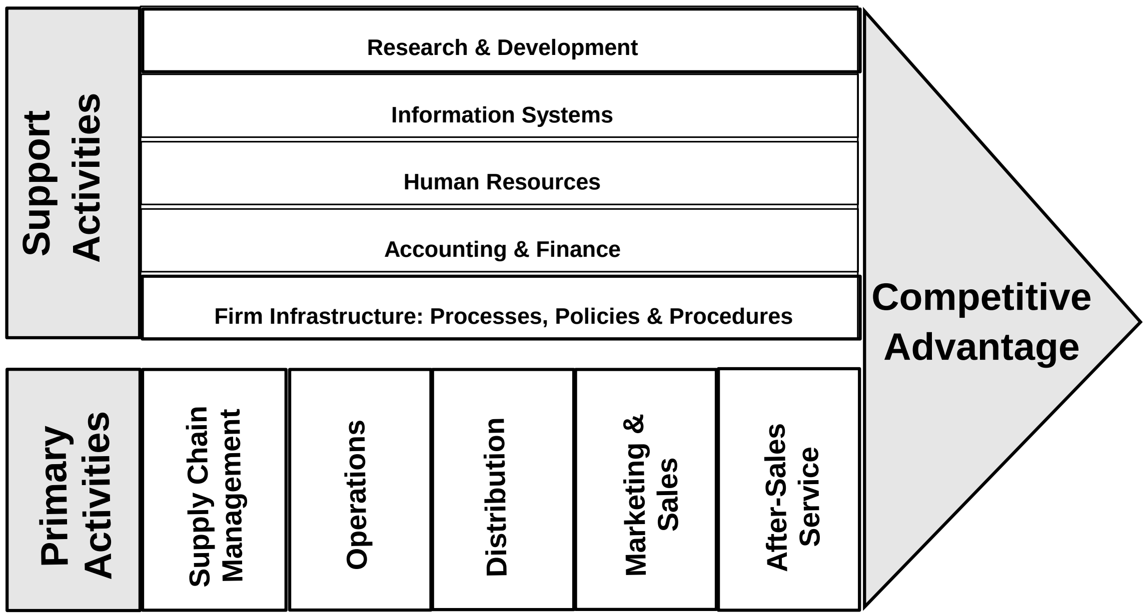

Figure 3.7 Value Chain Analysis

The Primary Activities are the chain of processes that are used to transform resources into deliverable products and services. The Support Activities are the functional business units that provide the infrastructure of the firm. The Primary Activities create the Value while the Support Activities offset Value with the Cost of providing that support. V-C is economic value resulting from the Competitive Advantage.

VRIO

As part of the assessment of your Internal Strengths and Weaknesses the VRIO is a valuable tool. It focuses on resources and how they relate to competitive advantage. These assessments can also be used to identify areas that can be built into the projects that relate to improving competitive advantage such as those that focus on the Primary and Support Activities that drive the Value Chain.

Is it Valuable?	Is it Rare?	Costly to Imitate?	Organized to Capture Value?	
NO				Competitive Disadvantage
YES	NO			Competitive Parity
YES	YES	NO		Temporary Competitive Advantage
YES	YES	YES	NO	Unused Competitive Advantage
YES	YES	YES	YES	Sustainable Competitive Advantage

Figure 3.8: VRIO Framework

The objects of this analysis could be resources, capabilities or competencies. So, several VRIO analyses could be done in an effort to improve competitive advantages.

Objectives, Strategies, and Tactics Model

The SWOT Analysis coupled with the VRIO Analysis gives a detailed profile of the firm's competitive position in its markets. Those markets are profiled using the Value Chain Analysis and PESTEL. These are very strong tools that can be used to develop the strategic plan

The remaining parts of the business environment are contained in a system that I developed from business experiences, beginning in 1963 as a systems consultant at Texas Instruments (TI). Figure 3.9 is a graphic illustration of the current Objectives, Strategies, and Tactics (OST) Model. (It has gone through several revisions in the past 50 years.) The OST Model has its roots in a product/service planning process developed and used by Texas Instruments in its Corporate Research and Engineering Division. I have taken those product planning process and practice, and brought them into current standards and expectations, imbedding them in the ACPF. The Project Overview Statement (POS), discussed in Chapter 6: How to Scope a TPM Project is a deliverable from that updating effort.

The OST Model is a key component of the HPM Framework. OST is the hinge pin that connects the projects, programs and portfolios of the enterprise to its strategic plan. Furthermore, it provides a basis for the decision model, which as the purpose of maintaining the alignment of the projects, programs, and portfolios to the strategic plan. The criterion that the ACPF recommends be used in that decision model is the expected business value that the projects will return to the enterprise.

Recognize that there is risk attached to those expected values. The more complex and uncertain the project, the higher the risk of not finding a solution; or, if a solution is found, it may not deliver the expected business value. Complex projects are looking for acceptable solutions, and what will finally be delivered is conjecture tempered by risk. So is the difference between the delivered business value and the expected business value.

At each HPM Framework Project Performance Review, each active project is reviewed for performance against plan, and will change as the senior managers adjust project investments to maximize expected business value. Project status can change. Project priorities might change. Projects could be judged complete, terminated, or postponed, or have their schedules extended or reduced in scope. For the HPM Framework, this means using models that anticipate such changes and still deliver some business value at the completion of each iteration, cycle, or phase, regardless of the project's future.

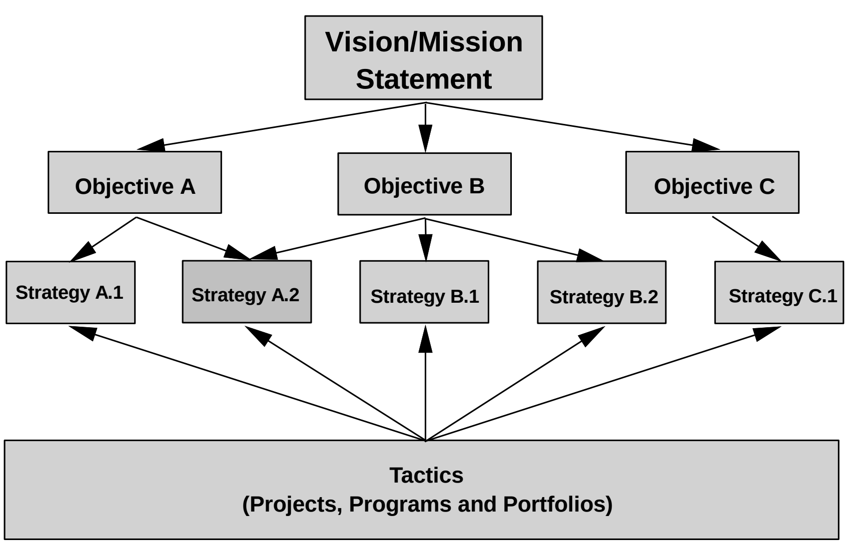

Figure 3.9 The Objectives, Strategies, Tactics (OST) Model

Vision/Mission

At the highest level, the Vision and Mission statements embody the business strategy. Vision and Mission can be statements about a desired end state for the enterprise. However, they will be more an end state to be pursued, than an end state to be achieved.

Here are a few Vision statements that you may recognize:

- **Ford Motor:** One team. One plan. One goal.
- **Microsoft Corporation:** Global diversity and inclusion is an integral and inherent part of our culture, fueling our business growth while allowing us to attract, develop, and retain this best talent, to be more innovative in the products and services we develop, in the way we solve problems, and in the way we serve the needs of an increasingly global and diverse customer and partner base.

The Vision statement is something to be pursued, but not expected to ever end.

Here are a few popular Mission statements that you will recognize:

- **Washington Gas:** To provide the best energy value: A superior product and quality service at a competitive price.
- **Star Trek:** Space, the final frontier. These are the voyages of the Starship *Enterprise*. Its five-year mission: To explore strange new worlds, to seek out life and new civilizations, to boldly go where no man has gone before.

These examples point out the differences between vision and mission and how the vision statement drives the mission statement. The vision statement is something to be pursued but not expecting to ever end. It seldom has any quantitative metrics to measure accomplishments. The mission statement is a high-level blueprint of success that acts as a guide to the enterprise as it pursues its vision.

The Mission statement is a high-level blueprint of success that acts as a guide to the enterprise as it pursues its vision through its OST plan.

Case Study: Establishing a Workforce and Business Development Center (WBDC)

A full case study is presented in Appendix B. The Vision and Mission statements for the Workforce and Business Development Center (WBDC) in that case study are:

Vision: To implement a disruptive innovation for sustainable economic recovery.
Mission: To establish a self-supporting Workforce and Business Development Center (WBDC) that integrates the learning environment, entrepreneur/business environments, and student/worker environments into a cohesive framework for career and professional development, new business formation, business process improvement, and business growth.

Vision/Mission is a very brief statement of why the enterprise exists. At the highest level this statement embodies the business strategy. Alternatively, business strategy could be expressed as an end state that the enterprise hopes to achieve or simply be a statement of how the enterprise views the business it is in. Whichever form is used, this statement is unlikely to change, at least not in the foreseeable future. Stated another way, a vision is a statement of a preferred future and a mission is a statement of enabling activities to realize that vision.

Objectives

Objectives flow directly from the Vision and Mission statements. The enterprise will know how it stands with respect to its Vision and Mission, and how it should proceed toward closing the gap with its desired end state. They are expressed through the Objectives statement. They are the first expression of operational details of the enterprise. Objectives of the enterprise and are likely to be multi-period, multi-year, or continuous statements designed to achieve an end state or condition.

Objectives might never be attainable (eliminating world hunger, for example), or they might be achievable over long periods of time (finding a cure for polio or a prevention for the common cold, for example). Any of these are good examples of Objectives. The missing ingredient is how to get there. Strategies and their aligned Tactics describe near-term progress toward that journey.

1These five Objectives from the WBDC Case Study are high-level statements with multi-period implications to subordinate Strategies and Tactics. Objectives are generated by senior level executives as directives to the operational, functional, and line of business managers.

Objectives are generated at the highest levels of enterprise planning as a direction-setting guide for those who propose tactics (a.k.a. projects) for reaching the objectives of the enterprise. In effect, the enterprise knows where it is (current state) and knows where it would like to be (desired end state). Objectives of the enterprise and are likely to be multi-period, multi-year, or continuous statements designed to achieve an end state or condition. Objectives might never be attainable (eliminating world hunger, for example), or they might be achievable over long periods of time (finding a cure for cancer or a preventative for the common cold, for example). Any of these are good examples of objectives. The missing ingredient is how to get there. Strategies and their aligned tactics describe that journey. As Figure 3.9 clearly shows, those tactics are defined through a collection of projects, programs, and portfolios within the context of the scope triangle.

To clarify, objectives are also called *goals* by some authors. There is no standard terminology here. In keeping with the design of the TI/OST model, the term *objectives* will be used. But the two terms are equivalent. *Goals* will be the heading used for one of the five parts of the POS. A goal statement in the POS refers to a specific proposed project (tactic).

Objectives have a long-life cycle and usually change only when there is a major event that realigns the Vision/Mission statements of the enterprise. These are established by the board of directors or the most senior level of management (usually C-level).

Case Study: Establishing a Workforce and Business Development Center (WBDC)

A full case study is presented in Appendix B. The Objectives statement for the Workforce and Business Development Center (WBDC) in that case study is:

Objective 1: Support the entrepreneurial needs for new business formation
Objective 2: Support business needs for process improvement and growth.
Objective 3: Support the career and professional development needs of students and workers.
Objective 4: Support the needs of WBDC-owned businesses.
Objective 5: Establish a Business Incubation Center (BIC) as the integrating infrastructure for meeting the above needs.

Strategies

There will be many approaches to the realization of each Objective. Each approach is called a Strategy, which usually ranges over multiple planning time horizons. Strategies are developed by senior management during its Strategic Planning meetings. Operational, functional, and line of business managers will often be invited to submit Strategies for consideration by senior management.

Take the example of an Objective to find a cure for the common cold. Strategies might include investigating possible food additives, modifying the immune system prior to birth, or finding a drug that establishes a lifetime immunity to the cold. Many of these strategies require a more technical orientation than senior managers might possess and will be offered by operational and functional managers with the appropriate expertise. Each Strategy launches a portfolio of Tactics to achieve the strategy, and hence the Objective(s) to which it is aligned. An effective HPM Framework instantiation in an organization will include a process where anyone in the organization with an idea to share will be able to submit project ideas.

Each strategy has a Strategy Manager. They are responsible for managing their Strategy until all projects, programs, and portfolios in their Strategy Portfolio are completed. The general responsibilities of a Strategy Manager include:

- Strategy Portfolio planning and management.
- Encourage project idea submissions and evaluate for inclusion.
- Monitor Strategy Portfolio performance to maximum delivered business value.
- Adjust project plans to align with resource capacity and availability.
- Negotiate resource utilization between and among all Strategy Managers.

Case Study: Establishing a Workforce and Business Development Center (WBDC)
A full case study is presented in Appendix B. The Strategies for the first Objective of the Workforce and Business Development Center (WBDC) are:

Objective 1. Support the entrepreneurial needs for new business formation.
Strategy 1.1: Design the Entrepreneurial process infrastructure.
Strategy 1.2: Design the process for investigating new business ideas.
Strategy 1.3: Design the process for conducting new business validation studies.

There will be many approaches to the realization of each objective. Each approach is called a strategy, which usually ranges over multiple planning time horizons. Strategies are developed by senior management during its Strategic Planning Meetings. Again, take the example of an objective to find a cure for the common cold. Strategies might include investigating possible food additives, modifying the immune system prior to birth, or finding a drug that establishes a lifetime immunity to the cold. Each strategy launches a portfolio of tactics to achieve the strategy and, hence, the objective(s) to which it is aligned. Tactics include project ideas submitted by mid-level managers (resource managers, operations managers, and LOB managers). Senior managers may choose to combine tactics into programs and even portfolios.

Each strategy has a strategy manager. Strategy managers are responsible for managing their strategy until all of the tactics programs and portfolios in their strategy portfolio are completed. The general responsibilities of strategy managers include:

- Strategy portfolio planning and management
- Monitoring their strategy portfolio performance and content in order to maximize expected business value contributions from their strategy portfolio
- Adjusting project plans to accommodate resource capacity and availability
- Negotiating resource utilization among all strategy managers

The process of establishing strategies is often directed by a C-level manager. It is a collaborative effort between resource managers, functional business managers, and LOB managers. The challenge at this level is to assure the alignment of enterprise capacity to the strategic needs of the enterprise (that is, to be prepared to support the projects, programs, and portfolios that will be proposed). Strategies will often be multi-period efforts spanning more than one fiscal year.

Tactics

Tactics usually start out as a list of ideas submitted to a Strategy Manager for consideration as a single project, program, or portfolio. Ideas are evaluated for the contribution they can make to business value. Both the SWOT and Value Chain analyses can contribute to these ideas. The ideas are prioritized, combined into projects, and populate a program or portfolio under the Strategy Manager. For best results, a project should be completed within a budget cycle. Because of the complexities and uncertainties involved in complex projects, Strategic Planning is a continuous process within an ACPF instantiation. This is a departure from common conventions but is part of every HPM Framework instantiation.

Many of my clients will include a high-level description of the approved Tactics in their final Strategic Plan. These descriptions are the Project Overview Statement (POS) introduced in Chapter 6: How to Scope a TPM Project.

A tactic is a collective term that can refer to a single project, a program, or a portfolio. Tactics usually start out as a list of submitted projects. During the Strategic Planning Meetings tactics might be grouped into programs and portfolios. As single projects they are short-term efforts (usually less than one year) that are executed within the strategic planning horizon (one to as many as five years) and are designed to meet one or more strategies. A tactic that relates to only one objective will be less attractive to strategy managers and senior management than a project that relates to several objectives. A tactic that relates to a lower-priority objective will be less attractive than tactics that relate to a higher-priority objective. A tactic is described using an adaptation of the POS. The tactic plan is not developed until later in the EPPM.

While tactics are generally not part of the strategic plan, they are often defined at the operational level within the functional business and LOB units of the enterprise. These tactics can identify projects that are strategic (design and implement a career development system that aligns the future inventory of people skill profiles to the staffing demands over the planning horizon) or operational (develop an improved business process that reduces cycle time in the order entry process) or tactical (design and develop a software application that extracts information and knowledge from the data warehouse).

Many of my clients will include a high-level description (a POS, for example) of the approved tactics in the final distribution copy of the strategic plan. These versions include the complete instantiation of the OST for the planning horizon.

Case Study: Establishing a Workforce & Business Development Center

Objective 1: Support the entrepreneurial needs for new business formation.
Strategy 1.1: Design the entrepreneurial process infrastructure.
Tactic 1.1.1: Create the Service Level Agreement.
Tactic 1.1.2: Create the Membership Application.

OST Dependency Structure

Multiple strategies may align with the same objectives and may identify options for how those objectives can be met. Strategies are defined at the senior management level and responded to in the form of tactic suggestions offered by anyone in the enterprise. Objectives and strategies can be viewed as the net thrown out by senior managers to attract ideas (tactics) from anyone in the enterprise. This is a key provision to the success of the EPPM. The historical records show that this bottom-up structure has been key to the continuing success of TI/OST since the 1960s and is continued here as an essential component of the EPPM.

- **One tactic may relate to one strategy—**This is the simplest situation you will encounter but it is a rare phenomenon.
- **One tactic may relate to two or more strategies—**That tactic will now appear in two or more strategy portfolios, but it is only one tactic and must appear the same way in each strategy portfolio of which it is a member. That adds constraints to the management challenge of the affected strategy managers.
- **Two or more tactics may relate to one strategy—**This introduces the strategy portfolio as an integral part of the EPPM. So far I have been focusing on tactics that suggest one or more projects. A single tactic that generates two or more projects is a program, whereas two or more tactics that related to a single strategy will generate a portfolio of projects or programs. A strategy portfolio will be a major component of the EPPM.

Usually the strategic plan identifies objectives and the strategies to achieve them. One objective can establish more than one strategy for its attainment (for example, Objectives A and B in Figure 3.9). Similarly, one strategy may relate to more than one objective (for example, Strategy A.2 relates to Objectives A and B in Figure 3.9). Figure 3.9 defines a high-level outline of a strategic plan.

A few strategic plans will also include all approved tactics as the final contents of the strategic plan. This will be a public document. In EPPM tactics are the response of the enterprise managers and staff to the objective and strategy statements.

This dependency suggests that the EPPM has two types of portfolios to build and manage:

- The portfolio of projects that relate to the same strategy.
- The portfolio of projects that require the same finite resource(s).

The management decisions that arise from these two portfolios are complex and not independent of one another. These are discussed later in this chapter.

So, the projects that are proposed for the same portfolio must pass muster, and that means prioritizing the proposed projects as input to the decision about portfolio membership and selecting a portfolio that most effectively utilizes the available resource(s). Proposed projects can be members of more than one portfolio because they relate to more than one strategy. This elevates the business value of the project even though it complicates the management challenges. Several models for prioritizing a number of alternatives are presented in Chapter 12: Project Portfolio Management Process.

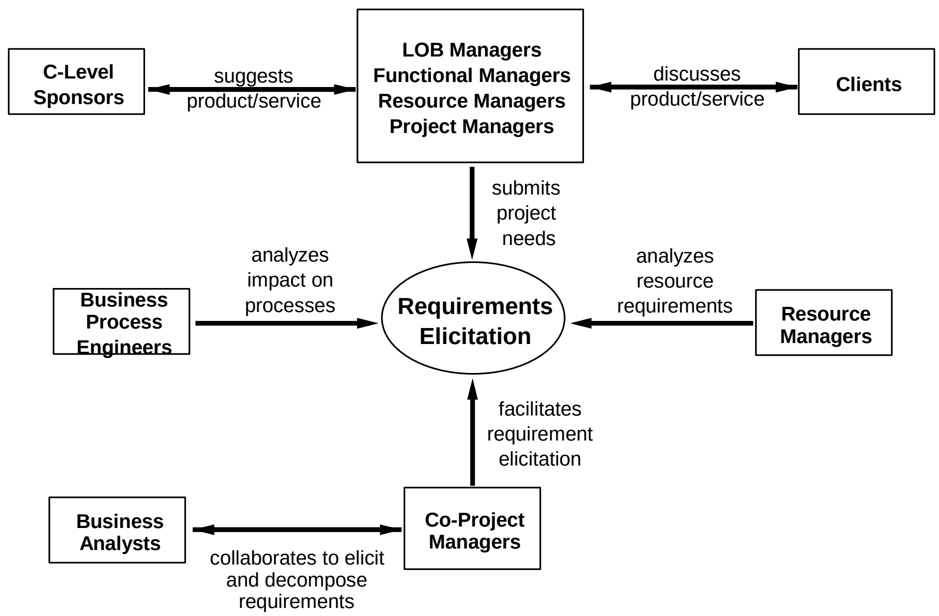

Figure 3.10: Stakeholder interaction model with respect to requirements

What Is the Enterprise Project RASCI Matrix?

The RASCI Matrix identifies the relationship between individuals and the major processes, phases, or steps of an effort. In our case the responsibilities of the three major managers and three support professionals are linked to the six phases of the EPPM. Figure 3.11 is an operational RASCI Matrix.

ACPF Cycle	Stakeholder							
	Sponsor	Co-Project Manager (Client)	Co-Project Manager (Develop)	Bus Analyst	Bus Proc Engineer	Resource Manager	Client Team Member	Develop Team Member
Plan Next Cycle	I	R/A	R/A	C	C	C	S	S
Conduct Integrative Swim Lane	I	A	A	C	C	S	I	R
Conduct Probative Swim Lane	I	A/I	A/I	C	C	S	R	R
Conduct Client Checkpoint	I	R/A	R/A	C	C	I	S	S
Close Version	A	R	R	C	C	I	S	S

Figure 3.11: EPPM RASCI Matrix

Complex Project Profiling

For our discussion of complex projects, I reference a recent book by Kathleen B. Hass, *Managing Complex Projects: A New Model* (Management Concepts, 2009).

- **Details:** Number of variables and interfaces
- **Ambiguity:** Lack of awareness of events and causality
- **Uncertainty:** Inability to pre-evaluate actions
- **Unpredictability:** Inability to know what will happen
- **Dynamics:** Rapid rate of change
- **Social Structure:** Numbers and types of interactions.

Complex projects are filled with uncertainty and unexpected change. Complexity, uncertainty, and the pace of the project all contribute positively to project risk. Risk increases as any of these three variables increases. In most cases these projects are trying to find solutions to critical problems whose solutions have evaded even the most creative professionals. These projects can also be seeking to take advantage of heretofore untapped business opportunities without a clear path as to how to do that. If organizations are to be successful in this environment, the Stakeholder Group must:

- Employ management processes that are flexible
- Empower the client and the project team
- Provide an open environment in which creativity can flourish
- Base decisions on what is best for adding business value
- Avoid encumbering project managers with non-value-added work

These are significant challenges because they require senior managers to step outside of their comfort zone and embrace frequent change and high risk.

The first bit of business for the Stakeholder Group is to understand the project environment within which the project, program, and portfolio managers and their teams must work, and within that environment the challenges the Stakeholder Group will face in establishing and supporting an effective project management environment (Robert K. Wysocki, *Executive's Guide to Project Management: Organizational Processes and Practices for Supporting Complex Projects* [John Wiley & Sons, 2011]). The needs of that environment have changed dramatically in the past 15 years, especially with respect to the tools, templates, and processes that support it. The result is confusion and the introduction of yet another silver bullet every Tuesday. Those silver bullets appear very enticing but let me make it clear that there are no silver bullets now nor have there ever been. There are strategies that the Stakeholder Group can learn from the referenced book. It will require a concerted effort by the Stakeholder Group to implement and continuing attention from them to become and remain effective in the enterprise. I offer you what I have learned over the years from my clients as they attempt to support complex project management.

Let me try to put this in a context that relates directly to the Stakeholder Group. A recent worldwide survey conducted by IBM from September 2009 through January 2010 ("Capitalizing on Complexity: Insights from the Global Chief Executive Officer Study," [IBM, 2010, GBE03297-USEN-00]) reported that more than half of the 1,541 executives from the 60 countries that they interviewed admitted that they were not prepared to support the complex and uncertain environment in which they were forced to conduct business and they didn't know what to do about it. If that isn't a wake-up call to action, I don't know what is.

The following quote from that IBM report highlights the efforts of standout organizations to manage complexity. Their efforts provide a roadmap for us.

The effects of rising complexity call for CEOs and their teams to lead with bold creativity; connect with customers in imaginative ways and design their operations for speed and flexibility to position their organizations for twenty-first century success. To capitalize on complexity, CEOs:

- **Embody creative leadership.**
  CEOs now realize that creativity trumps other leadership characteristics. Creative leaders are comfortable with ambiguity and experimentation. To connect with and inspire a new generation, they lead and interact in entirely new ways.

- **Reinvent customer relationships.**
  Customers have never had so much information or so many options. CEOs are making "getting connected" to customers their highest priority to better predict and provide customers with what they really want.

- **Build operational dexterity.**
  CEOs are mastering complexity in countless ways. They are redesigning operating strategies for ultimate speed and flexibility. They embed complexity that creates value in elegantly simple products, services and customer interactions.

The messages from this survey are clear and validate the goal of this book. The solution offered herein is a logical approach to mitigating the complexity problem that more than half of the CEOs interviewed admitted having. Which half of the population do you align with? If you want to prepare yourself to handle complexity, this book is mandatory reading and prepares you to take action. If you are a standout organization, congratulations but you should still read this book because in these pages you will find some gems to help you stay on top of changing complexity and uncertainty.

There was a time when you may have distanced yourself from projects. Your feeling was that projects were operational-level activities and of little importance to someone at your management level. In the past 20 years you've probably rethought that position and now see projects as investments and part of a portfolio that has an investment strategy. You may in fact be the manager that determines that strategy. For that reason, you are challenged to do what you can to maximize the Return on Investment (ROI) to your organization from the projects you recommend for the portfolio and that you support directly. How you have responded to this situation depends on your roles and responsibilities with respect to the project, the project teams, and the portfolio. You may have primary responsibility for supporting or managing project managers or have a role supporting those who do have primary responsibility for supporting or managing project managers. In any case, this book offers you the advice you will need to help you and your organization succeed.

The business environment has changed significantly in the past 20 years and has ushered in new project management challenges that the old ways simply cannot support. Business as usual with respect to projects no longer works and may have never worked. Contemporary projects are projects of high complexity and great uncertainty and you must deal with them under those conditions. All of the simple projects have been done! Specifically:

- Complex project managers need the confidence and support of their management
- Complex project teams must be empowered so they can be successful
- Complex project portfolios must be aligned with staff resources
- Complex projects are unique and so are their management approaches
- Complex projects are high-risk projects
- Complex projects require a creative approach to discovering solutions
- Complex projects require meaningful client involvement
- Complex projects require flexible support services

In the pages that follow you will see just how you can and must positively impact all of these challenges. So, let's get started with a brief introduction to the complex project environment. Understanding that environment is the foundation on which you will be able to build your support strategy.

Hass in *Managing Complex Projects: A New Model* [Hass, 2009] offers the most in-depth treatment of complexity that we have. She describes complexity in terms of:

- Time, Cost, and Size
- Team Composition and Performance
- Urgency and Flexibility of Cost, Time, and Scope
- Clarity of Problem, Opportunity, and Solution
- Requirements Volatility and Risk
- Strategic Importance, Political Implications, Multiple Stakeholders
- Level of Organizational Change
- Risks, Dependencies, and External Constraints
- Level of IT Complexity

In a paper written shortly after her book was published (presented at the 2010 PMI Global Congress Proceedings, Washington, DC) she updates the complexity definition with a four-point scale (Independent Projects, Moderately Complex Projects, Highly Complex Projects, and Highly Complex Programs) and displays the values for a specific project in the form of a spider chart. Figure 3.15 is a hypothetical example adapted from her updated definition and published with her permission.

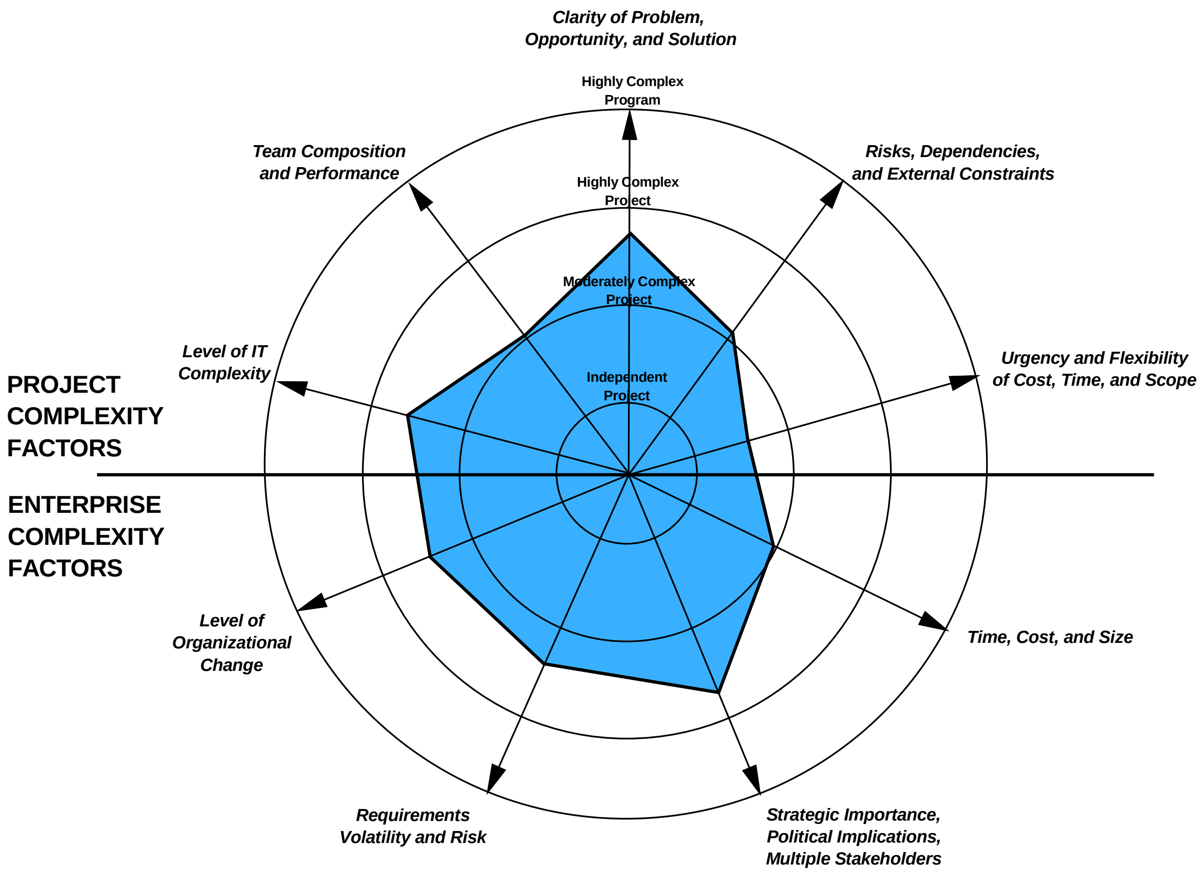

Figure 3.12: Project complexity spider chart *Adapted with permission from Kathleen B. Hass, Managing Complex Projects: A New Model (Management Concepts, 2009)*

The project illustrated in Figure 3.15 is highly complex as indicated by the project complexity score on Level of IT Complexity and Clarity of Problem, Opportunity, and Solution. At the enterprise level the complexity scores on Level of Organizational Change; Requirements Volatility and Risk; and Strategic Importance, Political Implications, and Multiple Stakeholders are suggestive of a very complex project. All five of these factors should alert strategy managers that corrective actions on their part should be in place to mitigate the potential adverse effects. This book offers infrastructure and support advice to that end.

PUTTING IT ALL TOGETHER

The EPPM foundation is now set. Chapter 12: Project Portfolio Management will present the deployment of the EPPM Model.

The business environment and how the enterprise functions and interacts within that continuously changing environment have been defined. The path you will travel takes you through the development of the tactics of the strategic plan and its realization through projects, programs, and portfolios. During that journey you will examine the major participants and support team with close attention paid to their interaction and dependency upon one another in realizing the business strategy.

As far as I know, the WBDC Model that I describe in this chapter is unique. I envision it as a dynamic living program. In defining its contents and delivery process we, as educators and trainers, will be challenged to constantly re-invent ourselves and are limited only by our own creativity. Because the WBDC Model is based on a team-centric and project-based learning model, it will automatically be aligned to the needs of business and produce graduates who have demonstrated through actual WBDC-based experiences that they can fill those needs. Having had this experience as part of their education and training is a powerful credential and should serve workers as they enter the world of work for the first time, reposition themselves in it, or re-enter after an absence.

But the WBDC Model goes even further. It is designed to support the worker over their entire career. Things will change and technologies once thought to be necessary will be replaced by even more powerful technologies, new opportunities will arise, and the cycle will repeat itself over and over again. Career and professional development is a lifelong journey. The WBDC Model will also adapt and be there for lifelong support of the worker.

The WBDC is a good case study for this chapter. It introduces a unique entity that will be a rich source of discussions about the OST Model and the EPPM.

DISCUSSION QUESTIONS

1. Strategic planning horizons have changed from 5 years, to 3 years and even to 1 year. This chapter advocates a continuous process that includes quarterly reviews of projects, programs, and portfolios where changes to the strategic plan can be made at any quarterly review. As your enterprise implements transitioning to a continuous process, what obstacles can they expect? What would you recommend they do to mitigate these obstacles?
2. You are the HR manager for your enterprise. What information would you need in order to maintain an inventory of project managers that can effectively support the strategic plan? Take into account the fact that the project manager position family includes project managers of all skill and competency levels. Describe the process steps you would follow to create that inventory.
3. From what you have learned about complex project management, what are the challenges you might expect to face in implementing the WBDC in a state supported community college? Build the WBDC Stakeholder Interaction Model as a help for identifying these challenges. Pay particular attention to the Users (who are they)? How would you address the challenges?