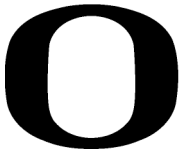


UNIVERSITY OF OREGON

APPLIED INFORMATION MANAGEMENT

Presented to the Interdisciplinary Studies Program:
Applied Information Management and the Graduate School of the University of Oregon
in partial fulfillment of the requirement for the degree of Master of Science

Strategic Project Management: Aligning Strategic Business Objectives with Project Management Strategy

CAPSTONE REPORT

Jennifer DyReyes
Project Manager
ADP, Inc.

University of Oregon
Applied Information Management
Program

722 SW Second Avenue
Suite 230
Portland, OR 97204
(800) 824-2714

February 2008

Approved By

_____

Dr. Linda F. Ettinger

Academic Director, AIM Program

Strategic Project Management: Aligning Strategic Business Objectives with Project Management Strategy

Jennifer DyReyes
ADP, Inc.

Abstract

This literature review examines the theory of *"strategic project management"* as a concept that aligns organizational strategic intent and project management goals. Twenty-eight sources published between 1998 and 2008 are analyzed to understand how strategic project management enables the alignment of business objectives with project strategy in support of overall competitive advantage. The role of project portfolio management and the cultivation and management of organizational competencies, capabilities and project leadership (resource-based view) are also examined.

Table of Contents

List of Figures

List of Tables

Introduction to the Literature Review

Topic

Strategic Project Management: An inter-disciplinary approach towards achieving sustainable competitive advantage through the alignment of strategic business objectives with project management strategy.

Purpose

This literature review examines studies that articulate strategies assisting organizations in bridging the gap between organizational strategic intent and project management goals, also known as *"strategic project management"*. Heerkens (2007) defines *"strategic project management"* as "a series of practices, procedures, processes, tools, and behaviors which, when considered collectively, characterize the extent to which an organization creates effective linkages between excellent project management practices and excellent business practices – all in the name of advancing the overall strategic objectives of the organization" (p.1). Since Heerkens' definition identifies the core elements that comprise the concept of strategic project management while advancing the relationship between project management and strategic business objectives, it is utilized as the model for evaluating various models of alignment between business and project strategy.

Recent literature regarding the efficacy of project management highlights the extreme failure rates in the IT sector (Stanleigh, 2006). In light of the recent failures of project management, the goal of this literature review is to present selected models that articulate the process for aligning

project management and business strategy to attain project success and competitive advantage. In addition, this review of the literature presents an explanation of how strategic project management contributes to the alignment of business objectives with project strategy and an organization's overall competitive advantage through project portfolio management and the cultivation and management of organizational competencies, capabilities and project leadership. Selected strategic project management models are analyzed as ways to translate corporate and business strategies into project strategy within the context of the project management and strategic management disciplines. A final section of the literature review presents conclusions and implications for further research.

Problem Area Context

The focus of this review is on the lack of alignment between business and project strategy, which Lanka & Martin (2007) believe is a significant contributor, if not the primary cause for, project failures in addition to an obstacle for realizing sustainable competitive advantage. Cicmil & Hodgson (2006) indicate that the disjoint between the traditional, formal project management methodology and increasingly visible project management failures has led to an acknowledgement among some researchers that accepting and applying the traditional project management orthodoxy does not eliminate project failures, nor does it guarantee project success (p. 114).

Patton and White (2002) find that closing the integration gaps between an organization's strategic plan and its implementation is essential to attaining and sustaining competitive advantage. Since organizations execute their strategies through the creation of strategic

initiatives comprised of programs and project portfolios, they in turn become vehicles for executing the organization's strategy (Cabanis-Brewin & Pennypacker, 2006). Wessels (2007) explains that as high-velocity change necessitates an increasing number of projects that must be executed faster and with fewer resources, the demand for strategic applications of project management is high.

Theories of Strategic Project Management

Wessels (2007) believes that adopting strategic project management to select, manage and support multiple projects gives companies the best chance of moving the organization forward by keeping the company vibrant in the marketplace and returning maximum value for shareholders. Stanleigh (2006) states that the execution of strategic project management provides organizations with the necessary business intelligence to identify and terminate (as early as possible) projects that are of low priority and not linked to business strategy, so that misaligned projects can stop costing organizations money, resources and customers. Strategic project management is based on a methodology of aligning projects with business-level strategic plans which includes:

- Communicating the strategy throughout the organization and cascading it through lower-level strategies involving initiatives that align the culture, policies and measures with the strategy (Jamieson & Morris, 2005);

- Analyzing the possible value of each potential project, based on an assessment of alignment to the corporation's goals and objectives (Garfein, 2007);

- Implementing projects at various levels of the organization that reflect the vision of the strategy (Brache, 2002); and

- Integrating an extensive range of project management leadership, competencies and capabilities into the organizational context (Jamieson & Morris, 2004).

Implementing Strategic Project Management

This literature review assumes an interdisciplinary approach in analyzing the following selected examples as both critical and necessary for the successful organizational implementation of strategic project management:

1. Formally defining, articulating, managing and aligning project strategy with business strategy (Shenhar, 2000);

2. Adopting project portfolio management to maximize the value of the total collection of an organization's projects and programs to ensure that projects and programs selected for execution align with the business-level strategies (Garfein, 2007); and

3. Developing strategic project leadership (Patton & White, 2002) via project management competencies and capabilities that contribute to an organization's sustainable competitive advantage (Hamel & Prahalad, 1990; Green, 2005).

Audience

The primary audience for this study includes senior management (including CEOs, COOS, CIOs, CTOs and CFOs), and project managers. In particular, this literature review is designed for an audience of senior managers and executives who are responsible for adopting the organizational strategic plan and for the project manager who is responsible for its direct implementation. This inquiry may also be of interest to program managers, managers of project managers, PMO Managers/Directors, their stakeholders, business drivers, executive sponsors, project champions, project team members and their functional managers, educators of project management, consultants in project management and trainers developing project management training and educational materials who will find the topic of strategic project management useful since it provides a model for aligning projects and programs with overall organizational strategy.

Undergraduate and graduate students in addition to strategic management theorists focusing on business, communications and/or MBA degrees will find a project-based literature review helpful in understanding the history and evolution of both the project and strategic management disciplines. At a practical level, this literature review can provide associates of project-based organizations a tactical, operational and strategic view of project management and a general understanding of the relationship between high-level strategy and its implementation via project management.

Significance

The significance of this research is two-fold. First, at a macro-level, this literature review is designed to explore the relationships between sustainable competitive advantage and the integration of business and project strategies. Thus, the research has a business context that relates traditional project management theory with strategic management concepts to present selected models for understanding how project-driven organizations can increase the success of their high-level objectives and contribute to competitive advantage. Additionally, the analysis of these models provides a rationale for growing the project management competencies and capabilities of the organization.

On a micro level, this study presents various models that align the tactical and operational aspects of project management with the strategic intent of organizations to demonstrate the practical application of strategic project management. Since this study is based on an inter-disciplinary approach towards strategic project management, it integrates several key components found across project management and strategic management literature (such as leadership, project management competencies and capabilities, alignment of project strategy with organizational strategy) and examines their impact on project management success. In this way, the literature review presents the concept of strategic project management as encompassing the alignment of projects, processes and resources with strategic business objectives (the traditional tactical and operational view); however, it also expands the current field of research by demonstrating how the adoption of strategic project management methodologies contributes to sustainable competitive advantage (Green, 2005).

Since the project management profession is currently undergoing tremendous growth worldwide as corporations, governments, academia and other organizations recognize the value of common, standardized approaches and educated employees for the execution of projects (Kloppenborg & Opfer, 2002), this researcher assumes that research into the practical application of project management methodologies to realize strategic growth and sustainable competitive advantage will play a significant role in expanding both the discipline and actual practice of project management.

Research Limitations

Although there is a voluminous amount of research on both "business strategy" and "project management", few scholarly resources pertain directly to the theory and practical application of organizational strategic project management. As a result, the following research criteria were applied to reduce the scope of the undertaking while increasing the quality, validity and findability of scholarly resources that pertain to strategic project management:

1. According to Dvir and Shenhar (2007), project management research is still evolving and has not yet established its role among the traditional academic disciplines of management. The early years of project management research (1960-1970) focused on large government programs in the Department of Defense and the early 1980s was primarily focused on project risk management and models for the planning and control of complex projects (Kloppenborg and Opfer, 2002). Cicmil and Hodgson (2006) indicate that the literature in the 1990s highlighted the centrality of project-based organizing and project working in the dual processes of information sharing and knowledge management

in organizations (p. 113). Since advances in project management can be achieved via an integrated and interdisciplinary view of the entire landscape of the project (Dvir & Shenhar, 2007) that attempts to unify evolving theories of project management, selected project management literature for this review only includes work completed within the last ten years (1998 – 2008) as this last decade has underscored the disparity between the maturing body of project management know-how and the effectiveness of its applications.

2. Delimiters on the literature search are works that apply directly to the problem area context (closing the gap between strategic business objectives and project management strategy) and the two key sub-topics (the theory of strategic project management and the practice of strategic project management – specifically, a focus on portfolio project management and project management leadership, competencies and capabilities);

3. The conceptual narrowness in strategy execution literature coupled with the infancy of the exponentially growing field of project management presents challenges in research acquisition and validity. However, by expanding the frame of reference to include an alternate field of study (strategic management) this review of the literature provides a foundation for further research that takes into account additional variables that can contribute to the alignment between business objectives and project strategy. For example, although Project Management Offices (PMOs) exist today as an organizational form designed to improve project management skills and competencies, increase project management maturity and provide management of the project portfolio process, current literature surrounding their success rates show that in practice, PMOs are usually

disbanded from organizations within two years of their inception due to a lack of return on investment (Thiry, 2007). Also, despite a plethora of literature pertaining to project maturity and project maturity models (PMM), at this time researchers have not been able to demonstrate a credible link between these models and competitive advantage (Jugdev & Thomas, 2002; Jugdev, 2006). As a result, although this study did research, collect and review literature regarding PMOs and PMMs, these two concepts were excluded from the actual review of the literature since there is currently no substantial theoretical evidence that they assist organizations in bridging the gap between business objectives and project strategy or that they are considered strategic assets (Stanleigh, 2006) as project portfolio management and project leadership, competencies and capabilities have demonstrated.

4. Since the discipline of project management is rapidly evolving and the utilization of project management and portfolio management methodology has increased over the last several years, primary research is comprised of scholarly articles and a limited selection of works from current business and technology magazines;

5. Both primary and secondary sources of literature are limited to peer-reviewed academic works (excepting a few cases from current business and technology magazines, so noted);

6. Since there is an overwhelming amount of literature surrounding both business strategy and project management, the research primarily targets the adoption of strategic project management and secondarily the concepts of "business strategy" and "project management";

7. In accordance with Kloppenborg and Opfer's (2002) research delimiters for their study "*The Current State of Project Management Research: Trends, Interpretations, and Predictions"*, this literature review excludes the following types of citations (p.7):
    a. Literature related to the trends in project management that only state the author's point of view without substantial data to support it;
    b. Literature that has a marketing flavor;
    c. Literature based on the experience of authors unless they have resulted in the invention of a new concept or technique;
    d. Literature that is very technical in nature, but not dealing with the management of projects directly;
    e. Literature that is book reviews, industry reviews, etc.

8. The research is limited to work that is appropriated and reproduced via hardcopy.

Writing Plan Overview

Hewitt (2002) defines a literature review as "a self-contained piece of written work that gives a concise summary of previous findings in an area of the research literature" (p.1). Watson and Webster (2002) describe an *effective* literature review as "comprised of prior, relevant literature . . . [it] creates a firm foundation for advancing knowledge. It facilitates theory development, closes areas where a plethora of research exists, and uncovers areas where research is needed" (p. 13). Ellis and Levy (2006) define an effective literature review *process* as "sequential steps to collect, know, comprehend, apply, analyze, synthesize, and evaluate quality literature in order to provide a firm foundation to a topic and research method . . . the output of the literature review

process should demonstrate that the proposed research contributes something new to the overall body of knowledge" (p. 182).

Following descriptions of effective literature review components (Hewitt, 2006; Watson & Webster, 2002) and the literature review process (Ellis & Levy, 2006) this literature review utilizes an approach that builds on a combination of ideas and concepts to examine the theory and practice of strategic project management and the process for aligning business strategy with project management strategy to obtain competitive advantage by:

1. Providing peer-reviewed literature from two disciplines (project management and strategic management) as a way to define and examine the problem area context and two key sub-topics;

2. Incorporating the criterion of quality, relevancy and validity throughout the research process;

3. Employing an iterative process when researching, surveying, analyzing and synthesizing quality literature; and

4. Demonstrating that the proposed interdisciplinary research focus contributes something new to the overall body of knowledge or advances the research field's knowledge-base (Ellis & Levy, 2006, p. 182). The primary outcome to meet this goal is provided as a set of "Definitions".

The *"Review of the Literature"* is written using a thematic rhetorical pattern and includes an overall synthesis of the key themes across two different fields of research: strategic management and project management (as noted above). Selected literature is analyzed using a *"Synthesis of two fields review"* approach, which "provides insights into a given topic based on a review of the literature from two or more disciplines" (The Writing Lab at Colorado State University, 2006).

Definitions

The following section defines terms used throughout this study and is organized according to three main subject areas that collectively comprise the body of the *"Review of the Literature"*:

1. Strategic management and competencies terminology;
2. Strategy-related project management concepts; and
3. Project management definitions.

Although the terminology used throughout the literature review overlaps the predefined problem area context and two sub-topics, organizing and defining the terms according to the above subject areas assists in clarifying their meaning for the audience and identifying the relationships that exist between each subject area.

Category 1: Strategic Management and Competencies

Based on a foundation of strategy definitions provided by Johnson et al (2005), this literature review utilizes the definition of *"business-level strategy"* (or "business strategy") for the body of this review and distinguishes between three main levels of strategy within an organization:

1. Corporate-level strategy (i.e. corporate strategy);
2. Business-level strategy (i.e., business strategy and strategic business unit strategy); and
3. Operational strategies.

Table 1: Strategy and Competencies Definitions

Business-level strategy concerns how organizations compete successfully in particular markets, specifically which products or services should be developed in which markets and how to realize advantage over competitors in order to achieve the objectives of the organization. There should be a clear link between strategies at an SBU level and corporate-level strategies that both assist and constrain the business-level strategies (Johnson et al, 2005, p. 11).
Capabilities are a company's skills at coordinating its resources and putting them to productive use (Jamieson & Morris, 2004).
Core competencies are the collective learning in an organization, especially regarding how to coordinate diverse production skills and integrate multiple streams of technologies (Hamel & Prahalad, 1990).
Corporate-level strategy is concerned with the overall purpose and scope of an organization and how value is added to the different parts (business units) of the organization. This could include issues of geographical coverage, diversity of products/services or business units, and how resources are allocated between the different parts of the organization (Johnson et al, 2005, p. 11).
Firm resources are all assets, capabilities, competencies, information knowledge and reputations that are owned or controlled by the firm and that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness (Pettigrew et al, 2002, p. 55).
Operational strategies are concerned with how the component parts of an organization deliver effectively the corporate and business-level strategies in terms of resources, processes and people. The integration of operational decisions and strategy is of great importance since in most businesses, successful business strategies depend to a large extent on decisions that are taken, or activities that occur, at the operational level (Johnson et al, 2005, p. 12).
Resource-based views of strategy emphasize firm-specific resources as the fundamental

determinants of competitive advantage and performance (Pettigrew et al, 2002, p. 55).
Strategic architecture is the establishment of objectives for competence building and a road map of the future that identifies which core competencies to build and their constituent technologies (Hamel & Prahalad, 1990).
Strategic management includes understanding the strategic position of an organization, strategic choices for the future and turning strategy into action (Johnson et al, 2005, p. 16).
A **strategic business unit (SBU)** is a part of an organization for which there is a distinct external market for goods or services that is different from another SBU. It is a unit of organization for strategy-making purposes and may or may not be a separate structural part of an organization (such as a department or division (Johnson et al, 2005, p. 11).

Category 2: Strategy-related Project Management Concepts

Table 2: Strategy-related Project Management Concepts

Critical integrative links (CILs) are strategic links that consist of interpreting strategy and reformulating it as part of the process of rapid strategy implementations.
Project strategy is the project perspective, direction, and guidelines on what to do and how to do it, to achieve the highest competitive advantage and the best project results (Shenhar, 2004, p. 297).
Strategic alignment is the coordination of an organization's external business and IT goals and its internal business and IT organizational infrastructures (Luftman, 2004).
Strategic Portfolio Management is the process of determining if the projects and programs selected for execution align with the organization's strategies (Garfein, 2007).

Strategic projects are projects that deal with new business and create or sustain strategic positions in markets and businesses. Typically, strategic projects are initiated with a long-term perspective in mind. (Shenhar, 2004, p. 3).
Strategic Project Management is a series of practices, procedures, processes, tools, and behaviors which, when considered collectively, characterize the extent to which an organization creates effective linkages between excellent project management practices and excellent business practices – all in the name of advancing the overall strategic objectives of the organization (Heerkens, 2007).

Category 3: Project Management Concepts

Table 3: Project Management Concepts

A **portfolio** is a collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet strategic business objectives (Project Management Institute, 2004, p. 16).
Portfolio Management is the centralized management of one or more portfolios, an approach to achieving strategic goals by selecting, prioritizing, assessing and managing projects, programs and other related work based upon their alignment with and contribution to the organization's strategies and objectives (Wessels, 2007).
A **program** is a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually (Project Management Institute, 2004, p. 16).
Program Management is the centralized coordinated management of a group to achieve the program's strategic objectives and benefits (Project Management Institute, 2004, p. 16).
A **Project Based Organization (PBO)** is structured around distinct projects in which people with different skills are brought together to develop innovative products and services within fixed

periods of time, and business functions become embodied in project teams where the knowledge, capabilities, and resources of the firm are built up through the execution of major projects (Whitley, 2006).

A **project** is a temporary endeavor undertaken to create a unique product, service, or result (Project Management Institute, 2004, p. 5).

Project Management supports the execution of an organization's competitive strategy to deliver a desired outcome (such as fast time-to-market, high-quality and low-cost products) as one of the key business processes that enable companies to implement value delivery systems (Milosevic & Srivannaboon, 2006, p. 99).

A **Project Manager** is the person responsible for managing a project (Project Management Institute, 2004).

A **Project Management Office (PMO)** is an organizational body or entity assigned various responsibilities related to the centralized and coordinated management of those projects under its domain. The responsibilities of the PMO can range from providing project management support functions to actually being responsible for the direct management of a project (Aubrey & Hobbs, 2007).

Project Portfolio Management is the activity of aligning resource demand with resource availability to achieve a set of strategic goals (Jamieson & Morris, 2004).

Project stakeholders are individuals and organizations that are actively involved in the project, or whose interests may be affected as a result of project execution or project completion (Project Management Institute, 2004, p. 24).

Research Parameters

The objective of the literature review is to examine research that analyzes how organizations can achieve sustainable competitive advantage through the alignment of strategic business objectives and project management. An iterative survey of the research was performed to achieve this objective. As Henrie and Sousa-Poza (2005) explain, an iterative process allowed the data to lead the study and speak for itself so that "each step built upon and added data and enlightenment in a continuous process of data gathering, followed by analysis, and better understanding" (p. 6).

The research methodology for the literature review was comprised of seven parallel and iterative activities:

1. Definition of the research problem;
2. Establishment of the data collection strategy;
3. Development of the research strategy;
4. Identification and acquisition of the data sources;
5. Selection and categorization of data according to the problem area context and sub-topics;
6. Documentation of the research results;
7. Development of a writing plan and outline.

Research Problem Definition

Hilsen (1996) states that the identification of the research problem and development of a question to be answered are the first steps in the research process as the research question will

guide the remainder of the design process. Accordingly, the preliminary method used to research relevant literature in this review was based on the construction of a problem statement and purpose and subsequently the refinement of the terminology embedded into the question: *How can organizations achieve sustainable competitive advantage through the alignment of strategic business objectives with project management strategy?*

Data Collection Strategy

A data collection strategy was established that included the following key components:

1. Primary (peer-reviewed, published works) and secondary sources of literature (current business and technology magazines) were collected that focused on the theory of strategic project management in the context of its application and adoption in an organizational setting. References derived from these sources were used in the development of the literature review and bibliography.

2. Data from the primary and secondary sources of literature were analyzed and interpreted to verify that each work demonstrates credibility, quality and validity, according to the evaluation criteria detailed below:

    a. The universality and replicability of the research strategy (Leedy & Ormrod, 2005);
    b. An overview of the research problem (including its component issues);
    c. The identification and categorization of common themes, assumptions and patterns in the research;

d. Descriptions of the findings and assessments of consistency and variation among the selected literature (Hewitt, 2002);
e. Selection of works that contribute to the most significant understanding and development of the research problem (Lyons, 2005).

Research Strategy

Cooper (1998) suggests that narrow concepts provide little information regarding the generality or robustness of the results, therefore the greater the conceptual breadth of the definitions used in a synthesis, the greater it's potential to produce conclusions that are more general than syntheses using narrow definitions (p. 37). Cooper explains that a threat to validity is associated with problem definition, specifically in regards to cursory searches, and therefore recommends a larger breadth of concepts used in problem definition. Thus, in addition to searches on the main problem area context and sub-topics, an expanded and comprehensive list of key search terms was derived in order to minimize a threat to validity that could mask important distinctions in the results of the search (p. 37). Therefore, the research strategy involved preliminary searches on the main topic (strategic project management), sub-topics and key search terms (below).

- Corporate strategy
- Business strategy
- Project management
- Project strategy
- Project portfolio management
- Strategic alignment

- Strategic management
- Project management competencies
- Strategic project management models
- Project maturity models
- Organizational vision and shared vision
- Strategic management
- Competitive advantage
- Strategy

Identification and Acquisition of Data Sources

The research focus was on academic resources, although journals, books, magazines, news articles and search engines (particularly Google and Google Scholar) were also reviewed. The research strategy involved both primary and secondary sources of literature using *Business Source Premier*, *Academic Search Premier*, *The McKinsey Quarterly*, *Harvard Business Review*, *University of Pennsylvania's Knowledge @Wharton* and the *Project Management Institute* for retrieving articles pertaining to the topic of strategic project management.

Several publications were mined specifically for content related to the main subject area: the Project Management Institute's *Project Management Journal*, *PM Network*, *International Journal of Project Management*, *Computerworld*, *CIO Insight*, *Baseline*, *Journal of Business Strategy* and *Science Direct*. Several texts were reviewed from previous AIM courses such as Brache's "*How Organizations Work*" (2002) and Luftman's "*Managing the Information Technology Resource*" (2004). Although the selection criteria for meeting presentations is

usually not as strict as that required for journal publication, these papers are more likely to be current than journal articles for two reasons: (1) researchers may present a paper prior to the completion of a publishable manuscript; (2) journals have long lags between when a manuscript is submitted and when it is published (Cooper, 1998). As a result, various research papers were reviewed at the Project Management Institute 2007 Global Congress in Atlanta, Georgia and included in this review.

In addition to researching journal articles, this literature review includes a number of books relevant to project management and strategic management that were located and obtained though the University of Oregon's Libraries Catalog. These books range from general textbooks, to books written by one or two individuals to collections of articles written by a variety of experts in the fields of project management and strategic management.

During this research process, data source abstracts were reviewed to determine their applicability to the research problem area context and sub-topics based on the criterion developed in the *"Research Strategy"* section of this literature review. If the selection criteria were met, the data source was either downloaded (if an article) or requested (if a book) through the University of Oregon's online library catalogue. Digital articles were archived electronically according to a systematic categorization process. This process was based on several key project management themes and patterns found in the review of the abstracts and was organized according to the following subject areas:

1. Strategy
2. Portfolio management;

3. Project Management Offices (PMOs);
4. Project management maturity;
5. Project management competencies and capabilities;
6. Project-based organizational structure;

Selection and Categorization of Data

The selection and categorization of data according to the problem area context and sub-topics was based on "purposeful sampling", which Leedy and Ormrod (2005) describe as the "intentional nonrandom selection of data sources" (p. 145) based on the selection of objects that will yield the most information about the research topic.

Journals

The selection and categorization of journal articles according to the problem area context and sub-topics involved four main tasks:

1. Identification and retention or deletion of data sources according to the conventions established in the *"Research Limitations"* and *"Data Collection Strategy"* sections of this study;

2. Scanning of the full-text article to determine if additional sources needed to be located and catalogued or removed from the data set. If the journal article met the requirements of this study according to the criteria outlined in the *"Research Limitations", "Data Collection Strategy"* and *"Research Strategy"* sections of this literature review, the

following actions were performed and repeated for data sources that required further examination in the next iterative round of evaluations:

a. Search and acquisition of additional published works by the author;
b. Search and acquisition of additional literature based on the abstract's key words and phrases;
c. Review and documentation of most commonly cited references in the article;
d. Search and acquisition of the most commonly cited references in an effort to collect key cited articles;
e. Documentation of the key words and phrases found in the most commonly sited references;
f. Consolidation and refinement of the key words and phrases found in the most commonly sited references.

3. Reclassification of the remaining data sources from the previous classification structure developed in the *"Identification and Acquisition of Data Sources"* section of this study to a new classification scheme based on the research problem and sub-topics:
    a. Integrating strategic business objectives and project management;
    b. Theories and concepts of strategic project management;
    c. The practice of strategic project management.

4. Digital reorganization of the data sources according to the above topical areas.

Books

The selection and categorization of books according to the problem area context and sub-topics involved five primary tasks:

1. Identification and retention or deletion of data sources according to the conventions established in the *"Research Limitations"* and *"Data Collection Strategy"* sections of this study;

2. A phrase analysis of relevant books was conducted wherein specific key words and phrases identified from the journal abstracts were surveyed in the table of contents and indexes. The key words and phrases were those that were most commonly sited in the article references and subsequently documented as part of the *"Selection and Categorization of Data"* for the "Journals" section of this study;

3. Scanning of the text to determine if additional sources needed to be located and catalogued or removed from the data set. If the book met the requirements of this study according to the criteria outlined in the *"Research Limitations", "Data Collection Strategy"* and *"Research Strategy"* sections of this literature review, the following actions were performed and repeated for data sources that required further examination in the next iterative round of evaluations:
    a. Search and acquisition of additional published works by the author;
    b. Search and acquisition of the most commonly cited references in an effort to collect key cited data sources.

4. Identification of general categories and themes (and when applicable, subcategories and subthemes) using the *"data analysis spiral"* approach (Leedy & Ormrod, 2005) and then classifying the emergent data (p. 150) according to patterns interwoven throughout the

literature (journal articles and books) on the primary research problem and sub-topics; and

5. Continuous refinement of the research problem definition and reenactment of the iterative research methodology activities as outlined in the *"Research Parameters"* section of this study.

Documentation of Research Results

In alignment with Cooper's (1998) assertion that the most powerful protection against threats to validity caused by unrepresentative samples of studies in syntheses comes from a broad and exhaustive search of the literature (p. 76), the comprehensive and documented literature search strategy for this review is located in "Appendix A". This table contains documentation regarding the various reference databases and journals researched in combination with key search terms and resultant findings applicable to the three main sections of the literature review:

1. Problem area context (aligning organizational strategy with project management strategy);

2. Sub-topic A (the theory of strategic project management);

3. Sub-topic B (implementing strategic project management).

The *"Search Strategy Documentation"* table located in Appendix A is organized into six main categories of information:

1. The search engine, database and/or journal used for the literature search;

2. The key search terms used;

3. The number of initial and usable results found during the literature search;

4. The overall rating of the quality and usability of the results (excellent, good, fair and poor);

5. The citation of a usable reference;

6. The relevance and/or comments of the citation (coded by its applicability to the problem area context and/or sub-topics A and B).

Table 4: Summary of Databases Searched and Usable Results

Databases Searched	Results # (Usable)
UO Libraries Catalog	24
UO Libraries Catalog OneSearch > QuickSets (Core Research)	0
UO Libraries Catalog OneSearch > QuickSets (Business and Economics)	1
UO Libraries Catalog OneSearch > QuickSets (Science)	0
UO Libraries Catalog OneSearch > QuickSets (OneSearch Articles)	1
UO Libraries Catalog OneSearch > Advanced (General)	1
EBSCO HOST Research Database – *Academic Search Premier*	3
EBSCO HOST Research Database – *Business Source Premier*	21
EBSCO HOST Research Database – *Science Direct*	3

Table 5: Summary of Journals Searched and Usable Results

Journals Searched	Results # (Usable)
Harvard Business Review	1
Project Management Journal	16
International Journal of Project Management	11
The McKinsey Quarterly	0
Knowledge@Wharton	0
Project Management Institute (PMI) 2007 World Congress Research Papers	10

Table 6: Summary of Search Engines and Other Websites Searched and Usable Results

Search Engines and Other Websites	Results # (Usable)
Google	3
PMI.org	16

Writing Plan

Despite the recent growth of project management interest and research, several authors note the consistent failure of projects to meet business objectives, time and budget goals (Cicmil & Hodgson, 2006; Dvir & Shenhar, 2007; Söderlund, 2004) and the lack of return on investment in Project Management Offices (PMOs) as a tool to improve project management (Stanleigh, 2006). Current research (Cicmil & Hodgson, 2006) into project performance highlights the deficit between the maturing body of project management know-how and the effectiveness of its applications while "the development of project management knowledge remains unstable and fragmented" (p. 115). Additionally, Dvir and Shenhar (2007) note that "no central paradigm has emerged that is underlying the research and conceptualization of project management or is influencing the practice of project management" (p. 95). Cicmil & Hodgson (2006) indicate that the disjoint between the traditional, formal project management methodology and increasingly visible project management failures has led to an acknowledgement among some researchers that accepting and applying the traditional project management orthodoxy does not eliminate project failures, nor does it guarantee project success (p. 114).

Although some researchers suggest that project management is at the core of understanding the contemporary firm (Söderlund, 2004) and that the discipline of project management is currently being used as a primary strategy to manage change in contemporary organizations (Kloppenborg & Opfer, 2002), project management is not regarded as a mature, established discipline. Furthermore, while considered an interdisciplinary field, only a limited number of interdisciplinary studies have been applied to project management (Dvir & Shenhar, 2007).

The cross-disciplinary character of project management research coupled with a lack of solid, foundational concepts and analyses provides an opportunity to examine the current crisis of project management failure within the context of a "strategic/business view" (Dvir & Shenhar, 2007) that considers projects as "business-related activities that need to achieve the project's business results" (p. 96). As an alternative to exclusively examining the traditional project management body of literature, this literature review explores the research regarding project success and its impact on competitive advantage from the separate fields of project management and strategic management to gain insight into parallel theoretical and empirically established themes.

The *"Review of the Literature"* is written using a thematic rhetorical pattern and includes an overall synthesis of the key themes across two different fields of research: strategic management and project management. Selected literature is analyzed using a *"Synthesis of two fields review"* strategy, which "provides insights into a given topic based on a review of the literature from two or more disciplines" (The Writing Lab at Colorado State University, 2006). The interdisciplinary approach provides:

1. An opportunity to reframe the orthodox project management dialogue regarding how organizations can overcome the salient problem of overwhelming project failures (Dvir & Shenhar, 2007);

2. An examination of the relationship between project management and organizational business strategy from a strategic management perspective to understand how the

alignment of strategic business objectives with project management strategy contributes to sustainable competitive advantage; and

3. An examination of the impact of project portfolio management and project management capabilities and competencies on the realization of business objectives and in turn, competitive advantage, viewed within the context of the more mature discipline of strategic management.

The goal of the literature review design is to present several models for analyzing the research problem and sub-topics by a) maintaining the strengths and addressing the weaknesses of various existing models derived from the individual disciplines of strategic management and project management; and b) synthesizing these models from the two fields of research into a unified theory of strategic project management that suggests questions and areas for future research.

Writing Plan Objective and Outline

The objective of the writing plan is to structure and integrate the collected literature into the following subject areas:

1. Problem Area Context

1.1. Describe how business strategy is executed and operationalized at the project and program levels within the framework of literature referenced in “Category 1: Integrating Strategic Business Objectives and Project Management” located in the “Literature Review Bibliography with Abstracts” section

1.1.1. Summary and review of:

1.1.1.1. Literature that examines the need to close the gap between organizational strategic objectives and project management goals

1.1.1.2. Literature that addresses the alignment of business strategy with project management

2. Theory of Strategic Project Management

2.1. Describe the theory and concept of strategic project management within the framework of literature referenced in "Category 2: Theories of Strategic Project Management" located in the "Literature Review Bibliography with Abstracts" section

2.1.1. Summary and review of:

2.1.1.1. Literature regarding the definitions and theory of strategic project management

2.1.1.2. Literature regarding models of strategic project management

3. The Practice of Strategic Project Management

3.1. Describe the implementation theories of strategic project management within the framework of literature referenced in "Category 3: The Practice of Strategic Project Management" located in the "Literature Review Bibliography with Abstracts" section

3.1.1. Summary and review of literature that examines the practice of strategic project management

3.1.1.1. Literature that addresses how strategic business objectives are executed via project, program and portfolio management methodologies

3.1.1.2. Literature that addresses how the cultivation and management of organizational competencies, capabilities and project leadership assists in the translation of business objectives to project strategy and overall competitive advantage

Review of the Literature Bibliography

This section of the literature review is comprised of three categories of abstracted literature (including a total of 28 references) that form the basis of the *"Review of the Literature"* and correspond to the research problem and sub-topics:

1. Category 1: Aligning Strategic Business Objectives with Project Management Strategy (eleven entries);
2. Category 2: Theories of Strategic Project Management (seven entries);
3. Category 3: Implementing of Strategic Project Management (ten entries).

Category 1: Aligning Strategic Business Objectives with Project Strategy

Anderson, D., & Merna, T. (2003). Project management strategy—project management represented as a process based set of management domains and the consequences for project management strategy. *International Journal of Project Management*, *21*, 387. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=10231987&loginpage=login.asp&site=ehost-live

Abstract: Project Management is not as consistently effective as it ought to be. If we re-examine some of the examples of failures or poor performance we can see that the causes often originated in poor management particularly at the front-end during strategy formulation, rather than poor downstream execution. Yet most of the project management literature concentrates on the execution tools and techniques rather than the effective development and deployment of project management strategy within a total process concept. This paper reports on further research, developing the model and its deployment, to place project management and project management strategy in the context of business development.

Artto, K., Hensman, N., Jaafari, A., Kujala, J., Martinsuo, M. (2006). Project-based management as an organizational innovation: Drivers, changes, and benefits of adopting project-based management. *Project Management Journal,* 37, 87-97.

Abstract: This paper examines project-based management as an organizational innovation. Institutional theory and innovation diffusion literature suggest that the drivers for adopting an organizational innovation may differ across organizations, and that the drivers may be linked with the timing of the innovation. A survey questionnaire was used for data collection, and the sample consisted of 11 companies representing a variety of industries. The results of this study identified external pressure and internal complexity as drivers for introducing project-based management. The degree of process change, depth of project- based management adoption and local success of project-based management introduction as changes caused by adopting project-based management are examined. The study also reveals benefits from introducing project-based management in the form of improvement in project culture, and efficiency improvement.

Englund, R., & Graham, R. (1999). From Experience: Linking Projects to Strategy. *Journal of Product Innovation Management*, *16*, 52-64. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=11941534&loginpage=login.asp&site=ehost-live

Abstract: There is a dramatic rise in the use of project management as organizations shift to provide customer-driven results and systems solutions. Some implementations of project management have been successful, whereas others are spectacular failures. A common occurrence in many organizations is too many projects being attempted by too few people with no apparent link to strategy or organizational goals. Research and experience indicate that the support of upper management is critical to project success. This article reviews actions that upper managers can take to create an environment for more successful projects in their organizations. Specifically, the authors discuss practices for upper manager teamwork and offer a complete model for selecting projects that support a strategic emphasis.

Ives, M. (2005). Identifying the contextual elements of project management within organizations and their impact on project success. *Project Management Journal,* 36, 37-50.

Abstract: Change within organizations is becoming the rule rather than the exception as businesses seek to respond to an increasingly fluid, complex, and global business environment. This drive demands that organizations embrace a more strategic response to avoid being leap-frogged by more nimble competitors. As Cicmil points out (1997, 1999), strategic organizational change is most likely facilitated and managed through an organization's use of the project management disciplines. This study attempts to develop a greater understanding of the contextual aspects of project management in an organizational change setting. In reviewing the current literature, I have found an increasing use of project management within organizations and an attendant poor rate of success among these projects; interestingly, I also found only limited research on the context and fit of projects within organizations.

Longman, A. & Mullins, J. (2004). Project management: Key tool for implementing business strategy. *Journal of Business Strategy*, 25, 54-60.

Abstract: Project management requires deliberate planning and action to create the conditions for success and put in place the strategy, leadership, goals, process, skills, systems, issue resolution and structure to direct and exploit the dynamic nature of work. In working with business organizations, whether large or small, in strategic and operational situations, there are essential conditions for project success. These conditions apply to all projects, whether related to top-level strategic business issues or operational ones. Failure to perform effectively in even one of the conditions could pose a risk on strategy implementation. In order to achieve the conditions or project success, senior management needs to ensure that all organizational elements are aligned and integrated into a coherent framework for project management.

Milosevic, D. & Srivannaboon, S. (2006). A two-way influence between business strategy and project management. *International Journal of Project Management*, *24*, 493-505. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=21830179&loginpage=login.asp&site=ehost-live

Abstract: Abstract: This article recognizes the strategic importance of project management (PM) in the corporate world through an exploration of PM/business strategy alignment. Using a case-study methodology, we extensively examined eight case studies covering nine projects in seven organizations. As a result, an empirically based theoretical framework was developed to address the configuration of PM as influenced by the business strategy (and vice versa). We found that business strategy realizes its influence on PM via the competitive attributes of the business strategy (time-to-market, quality, and cost). These competitive attributes are used deliberately to determine the configuration and emphasis placed on different PM elements (e.g., strategy, organization, process, tools, metrics, and culture). At the same time, PM is expected to impact the adaptation of business strategy if the operating conditions of a project detect significant threats from environmental changes (e.g., a market shift).

Milosevic, D. Z. (2006). A theoretical framework for aligning project management with business strategy. *Project Management Journal,* 37, 98-110.

Abstract: This study addresses two aspects of a topic under-researched in the strategic management literature: the alignment of project management and business strategy. Two areas of this alignment were studied: (l) the reciprocal influence between project management and business strategy, which we call the nature of the project management/business strategy alignment; and (2) the process used to align project management and business strategy. Then an empirically based theoretical framework, which highlights the impact of business strategy on project management—and the impact

of project management on business strategy — as well as the mechanisms used to strengthen these alignments, was developed.

Morris, P. & Jamieson, A. (2004). *Translating corporate strategy into project strategy: Realizing corporate strategy through project management*. Newton Square, PA: Project Management Institute, Inc.

Abstract: Considered the new "silver bullet" in guiding corporate strategy, this study examines how project management tools and principles can be used to effectively advance business strategy. Through case studies from a variety of industries, the authors demonstrate how successful organizations move beyond mission statements and five-year plans to create the processes that are necessary to carry out time-oriented goals and projects. In addition to examining these successes, the authors also identify effective strategy implementation processes, define the relevant terms using the standards of PMI's PMBOK® Guide, outline staff roles and responsibilities, and offer several different models of personnel structure and capabilities that reflect project management principles and methods.

Srivannaboon, S. (2006). Linking project management with business strategy. *Project Management Journal,* 37, 88-96.

Abstract: Recognition of the strategic importance of project management in the corporate world is rapidly accelerating. One reason for this acceleration may be a strong belief by business leaders that aligning project management with business strategy can significantly enhance the achievement of organizational goals, strategies, and performance. However, empirical literature that offers advice on how to achieve this alignment is scanty. Many companies are suffering from misaligned projects and a lack of a systematic approach to align project management with the business strategy. Although projects are the basic building blocks of organizational strategy in many companies, project management is not often recognized as a functional strategy and is rarely perceived as a business process, making the achievement of a project management/business strategy alignment even more difficult. This study addresses three aspects of an under-researched topic in the strategic management literature—aligning project management with business strategy.

Van Der Merwe, A. (2002). Project management and business development: Integrating strategy, structure, processes and projects. *International Journal of Project Management*, 20, 401-411.

Abstract: The classical school of business development supposed that rationality in structure and process where attained by a theory that defined “one best way” of doing things. The theory was based on four pillars: division of labor, scalar and functional processes, structure, and span of control. Modern business development places more emphasis on strategy that aims to delight customers, processes that lead to the ultimate of

efficiency and infinitely flat organizational structures to manage by projects. Organizational theory is rich in the research of strategic management with specific interest in analysis, objective setting and the effect of organizational structure. But strategies do not fail when they are being analyzed or when the objectives are being set. They fail during implementation and, more particularly, due to the lack of proper project management. This research analyzed management and project management in an attempt to find the application and integration of strategy, structure, processes and projects in order to facilitate the development of a business.

Winter, M., Andersen, E., Elvin, R., & Levene, R. (2006). Focusing on business projects as an area for future research: An exploratory discussion of four different perspectives. *International Journal of Project Management*, 24, 699-709. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=23214283&loginpage=Login.asp&site=ehost-live

Abstract: An important development in project management in recent years has been the emergence of a new class of projects, in areas such as organizational change and IT, integrated business solutions, and long-term public service delivery. Often referred to as 'business projects', this new class of projects (and programs) reflects a growing conceptual shift away from the traditional engineering view of projects, towards a more business-oriented view, in which the primary concern is no longer the capital asset, system or facility etc, but increasingly the challenge of implementing business strategy, improving organizational effectiveness, and managing the realization of stakeholder benefits. Drawing on recent research from the UK Government-funded Rethinking Project Management Network, this paper argues that future research in this area needs to look beyond the mainstream literature on project management, to other relevant disciplines such as strategic management, operations management, and the management of change. Against this background, the authors present four conceptual perspectives from the management literature, which can be usefully applied to business projects order to inform and stimulate other researchers and practitioners working in the field.

Category 2: The Theory of Strategic Project Management

Arrto, K., Dietrich, P., Kujala, K. & Martinsuo, M. (2007). What is project strategy? *International Journal of Project Management*, XX, XX.

Abstract: The concept of project strategy – referring to the strategy of a single project – has remained ambiguous in existing studies. In this research, we review literature from multiple viewpoints to develop a novel definition and interpretation about the project strategy concept. Our project strategy definition and the four project strategy types allow a more open interpretation about the content of alternative environment-dependent project strategies as well as the processes of strategy formulation and implementation.

The wider concept of project strategy introduced in this paper recognizes more widely the various positions that a single project may take in its environment. This way, our paper contributes even to development of new and context-specific project management bodies of knowledge in the future. The paper suggests empirical research and further conceptual research on detailed contents of different project strategies.

Brown, A. (2006). *Strategic project management*. Project Management Institute: Newtown Square, PA.

Abstract: Only when organizations align their projects with their strategy can they best ensure that their project investments generate outcomes that serve their business goals. This paper examines how one organization--insurance provider MSIG USA--used a strategic planning approach to select and manage its projects, an approach that helped the organization achieve its business goals through projects. In doing so, it defines three concepts essential to MSIG's strategic process for managing projects; it explains MSIG's concept of a strategic plan. It also describes the functions administered by MSIG's strategic planning office (SPO). It then discusses MSIG's success in aligning project management and strategic planning; it looks at its process of creating ideas to develop as projects, listing six techniques for doing so. It details how MSIG's projects drive strategic changes and how it manages its feedback loop. It also outlines five key points of interaction between projects and strategy.

Crawford, L. (2006). Developing organizational project management capability: Theory and practice. *Project Management Journal,* 37, 74-86.

Abstract: This paper traces the evolution of conceptions of project management from the use of tools and techniques on standalone projects to the conceptualization of project management as an organizational capability. Working from the premise that project management is a socially constructed field of practice that has developed through the conversations and deliberate efforts of practitioners, principles of discourse analysis are used as a framework for studying the extent to which practice reflects the espoused theories of organizational project management capability development. The actuality of practice is represented by periodic reports over a five-year period by the "owners" of project management in an organization with an expressed commitment to development of organizational project management capability and is analyzed with reference to the related espoused theories of practitioners as represented in the project management literature, including bodies of knowledge, standards, and guides.

Grundy, T. (2000). Strategic project management and strategic behavior. *International Journal of Project Management*, 18, 93-103.

Abstract: Strategic projects are crucial to the implementation of strategies. Besides the analytical difficulties of managing strategic projects these are perhaps overshadowed by

behavioral difficulties. Research into the strategic behavior at BT has identified several techniques for managing the behavioral issues facing strategic projects more effectively. These techniques include: cause of behavior analysis, personal and strategic agenda analysis, behavioral scenarios and difficulty, energy and frustration over time curves.

Heerkens, G. (2007). *Introducing the revolutionary strategic project management maturity model (SPM3)*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Abstract: The level of interest surrounding practice related to program management, project portfolio management, the strategic alignment of projects, and the business results of projects have been steadily growing over the last few years. Much has been presented, published, and discussed about them individually. What is needed is an approach that combines the wide variety of concepts, process, and tools that have emerged from these practices. This paper unveils a groundbreaking method for doing just that – the strategic project management maturity model (SPM3).

Hobbs, B., Crawford, L., Tuner, J. (2006). Aligning capability with strategy: Categorizing projects to do the right projects and to do them right. *Project Management Journal,* 37, 38-50.

Abstract: Organizations that undertake many projects need to identify the types undertaken, and use labels to name them. These labels are attributes that form the basis of a project categorization system. There are two reasons why organizations need to categorize projects. The first is to develop and assign appropriate competencies to undertake projects successfully (do them right). The second is to prioritize projects within an investment portfolio to maximize return on investment (do the right projects). Prior research into project classification, the methodology adopted, and the model developed is described. Two major components of a project classification system, the purposes for classifying projects and the attributes used to classify them, are identified; as well as that attributes can be grouped into larger classes. There are also more complex, multidimensional systems for categorizing projects. Finally, how an organization can implement a categorization system is described.

Naughton, E. (2006). *Strategic project management – A competitive advantage*. Retrieved October 25, 2007, from http://www.webpronews.com/expertarticles/2006/05/25/strategic-project-management-a-competitive-advantage

Abstract: Recently, a number of the world's leading project management organizations have taken major initiatives to enlighten executive management about the strategic importance and benefits of project management. The focus is to move from individual project management to organizational project management, which these organizations maintain is a strategic advantage in a competitive economy. In this article, Ed Naughton, Director General of the Institute of Project Management and current IPMA Vice

President, asks Professor Sebastian Green, Dean of the Faculty of Commerce and Professor of Management and Marketing at University College Cork (formerly of the London Business School), about his views of strategic project management as a vehicle for competitive advantage.

Category 3: Implementing Strategic Project Management

Brown, C. (1999). Towards a strategy for project management implementation. *South African Journal of Business Management*, *30*, 33. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=2329313&loginpage=login.asp&site=ehost-live

Abstract: The basic tenet of this article is that the implementation of project management as a way of managing, in formerly functionally structured organizations, is a complex process requiring strategic management intervention. The three outstanding issues contributing to this complexity are expounded. These are the differing characteristics of the range of an organization's projects that must be provided for; the inherent characteristics of functional organizations inhibiting to a cross-functional approach, that need to be overcome; and the very necessary mind shift to the project management culture, that needs to be instilled. The ground rules for project management implementation are laid down by way of eight questions that must be answered on top management level. These revolve around a firm commitment to the replacement of old, seemingly well proven practices as well as around the implications and consequences for the organizations. The article then proceeds with proposing a framework for the process of project management implementation.

Dietrich, P., & Lehtonen, P. (2005). Successful management of strategic intentions through multiple projects – Reflections from empirical study. *International Journal of Project Management*, *23*, 386-391. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=18102201&loginpage=login.asp&site=ehost-live

Abstract: This article focuses on how to implement strategies successfully through projects. Based on the literature we propose measures for successful management of strategic intentions in a multi-project context. Empirical survey of 288 organizations is used to analyze practices that organizations use in managing development projects. Correlations between management practices and success measures are examined and the success factors determined. Several success factors are found related to both single and multiple project management. In addition, the linkage between strategy process and project management, as well as the availability of high-quality information are identified as success factors.

Green, S. (2005). *Strategic project management*. Retrieved from the Internet on November 10, 2007 from: http://www.projectscenter.com/projectmanagementsoftware/documents/strategicprojectmanagement.pdf

Abstract: Across the whole of management, there has been a trend to append the strategic label wherever possible and thereby transform the vin ordinaire of management into a grand cru (strategic) variety. So it is not surprising that the call is getting louder for the development of strategic project management (SPM). But what is the substance of this shift from the basic function to the enhanced model? What is signified by the addition of the word strategic to project management? And what exactly is SPM? Is it equivalent to PMI's (2003) OPM3 (project management maturity model) which, in the words of the PMI, bridges the gap between strategy and individual projects"? And how does SPM reflect developments within the strategic management paradigm from whence presumably, SPM draws its inspiration. In this paper we attempt to shed light on these questions while deriving a model of SPM based on both on strategic management and the experience of companies who have experienced superior performance through their project management practice.

Grundy, T. (1998). Strategy implementation and project management. *International Journal of Project Management*, 16, 43-50.

Abstract: To date, strategy implementation and project management have largely developed quite separately and independently. But there are many opportunities for cross-fertilization which are currently under-exploited both in theory and in practice. A number of tools from strategic management, value management and from organizational change can be imported into project management to enrich traditional techniques considerably. These tools are particularly powerful when applied to complex, multi-functional projects which are entailed when attempting to turn business strategy into implementation. These tools can also be imported into mainstream project management practice.

Jugdev, K., & Thomas, J. (2002). Project management maturity models: The silver bullets of competitive advantage?. *Project Management Journal*, *33*, 4. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=8603018&loginpage=Login.asp&site=ehost-live

Abstract: Assesses project management maturity models as a project management construct. Explains the importance of the models to the profession and the use of maturity models to create sustained competitive advantage.

Morris, P. & Jamieson, A. (2005). Moving from corporate strategy to project strategy. *Project Management Journal,* 36, 5-18.

Abstract: Much of the management writing around strategy tends to cover the practices at the corporate and business level; there is a dearth of writing about how corporate strategy gets implemented by projects and programs and translated into program or project strategies. This paper reviews evidence from four case studies together with questionnaire data from PMI Europe members, which shows that the processes, practices, and people issues involved in moving from corporate strategy to programs and projects is done in a much more systematic way than is generally recognized. The findings point to areas that future revisions of the PMBOK® Guide should be looking at.

Shenhar, A. (2004). Strategic project leadership®: Toward a strategic approach to project management. *R&D Management*, 34, 569-578.

Abstract: Strategic Project Leadership® (SPL)is a new approach to project management that is focusing projects on creating competitive advantage and winning in the marketplace. This approach is particularly relevant to strategic projects that are initiated to create the company's future, including almost all R&D projects. In the traditional approach, project managers and teams were typically focused on getting the job done, and meeting time and budget goals.SPL, provides a modern view. It suggests that projects are initiated for business reasons, and that just 'getting the job done' is not enough. This paper presents a mindset, a framework, and a practical, step-by-step approach on how to connect project management to business results and how to turn projects into powerful competitive weapons.

Thiry, M., & Deguire, M. (2007). Recent developments in project-based organizations. *International Journal of Project Management*, *25*, 649-658. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=26577061&loginpage=Login.asp&site=ehost-live

Abstract: Project-based organizations (PBO) refer to a variety of organizational forms that involve the creation of temporary systems for the performance of project tasks. It is the purpose of this paper to further investigate and understand how the widespread adoption of a project management approach within organizations has come to gradually influence their strategy and governance approaches. This paper concludes that an important aspect of PBOs is yet unexplored and lies in the development of a collaborative relationship between the fields of project and general management and the importance of developing a common language that fosters dialogue. It also emphasizes a two way relationship which recognizes that project management practice can and will influence organizational practices as well as the obvious reverse.

Wessels, D. (2007). *The emergence of strategic project management*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Abstract: Project management has emerged as a strong discipline practiced by highly trained, certified professional as organizations have come to realize they cannot stay in business if they cannot manage their projects. However, many companies are still limiting the application of project management to the tactical level. But, smart organizations also recognize project management is a critical strategic tool. They practice project portfolio management to select, manage and support a portfolio of projects that have the best chance of moving the enterprise forward, keeping it vibrant in the marketplace and returning maximum shareholder value. As departments and division compete for scarce financial and human resources, strategic project portfolio management provides the rational decision framework necessary to make the right project investment decisions that enable organizations to compete and win in the global economy.

Whitley, R. (2006).Project-based firms: New organizational form or variations on a theme? *Industrial and Corporate Change,* 15, 77-99.

Abstract: The increasing significance of project-based forms of organizing economic activities in many industries has stimulated considerable interest in project-based firms (PBFs) as distinctive kinds of economic actors that are seen by some as heralding a new logic of organizing. In particular, their fluid, temporary nature and membership of multiple networks, alliances, and partnerships have been construed as critical to the generation of radical innovations. However, PBFs differ considerably in a number of respects, notably the singularity of their goals and outputs and the distinctiveness and stability of work roles and task organization. At least four distinct ideal types of PBFs can be distinguished in these terms that can be expected to vary in their prevalence and importance across industrial sectors and in different kinds of societies because of differences in investor and employee commitment and coordination costs.

Review of the Literature

Introduction

The objective of the literature review is to examine studies that analyze how organizations can achieve sustainable competitive advantage through the alignment of strategic business objectives and project management strategy. The focus of the literature review is on the lack of alignment between business and project strategy, which Lanka & Martin (2007) believe is a significant contributor, if not the primary cause for, project failures. Focus is on the examination of several selected models of strategic project management, the role of project portfolio management and the strategic competencies and capabilities of an organization's internal assets and its impact on sustainable competitive advantage.

Summary of Research Problem

Current research (Cicmil & Hodgson, 2006) into project performance highlights the deficit between the maturing body of project management know-how and the effectiveness of its applications while "the development of project management knowledge remains unstable and fragmented" (p. 115). Additionally, Dvir and Shenhar (2007) note that "no central paradigm has emerged that is underlying the research and conceptualization of project management or is influencing the practice of project management" (p. 95). Cicmil & Hodgson (2006) indicate that the disjoint between the traditional, formal project management methodology and increasingly visible project management failures has led to an acknowledgement among some researchers that accepting and applying the traditional project management orthodoxy does not eliminate project failures, nor does it guarantee project success (p. 114). Despite the recent growth of project

management interest and research, several authors note the consistent failure of projects to meet business objectives, time and budget goals (Cicmil & Hodgson, 2006; Dvir & Shenhar, 2007; Söderlund, 2004).

Research Challenge

Although project management is considered an interdisciplinary field, only a limited number of interdisciplinary studies have been applied to project management (Dvir & Shenhar, 2007). The cross-disciplinary character of project management research coupled with a lack of solid, foundational concepts and analyses provides an opportunity to examine the current crisis of project management failure within the context of a *"strategic/business view"* (Dvir & Shenhar, 2007) that considers projects as "business-related activities that need to achieve the project's business results" (p. 96). As an alternative to exclusively examining the traditional project management body of literature, this literature review explores the research regarding project success and its impact on competitive advantage from the separate fields of project management and strategic management to gain insight into parallel theoretical and empirically established themes.

Literature Review Thematic Selections

Throughout this review of the literature, several significant themes that expand upon the traditional functional, normative view of project management (i.e., the *"Iron Triangle"* of "time", "quality" and "cost") are explored to: (1) understand the areas of opportunity within the strategic management and project management fields to address the current failures of projects and the general failings within the project management discipline; (2) identify potential areas for

further research to broaden the existing body of project management research. A summary of the various thematic perspectives examined in this study is presented in *Table 7*.

The purpose of this review of the literature is to:

1. Articulate the process for aligning business objectives and project strategy to attain project success and competitive advantage through an analysis of selected concepts and models from the strategic management and project management disciplines; and

2. Examine how strategic project management contributes to the alignment of business objectives with project strategy and an organization's overall competitive advantage through project portfolio management and the cultivation and management of organizational competencies, capabilities and project leadership.

Table 7: Literature Review Thematic Selections

Project Management Challenges	Theoretical Basis	Literature
Schedule delays, cost overruns, lack of quality assurance and customer satisfaction, project restarts, terminations	***Strategic alignment between business and project strategy***	Andersen, et al, 2006; Anderson & Merna, 2003; Artto et al, 2007; Baca et al, 2007; Boto, 2006; Brantley, 2007; Cabanis-Brewin & Pennypacker, 2006; Dietrich & Lehtonen, 2005; Dvir & Shenhar, 2007; Eidsmoe, 2000; Garfein, 2007; Graham & Longman, 2006; Grundy, 1997; Jamieson & Morris, 2004;Jamieson & Morris, 2005; Jugdev, 2006; Kenny, 2003; Lampel, 2001; Lanka & Martin, 2007; Leeman, 20020; Longman & Mullins, 2004; Milosevic & Srivannaboon, 2006; Patton & White, 2002; Shenhar, 2000; Shenhar, 2002; Söderlund, 2004; Srivannaboon, 2006; Stanleigh, 2006; Tharp, 2007; Winter, et al 2006
	Project management as a source of competitive advantage	Artto et al, 2007; Cleland, 1999; Dietrich & Lehtonen, 2005; Green, 2005; Jugdev, 2002; Jugdev, 2006; Jugdev & Thomas, 2002; Ives, 2005; Kenny, 2003; Kenny, 2006; Kloppenborg & Opfer, 2002; Lanka & Martin, 2007; Longman & Mullins, 2004; Milosevic & Srivannaboon, 2006; Patton & White, 2002; Shenhar, 2000; Van De Merwe, 2002; Wessels, 2007
	Strategic project management	Brown, 2006; Heerkens, 2007; Green, 2005; Grundy, 2000; Naughton, 2006; Stanleigh, 2006; Wessels, 2007
	Project-based organizations (organizational theory)	Artto et al, 2006; Aubry, et al 2007; Deguire & Thiry, 2007; Hobday, 2000; Kendra & Taplin, 2004; Milosevic & Srivannaboon, 2006; Muller & Turner, 2002; Shenhar, 2000;Van De Merwe, 2002; Whitley, 2006; Winter, et al 2006
	Organizational context (culture)	Artto et al, 2007; Henrie & Sousa-Poza, 2005; Ives, 2005; Kendra & Taplin, 2004; Milosevic & Srivannaboon, 2006; Morrison, et al 2006; Stanleigh, 2006; Winter, et al 2006
	Strategic role of project manager	Boto, 2006; Dvir, 2006; Graham, 2006; Green, 2005; Ives, 2005; Kendra & Taplin, 2004; Kenny, 2006; Morrison, et al 2006; Muller & Turner, 2005; Shenhar, 2000
	Project and portfolio management	Baca et al, 2007;Blichfeldt & Eskerod, 2007; Dietrich & Lehtonen, 2005; Eidsmoe, 2000; Garfein, 2007; Gartner & Groden, 2007; Ireland, 2004; Jamieson & Morris, 2004; Jamieson & Morris, 2004; Lanka & Martin, 2007; MacIntyre, 2006; Sklaver, 2007; Srivannaboon, 2006; Stanleigh, 2006
	Project management maturity	Andersen & Jessen, 2003; Artto et al, 2007; Arzymanow & Cooke-Davis, 2003; Crawford, 2006; Eidsmoe, 2000; Grant & Pennypacker, 2003; Ibbs & Kwak, 2000; Jamieson & Morris, 2004; Jugdev & Thomas, 2002; Kenny, 2006; Mullaly, 2006
	Project management office (PMO)	Aubry, et al 2007; Aubry & Hobbs, 2007; Boto, 2006; Eidsmoe, 2000; Hill, 2004; Letavec, 2007; Stanleigh, 2006; Thiry, 2007
	Capabilities, competencies and knowledge assets	Baca et al, 2007; Crawford, 2006; Crawford, Hobbs & Turner, 2006; Jugdev, 2006; Jamieson & Morris, 2004; Jugdev & Thomas, 2002; Patton & White, 2002; Winter, et al 2006; Whitley, 2006
Project Management Theory	***Fragmented and immature body of knowledge, inter-disciplinary research***	Artto et al, 2007; Cicmil & Hodgson, 2006; Dvir & Shenhar, 2007; Lampel, 2001; Milosevic & Srivannaboon, 2006; Söderlund, 2004;Winter, et al 2006

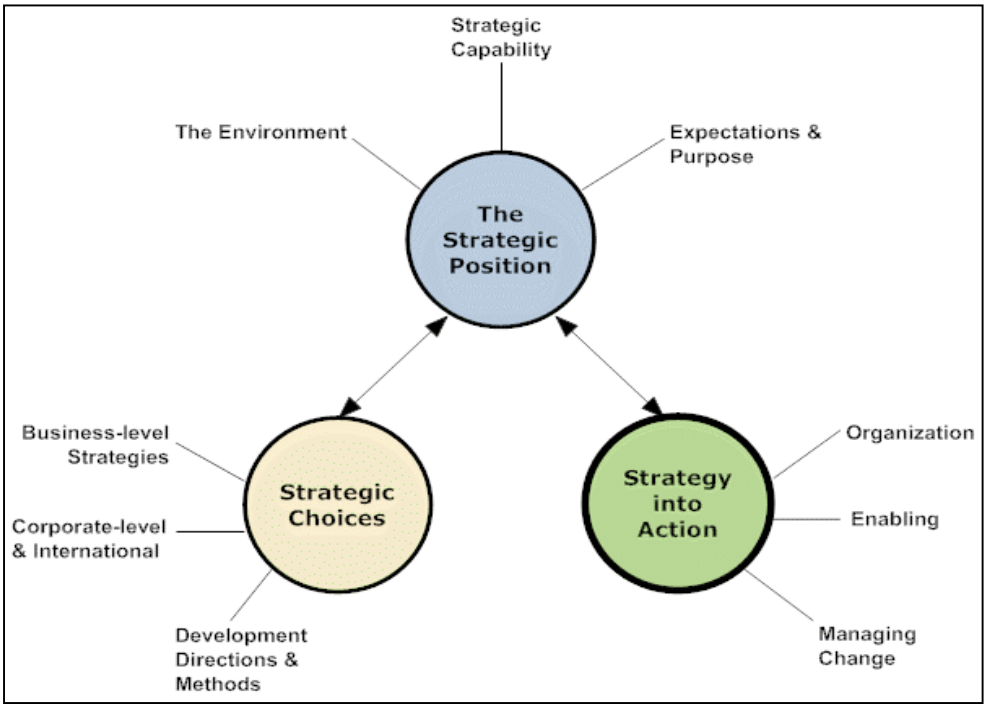
Aligning Strategic Business Objectives with Project Strategy

Strategic Management Overview

"Strategy" is defined by Patton & White (2002) as "a comprehensive set of actions or activities, which guide and direct the use of the firm's resources to accomplish the organization's vision and goals and enable sustainable competitive advantage" (p. 2). This study utilizes the definition of *"business-level strategy"* (or "business strategy") for the body of this review as "how organizations compete successfully in particular markets, specifically which products or services should be developed and how to realize advantage over competitors in order to achieve the objectives of the organization" (Johnson et al, 2005, p. 11).

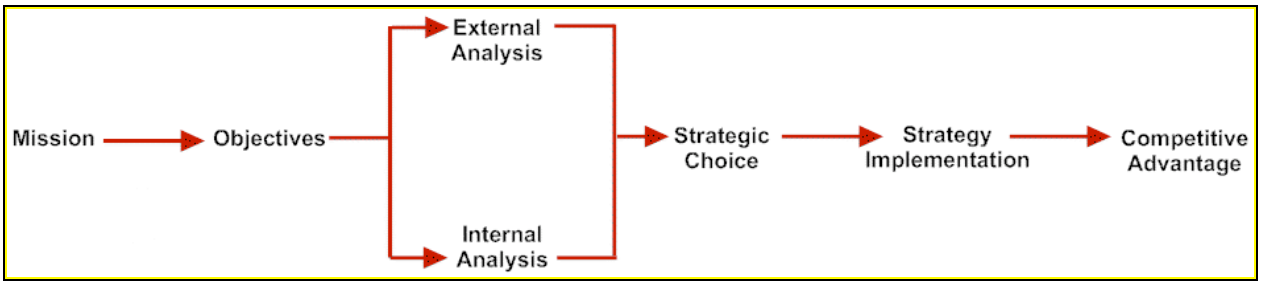
Van Der Merwe (2001) characterizes *"strategic management"* as a set of managerial decisions that determine the long-term performance of a company and includes strategy formulation, strategy implementation, evaluation and control (p. 403). According to Johnson et al (2005), *"strategic management"* is concerned with three main elements (see *Figure 1*) and includes "understanding the strategic position of an organization, strategic choices for the future and turning strategy into action" (p. 16). The primary element of this definition that underpins this literature review is the aspect of "turning strategy into action" via project management processes to operationalize strategic objectives and achieve competitive advantage.

Figure 0: Elements of the Strategic Management Model (Johnson et al, 2005)



Barney and Hesterly (2006) define the "*strategic management process*" as "a sequential set of analyses and choices that can increase the likelihood that a firm will choose a strategy that generates competitive advantage" (p. 5). An example of the strategic management process is presented in *Figure 2.*

Figure 1: The Strategic Management Process (Barney & Hesterly, 2006)



Project Management Overview

Projects are essential to the growth and survival of organizations (Cleland, 1999) and organizational strategic change is largely delivered through multiple, simultaneous projects (Patton & White, 2002). According to Milosevic and Srivannaboon (2006), "the essence of project management is to support the execution of an organization's competitive strategy to deliver a desired outcome" (p. 494). Resultantly, organizations that conduct complex strategic activities within a specific timeframe and require the commitment of significant resources will organize their activities into either projects or programs (Roney, 2004).

In this study, the term *"project"* is "a temporary endeavor undertaken to create a unique product, service, or result" (Project Management Institute, 2004, p. 4). Projects are a means to address and coordinate activities that cannot be addressed within an organization's operational limits and are often used to achieve an organization's strategic plan (Project Management Institute, 2004). *"Project management"* is defined as "management that supports the execution of an organization's competitive strategy to deliver a desired outcome (such as fast time-to-market, high-quality and low-cost products) as one of the key business processes that enable companies to implement value delivery systems" (Milosevic & Srivannaboon, 2006, p. 99). The term *"project strategy"* concerns "the project perspective, direction and guidelines on what to do and how to do it, to achieve the highest competitive advantage and the best project results" (Shenhar, 2004, p. 297).

Project Management in Perspective

Scaled back infrastructures and scarce resources has led to the evolution of project management from a methodology based on scheduling and budget constraints to a key business process that contributes to strategy realization (Andersen, et al, 2006; Anderson & Merna, 2003; Baca et al, 2007; Boto, 2006; Dietrich & Lehtonen, 2005; Graham & Longman, 2006; Jugdev, 2006; Kenny, 2003; Longman & Mullins, 2004; Milosevic & Srivannaboon, 2006; Patton & White, 2002; Shenhar, 2002; Srivannaboon, 2006; Stanleigh, 2006; Tharp, 2007).

Project management has transformed from a practice based on the standard time, cost, and quality performance metrics (Andersen, et al, 2006; Cicmil & Hodgson, 2006; Jugdev, 2006; Kenny, 2003; Milosevic & Srivannaboon, 2006) to a vehicle for executing organizational strategy (Cabanis-Brewin & Pennypacker, 2006). This evolution marks a conceptual shift away from the orthodox engineering view of project management to a more business and value-centric view wherein the primary concerns of the organization are implementing business strategy, improving organizational performance and increasing stakeholder benefits (Andersen, et al, 2006).

Several scholars suggest that project success should be considered in the context of the achievement of the strategic goals of the organization (Dietrich & Lehtonen, 2005; Kenny, 2006) and that when organizations link their projects to their business strategy, they are better able to accomplish their goals (Dietrich & Lehtonen, 2005; Longman & Mullins, 2004; Milosevic & Srivannaboon, 2006).

Current Crisis in Project Management

Kloppenborg and Opfer (2002) indicate that the discipline of project management is used as a key strategy to manage change in contemporary organizations. However, while projects are essential to the growth and survival of organizations, the greater the use of projects in accomplishing organizational purposes, the more reliant the organization is on the effective and efficient management of those projects (Cleland, 1999).

Recent studies show that corporations throughout the world are losing billions in wasted project spending and according to Stanleigh (2006), one of the biggest contributing factors to this waste is a severe lack of alignment between projects and corporate strategy. Literature regarding the efficacy of project management highlights the extreme failure rates in the IT sector (Stanleigh, 2006). For example, the results of *"The Chaos Survey"* (by The Standish Group), show that the overall success rate for IT projects is only 16.2%, while challenged projects account for 52.7%, and impaired (cancelled) projects is 31.1% (The Standish Group Report, 1995). This statistic has not effectively changed since 1995 (Stanleigh, 2006).

Implementing Strategy

Projects and Strategy Implementation

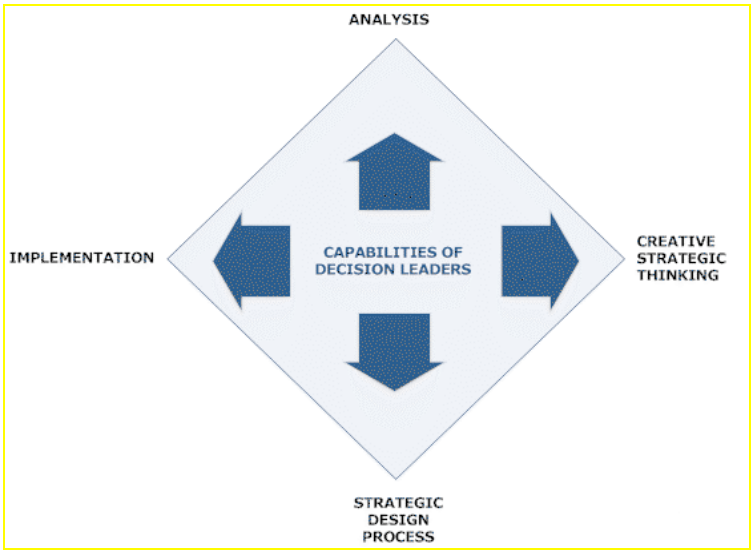
"Strategy implementation" occurs when a firm "adopts organizational policies and practices that are consistent with its strategy" (Barney & Hesterly, 2006). According to Johnson et al (2005), translating strategy into action ensures that strategies are working operationally and include the below characteristics:

1. *Structuring* an organization to support successful performance (including organizational structures, processes and relationships and the interaction between these elements); and

2. *Enabling* success through the way in which the various resource areas (people, information, Finance, IT, etc.) of an organization support strategies (p. 19).

These two aspects of strategy implementation comprise the second half of the review of literature which addresses the processes and critical integrative links for aligning business objectives with project strategy. *Figure 3* displays the five critical elements required for an organization to achieve strategic success and includes the notion of *strategy implementation* as one of the critical factors for strategic success. Hussey (1999) recognizes that strategy cannot be successful until it is implemented, and he suggests that the process is a combination of the "hard" and "soft" aspects of management.

Figure 2: Five Essentials for Strategic Success (Hussey, 1999)



Lamb (1984) argues that the most neglected imperative demanding management action is actually strategy implementation and that "an organization's ability to achieve global competitive advantage is directly tied to its success in implementing its chosen strategy" (p. 220). Further, he posits that companies that emerge as leaders in the global market are those that are able to successfully transform the complex elements of strategic planning into competitive advantage (p. 222). Research has shown that organizations that plan and implement their strategic plans generally perform better in the areas of sales growth, earnings growth, deposits growth, return on assets, return on equity, return on sales and return on total invested capital than those companies that do not (Heracleous, 2003, p. 76). Additionally, companies that engage in strategic planning and implementation for the longer term (as opposed to short-term forecasting or annual planning) deliver higher returns both relative to their industry and in absolute terms (p. 76).

Patton and White (2002) find that closing the integration gaps between strategic planning and implementation is essential to attaining and sustaining competitive advantage. As a result, implementation of a methodology that provides the processes and tools to achieve total alignment of the organization is critical towards achieving competitive advantage (Kenny, 2006). However, Jamieson & Morris (2005) note that the majority of traditional management research only covers the strategic management processes used when formulating and implementing strategy at the corporate level. Other authors find that there is a lack of scholarship addressing how business strategy is translated into projects (Anderson & Merna, 2003; Dietrich & Lehtonen, 2005; Grundy, 1997; Heracleous, 2003; Hussey, 1999; Jamieson & Morris, 2005; Milosevic & Srivannaboon, 2006; Roney, 2004), which indicates a deficit of research regarding

how corporate strategy is both translated and operationalized, particularly at the program or project level. Yet, according to Jamieson & Morris (2005), these two sets of business activities are interrelated as projects are important mechanisms for strategy execution in organizations. For example, Patton and White (2003) state that effective strategic management involves the process of "formulating strategies and then executing those strategies to create a sustainable competitive advantage" (p. 2). Thus, Grundy (1998) argues that strategic management should achieve a paradigm shift by "moving from a 90:10 concern to at least a 50:50 concern with each" (p. 43). Furthermore, Pettigrew, Thomas and Whittington (2002) indicate that the most promising approaches to the analysis of corporate strategy are those that investigate both the characteristics of the resources and capabilities that underlie corporate strategy and to the organizational structures and mechanisms that implement it (p. 92).

Failures in Strategy Implementation

Hussey (1999) notes that many organizations have a ". . . fundamental disconnect between the development and formulation of their strategy and the implementation of that strategy into useful action" (p. 245). Moreover, the sources of strategy failures are ultimately attributable to a failure in both the vision and logic of the strategy itself or in its implementation (Collis & Montgomery, 2005). Although there are many challenges to the successful execution of organizational strategies (see *Table 8* for a more comprehensive list of obstacles to strategy implementation) and reasons why strategy implementation can fail, the primary concern of this study is the failure of strategy implementation due to the inability of the business strategy to be translated into project strategy.

Table 8: Ten Reasons why Strategy Implementation Efforts Can Fail (Heracleous, 2003)

1.	The so-called "strategic plan" is nothing more than a collection of budgets and vague directions that

do not provide clear guidelines for action.

2. The strategy does not correspond to market realities because it has been developed by strategic planners with no grass roots input.

3. The strategy does not enjoy support from and commitment by the majority of employees and middle management because they do not feel consulted in the development of the strategy.

4. Middle management does not think the strategy is the right one, or does not feel it has the requisite skills to implement it, so it sabotages the implementation.

5. Insufficient top management time is spent on communicating about, selling the new strategic direction, and managing the organizational changes involved.

6. No provision is made for developing the new skills and competencies required by the employees successfully to make the transition and operate within the new strategic direction.

7. No provision is made for instituting the appropriate organizational systems for the selection, motivation and reward of people in accordance with the new strategy.

8. No provision is made for creating a close fit or coherence between the business-level strategy and the various functional-level strategies that can operationalize it.

9. There are factions in the organization which disagree with the strategy because if implemented it would reduce their power and influence, so they sabotage it by deliberate actions or inactions.

10. No attempt is made to analyze the culture of the organization and identify aspects which would be barriers and facilitators to change and manage change accordingly.

Concept of "Alignment"

Luftman (2003) defines the term *"alignment"* as "the purposeful creation of integrated environments that leverage human skills, business processes, organizational structures, technologies, competencies, and industry direction to transform the competitive position of the firm" (p. 382). He suggests that when these areas are in alignment, a company's ability to react to increasingly uncertain and dynamic markets is significantly enhanced "sometimes to the level of where companies can define entirely new markets or set the standard of excellence in their industry" (p. 382). He further describes *"alignment"* as "a consequence of sound processes, practices, and evolving human relationships that embrace mutual understandings of goals, values, culture and capabilities that leverage the development of strategies that can ultimately

coadapt to changing situations" (p. 383). Srivannaboon (2006) explains that literature research has examined the concept of alignment in various management areas (such as research and development, human resources and information technology) but since project management is similar to these functional strategies, it too should be aligned with an organization's business strategy (p. 89).

Deconstructing Competitive Advantage

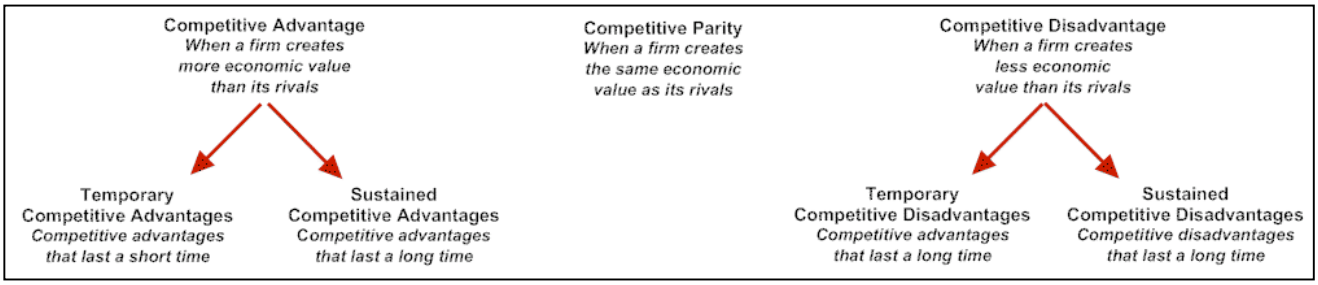
Overview of Competitive Advantage

In general, the definitions of "*business strategy"* focus on how to deal with competition by means of creating competitive advantages, which according to Srivannaboon (2006) are "advantages that provide organizations with the benefits that will sustain them when attracting customers and defending themselves against competitive forces" (p. 88). Porter (2007) defines the term *"competitive advantage"* as "a situation in which one company manages to dominate an industry for a sustained period of time" (Harmon, 2007, p. 3).

Barney and Hesterly (2006) state that the ultimate objective of the strategic management process is to enable a firm to select and implement a strategy that generates competitive advantage. Jugdev and Thomas (2002) maintain that a competitive advantage allows for market dominance or strategic advantage and involves a focus on the firm's internal assets (p. 5). Pettigrew et al (2002) suggest that an organization attains competitive advantage in a given market whenever it outperforms its competitors, and a competitive advantage may result from a lower cost of production, from the ability to provide a group of customers with higher perceived benefits, or from a combination of both (p. 55).

Jugdev and Thomas (2002) explain that organizations aim to avoid situations of *competitive convergence* (competing to do similar activities better than rivals) or *competitive parity* (where no one firm has a distinct advantage in the market) since this can lead to diminishing returns (p. 5). *Figure 4* demonstrates the above concepts of *competitive convergence* and *competitive parity* in addition to "*temporary"* and *"sustained"* competitive advantage. A *temporary competitive advantage* connotates a short, fleeting period of time and a *sustained competitive advantage* refers to a long-term period of market dominance (Barney & Hesterly, 2006, p. 13).

Figure 3: Types of Competitive Advantage (Barney & Hesterly, 2006)



Project Management as a Source of Competitive Advantage

The rapid pace of technological innovations and globalization in today's organizations is driving fundamental changes to the basis of competitive advantage and predictability of world markets (Ives, 2005). Today's dynamic business environment and global competition require the identification of new ways to turn projects into powerful, competitive weapons for strategic advantage (Shenhar, 2000). Ives (2005) notes that the increasingly complex and global business environment demands that organizations adopt a strategic response to prevent being leapfrogged by competitors. In addition, Wessels (2007) explains that as high-velocity change necessitates an

increasing number of projects that must be executed faster and with fewer resources, the demand for strategic applications of project management is high.

Jugdev (2006) posits that successful projects contribute to business performance, which can ultimately translate into improved chances of firm survival. Resultantly, in light of the high project failure rates and severe cost overruns, many organizations are adopting project management as part of their competitive advantage strategy (Jugdev, 2002). To improve the probability of project success, companies are recognizing project management as a key business process that enables them to implement value delivery systems so that when they link their projects to their business strategy, they are better able to accomplish their organizational goals (Milosevic & Srivannaboon, 2006). Additionally, Lanka & Martin (2007) stress that the mutual alignment of corporate, business, portfolio and project strategies (which aid organizations in determining which projects to delay, terminate or continue) will assist organizations in ensuring their long term viability and success.

Some authors indicate that project management is now recognized as both a critical and flexible management approach for implementing strategies and addressing change in the strategic direction of the organization (Kenny, 2003; Van De Merwe, 2002). It is also perceived as a powerful management approach for implementing business strategy (Ives, 2005) and regarded as a building block in the design and execution of future strategies of the organization (Dietrich and Lehtonen, 2005) Further, Boto (2006) posits that "competitive advantage is as much about execution as it is about strategy" (p. 2). From this perspective, project management is both an

enabler of competitive advantage and is itself a source of sustainable competitive advantage (Green, 2005).

Selected Strategic Project Management Models

This literature review examines four selected models that assist organizations in bridging the gap between organizational strategic objectives and project management strategy, also known as *"strategic project management"*. Grundy (2000) defines *"strategic project management"* as "the process of managing complex projects by combining business strategy and project management techniques in order to implement the business strategy and to deliver organizational breakthroughs" (p.95).

Model #1: Heerkens (2007)

Heerkens (2007) defines *"strategic project management"* as "a series of practices, procedures, processes, tools, and behaviors which, when considered collectively, characterize the extent to which an organization creates effective linkages between excellent project management practices and excellent business practices – all in the name of advancing the overall strategic objectives of the organization" (p.1). Since Heerkens' definition identifies the core elements that comprise the concept of strategic project management while advancing the relationship between project management and strategic business objectives, it is utilized as the context within which the selected models of alignment between business and project strategy are examined. Heerkens' (2007, p. 2) model of strategic project management is comprised of four main aspects of higher-level project management practices:

1. ***Strategic alignment of projects.*** This practice refers to the extent to which an organization ensures that the projects it pursues are directly tied to the organizational strategy.

2. ***Project portfolio management.*** This practice refers to the identification of a project investment categorization scheme to assist the organization with prioritizing projects. According to Rao (2007), project portfolio management forms one of the building blocks in relating projects to strategy and can be considered as a key driver for aligning projects or programs to organizational objectives (p. 3).

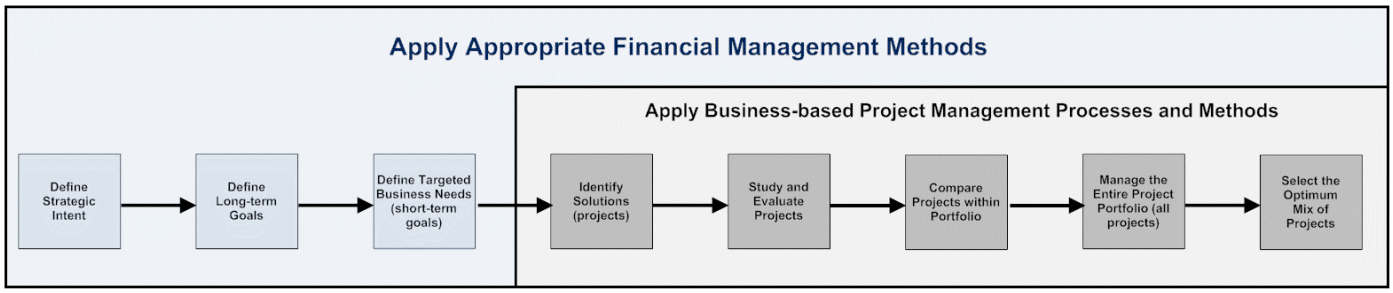
3. ***Program management.*** The Project Management Institute (2004) defines the concept of *"program management"* as "the centralized coordinated management of groups of projects to achieve the program's strategic objectives and benefits" (p. 16). Heerkens (2007) states that program management practices are inherent within the pursuit of strategic project management and are demonstrated as the management of groups of projects and the management of interactions between projects (portfolio coordination).

4. ***The business results of projects.*** Since projects are financial investments, organizations should estimate and measure project impacts on organizations from a business results perspective.

Within this model, Heerkens' strategic project management process starts with defining the strategic intent of an organization, and then moves through a series of five steps that require (a) the identification of an optimum solution for each targeted organizational business need (see *Figure 5*), (b) the comprehensive evaluation of each proposed project using a combination of

financial metrics (such as NPV, IRR, etc.) and non-financial metrics (such as stakeholder and customer satisfaction, degree of product innovation, etc.), (c) the prioritization of projects, (d) the determination of the project portfolio that the organization will pursue and finally, (e) the execution of the project portfolio by project managers (p. 3).

Figure 3: Strategic Project Management Process (Heerkens, 2007)



Model #2: Green (2005)

Green (2005) views *"strategic project management"* as "the management of projects in such a way as to develop competencies and capabilities, which contribute to the organization's sustainable competitive advantage" (p. 2). Several authors (Green, 2005; Wessels, 2007) identify project managers as strategic implementers and cross-functional project teams as strategic tools to convert strategy into execution. Green specifically identifies project management as a source of sustainable competitive advantage and underlying his model of strategic project management is the notion that "project management skills and leadership skills are scarce, firm specific and highly valuable" so that strategic project management "promotes them and the tacit knowledge which they engender" (p. 13). Green's model of strategic project management is based on the relationship between competitive advantage and strategic capabilities, which is known as the "resource-based view of strategy" – wherein the competitive advantage of an organization is explained by the distinctiveness of its capabilities (p. 116). The resource-based view of strategy

(RBV) assesses competitive advantage in the context of an organization's unique internal assets (Pettigrew, et al, 2002). According to Green, project managers contribute to competitive advantage due to their skills in managing relationships and an organizational willingness to foster these skills and leverage them throughout the organization, and learn from them how to manage people and relationships across organizational functions and boundaries (p. 3). In essence, Green's model of strategic project management is based on the constructs of competitive advantage, strategic capabilities and tacit knowledge management within the framework of the resource-based view of strategy.

Model #3: Wessels (2007)

Wessels (2007) explains that for strategic business objectives to actualize value, they must be converted into program initiatives and supporting projects (p. 19). He suggests that adopting strategic project management to select, manage and support multiple projects gives companies the best chance of moving the organization forward by keeping the company vibrant in the marketplace and returning maximum value for shareholders. Further, he identifies the following key characteristics of strategic project management:

1. Alignment of the following key business processes: strategic planning, strategic goal setting, and enterprise project management;

2. Functions as a well-managed portfolio of investments as it: (a) allows for the most effective use of constrained resources; (b) ensures a high return on investment since projects are managed collectively; (c) it maintains alignment between the projects and the organization's short, medium and long term goals (p. 6); and

3. A new management process embedded between strategic planning and project execution that manages project investments strategically and combines business planning and management with project management best practices (p.11).

In alignment with Green (2005), Wessels makes a distinction between the orthodox perception of project managers as implementers of solutions that were focused on budget, schedule and metrics to a major role transformation wherein project managers are perceived as key managers of strategy implementation and thus require "broad skills that encompass all aspects of business management" (p. 24). He further suggests that firms invest in developing their strategic project leaders by assisting in the development of their competencies and capabilities through formal and on-the-job- training, professional certifications i.e., PMP), mentoring, evaluation and competitive compensation methods and advancement opportunities (p. 25).

Model #4: Naughton (2006)

Naughton (2006) defines the term *"strategic project management"* as "the management of those projects which are of critical importance to enable the organization as a whole to have competitive advantage" (p.1). According to Naughton, there is a gap between aligning project management competencies to the selection of projects that will give organizations a competitive edge. Specifically, strategy is formulated at the senior management level and for it to be implemented, it should be broken down into discrete projects. Project management becomes a source of competitive advantage when an organization outperforms other companies through the experience and knowledge built up over time through managing projects. Also, project management yields competitive advantage through the actual selection and prioritization of projects that organizations engage in and secondly, through implementation and execution of the

projects. Furthermore, according to Naughton, project portfolio management is essential and the prioritization of projects should be based on competency building (rather than traditional financial analysis). Project portfolio selection depends on being able to link and prioritize projects according to an understanding of what the capability of an organization is relative to other firms (p. 1).

Comparative Discussion of the Four Selected Models

An examination of the strategic project management models presented by Heerkens (2007), Green (2005), Wessels (2007) and Naughton (2006) reveals several common, underlying determinants of competitive advantage (see *Table 9*). All four authors agree that the theory of strategic project management is based on alignment between organizational business strategy with project strategy and that project portfolio management is a critical and necessary requirement for the implementation of strategic project management. Further, three of the four authors (with the exception of Heerkens) include the core competencies and capabilities of an organization's internal assets as a significant component of strategic project management, with an emphasis on the strategic leadership and project management skills of project managers. In addition, Green, Wessels and Naughton surmise that the competitive advantage of an organization is based upon the scarcity, and unique qualities of their resources, which is in accordance with the resource-based view of strategy, which is examined in depth in the next section of the review of the literature.

The two main components of Heerken's concept of strategic project management that differ from Green, Wessels and Naughton are the practice of program management and the measurement of the business results of projects via financial metrics. In regards to program management, the

other authors do not specifically articulate the value of this practice in its relation to competitive advantage nor did they cite financial metrics to measure the ROI of projects as elements of strategic project management. Although these two aspects of Heerken's model are related to a higher-level, general categorization of project management processes and methodologies as determinants of competitive advantage, neither of these components is cited as having a direct impact on an organization's degree of competitive advantage.

Table 9: Strategic Management Models and their Determination on Competitive Advantage

Determinants of Competitive Advantage	**Strategic Project Management Models**			
	Heerkens	**Green**	**Wessels**	**Naughton**
Project strategy aligned with business strategy	☒	☒	☒	☒
Project portfolio management	☒	☒	☒	☒
Project management office (PMO)				
Program management	☒			
Competencies and capabilities of internal assets		☒	☒	☒
Project management skills and leadership	☒	☒	☒	☒
Project management processes and methodologies	☒	☒	☒	
Evaluation of core competencies against competition		☒	☒	☒
Business results, metrics and value	☒			
Organizational culture				
Scarce, valuable and firm-specific resources		☒	☒	☒

Implementing Strategic Project Management

According to the four selected strategic project management models described above, the two most significant aspects of strategic project management to consider during implementation that contribute to organizational competitive advantage are (1) the establishment of project portfolio management and (2) the cultivation and management of organizational competencies, capabilities and project leadership, summarized in the 'resource-based view' of strategy. These two aspects are examined in greater detail below.

Project Portfolio Management

Deguire and Thiry (2007) define the term *"project portfolio management"* (PPM) as "a management approach that aims to align project efforts with the corporate strategy and optimize the efficient use of resources throughout the organization" (p. 653). Garfein (2007) presents two types of portfolio management: "tactical" and "strategic". *"Tactical"* portfolio management "involves span of control supervision (similar to program management) but of unrelated projects" (p. 2) whereas *"strategic"* portfolio management is conducted at a much higher level within the organization where "those that are involved are deciding if the projects and programs selected for execution align with the organization's strategies [senior executives]" (p. 2). This study encompasses a review of *"strategic portfolio management"* as a foundational critical integrative link to strategic project management but utilizes the following definition of *"portfolio management"* provided by Wessels (2007): "Portfolio management is the centralized management of one or more portfolios, an approach to achieving strategic goals by selecting, prioritizing, assessing and managing projects, programs and other related work based upon their alignment and contribution to the organization's strategies and objectives" (p. 1).

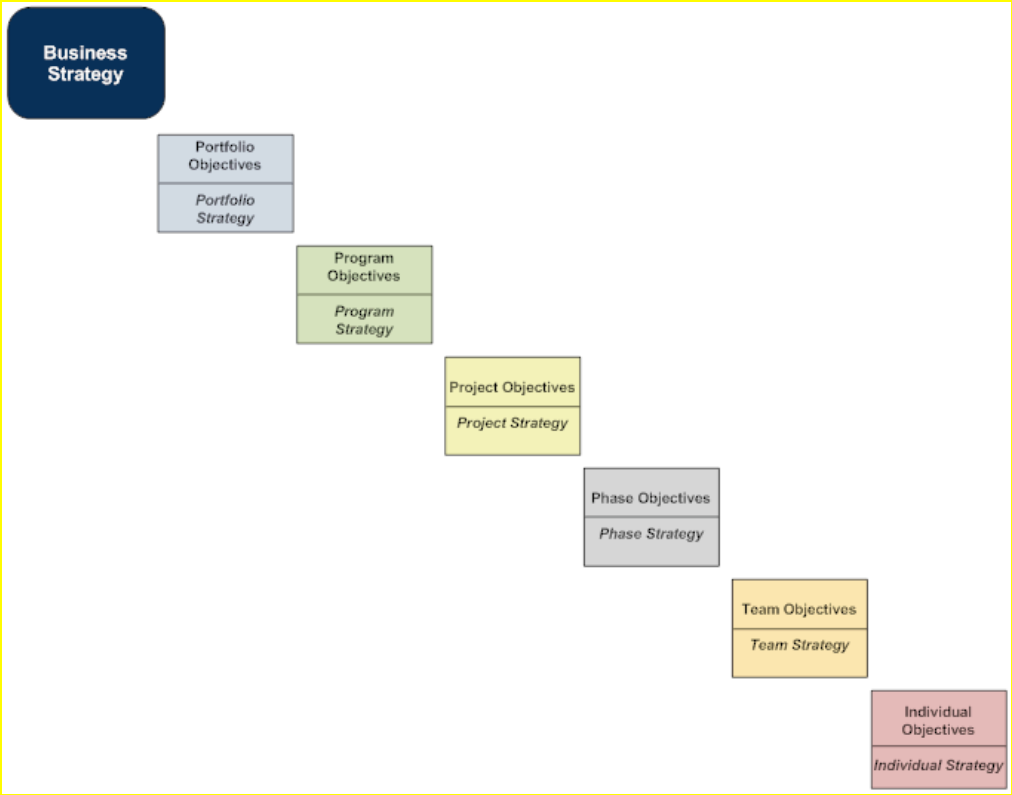
Lanka and Martin (2007) characterize PPM as a three-pronged continuous management process that assesses: (1) how projects are staffed, selected, managed and monitored across the enterprise; (2) the estimated and actual return on investments for projects within the portfolio; (3) the organization's resources to ensure that the appropriate skills, competencies and organizational structure are in place to deliver the projects; and (4) the frequent reassessment of the project portfolio to ensure that projects that are actually selected and funded support the overall business strategy throughout their entire lifecycle (p. 2). Jamieson and Morris (2004) propose a succinct description and differentiator of PPM from project management: "project portfolio management is predominantly about *choosing* the right project, whereas project management is about *doing* the project right" (p. 9). In other words, according to Boto (2006), "the focus of portfolio management is selecting the right projects, while project management's concern is executing the projects correctly" (p. 2). In summary, PPM is an iterative process and continuous cycle of project portfolio analysis, implementing project management of the projects, and linking projects to strategic goals and objectives (Eidsmoe, 2000, p. 45).

Project Portfolio Management Theory

Kerr (2008) describes "portfolio-based management" as an evolving best practice that organizations are employing to achieve sustainable world-class performance (p. 1) while Graham and Longman (2006) suggest that the systematic evaluation of projects facilitates the identification of projects that yield the greatest return on investment. Specifically, PPM is a methodology for analyzing an organization's entire slate of projects as though they are financial investments so that resources are allocated based on how much value a project brings to the business (p. 87). Further, ensuring that the strategy of the portfolio is always aligned with the corporate and business strategy is a key activity of portfolio management (Jamieson and

Morrison, 2004, p. 111). Some authors (Aubry et al, 2007; Cabanis-Brewin, 2006; Jamieson & Morrison, 2004) identify project portfolio as the primary interface with corporate strategy – strategy cascades down to portfolios, from portfolios down to programs and then from programs down to individual projects (see *Figure 6*).

Figure 4: Strategic Planning for Projects (Jamieson & Morris, 2004)



The purpose of project portfolio management (PPM) is to assist organizations in selecting the best projects to achieve its business goals (Muller & Turner, 2003) as there is always an abundance of projects that are handicapped by the assignment of limited resources to work on the projects (Tharp, 2007). For example, Heerkens (2007) points out that when resource

limitations are violated, the result is project delay, possible termination and a decrease in total project output (since higher volumes often translate into lower efficiencies).

According to MacIntyre (2006), a primary challenge facing organizations today is aligning projects with business strategy as only twenty-three percent of nearly one hundred fifty global executives considered their project portfolios completely aligned with the core business strategy (p. 32). Also, Stanleigh's (2006) research indicates that only thirty-two percent of firms indicate that they have a process for the prioritization of projects (p. 5), while Garfein (2007) notes that organizations typically only realize approximately sixty percent of their strategies' potential due to defects and breakdowns in planning and execution (p. 4).

Heerkens (2007) explains that the effective practice of strategic project management includes the realization that organizations cannot initiate and implement as many projects as they prefer since one of the most pervasive handicapping phenomenon in today's project environment is *resource overload* (p. 4). However, by implementing project portfolio management (PPM) as part of an overall strategic project management initiative, many organizations have improved project success rates by thirty-five percent (Dolan, 2006, p. 7). In addition to increasing project success rates, PPM is viewed by Patton and White (2002) as the "first missing link" in strategy implementation in the absence of an implementation process that is "focused on the portfolio of strategy-fulfilling projects" (p. 1). *Figure 7* demonstrates the concept of PPM, which is essentially how strategies and objectives are cascaded through portfolios, programs and projects to enable organizations to maintain strategic coherence across the different levels of portfolios,

programs and projects in addition to providing a mechanism for prioritizing and allocating resources and activities throughout the organization (Jamieson & Morris, 2004, p. 51).

Figure 5: Organizational Context of Project Portfolio Management (Wessels, 2007)

The Resource-based View: Strategic Project Leadership, Competencies and Capabilities

The successful translation of business strategy into project strategy involves not just creating and institutionalizing a PPM infrastructure but also integrating an extensive range of competencies and capabilities into the organizational context. Jamieson and Morris (2004) state that strategy moves from the business level to projects through extensively integrated company-wide processes and practices, deployed by highly skilled people. As a result, the purpose of this section of the literature review is to understand the relationship between project management competencies and capabilities within the role of the project manager, in relation to competitive

advantage. This is accomplished by examining the process for implementing strategic project management utilizing the *"resource-based view of strategy"* (Pettigrew, et al, 2002) as a conceptual framework within which to create alignment between organizational business strategies and projects.

Defining Competencies, Capabilities and the Role of Project Managers

Green (2005) views *"strategic project management"* as "the management of projects in such a way as to develop competencies and capabilities, which contribute to a firm's sustainable competitive advantage" (p. 2). Hamel and Prahalad (1990) define the term *"competencies"* as the collective learning in an organization, especially regarding how to coordinate diverse production skills and integrate multiple streams of technologies.

In contrast, Jamieson and Morris (2004) define the term *"capabilities"* as a company's skills at coordinating its resources and putting them to productive use. The need to align business strategy with project execution and implementation necessitates project management capability as paramount to an organization's ability to deliver its strategic intent (Crawford et al, 2006). Further, the implementation of strategy ultimately depends on individual organizational members (particularly project managers) so that aligning strategy with training, managing, measuring, rewarding and promoting people are key ingredients in effective strategy execution, as noted by Cabanis-Brewin (2006, p. 7).

Several authors (Green, 2005; Wessels, 2007) identify project managers as *strategic implementers* and cross-functional project teams as *strategic tools* to convert strategy into execution. Muller & Turner (2003) view the role of project manager as *chief executive* of the

project, as one responsible for "formulating objectives and strategy for the project, and through the purpose of the project, linking those objectives and strategy to the objectives and strategy of the parent organization" (p. 5). Also, Boto (2006) suggests that in today's turbulent business environment, project managers are viewed by senior management as strongly oriented to strategy execution and therefore an important part in strategy formulation.

Wessels (2007) makes a distinction between the orthodox perception of project managers as implementers of solutions that were focused on budget, schedule and metrics to a major role transformation wherein project managers are perceived as key managers of strategy implementation and thus require "broad skills that encompass all aspects of business management" (p. 24). Shenhar (2000) presents a model wherein project managers are seen as creating competitive advantage and winning in the marketplace called *"Strategic Project Leadership"*. In this model, project managers have evolved from the previous roles as described by Wessels (2007) to leaders responsible for the product vision, the project culture, the set of values, the right atmosphere and the social environment for motivating and encouraging the project team, in addition to supporting behavior that will enhance competitive advantage (p. 4). Shenhar's model introduces capabilities and competencies from the "soft" side of project management and shifts the traditional focus of project mangers from the operational to the strategic level of management (see *Table 10*).

Table 10: From Project Management to Strategic Project Leadership (Shenhar, 2000)

	Project Management	Strategic Project Leadership
Focus	Efficiency	Effectiveness and Efficiency
Perspective	Operational	Strategic, Operational, Human
Manager's Role	Getting the job done –on time, budget, specifications	Getting the business results Winning in the marketplace
Project Definition	Project Scope (SOW) What needs to be done?	Product, Competitive Advantage, Strategy, Scope
Planning	Activity, Schedule, Budget	End results, Success dimensions, Activities
Project Reviews	Progress, Status, Milestones, Budget	Customer needs, Strategy, Success dimensions, Status
Human Side	Teams, Conflict Resolution	Leadership, Vision, Spirit, Meaning, Motivation

Resource-based View of Strategy

According to Johnson (2005), organizations will achieve competitive advantage if they possess capabilities that other organizations lack or have difficulty obtaining. The concept of competitive advantage in terms of strategic capabilities is known as the "*resource-based view of strategy"* – wherein the competitive advantage of an organization is explained by the distinctiveness of its capabilities (Johnson, 2005, p. 116). The resource-based view of strategy (RBV) assesses competitive advantage in the context of an organization's unique internal assets (Pettigrew, et al, 2002).

Adopting a resource-based view of strategy to understand how strategic business objectives are operationalized through the implementation of project management requires an acknowledgement of the role of traditional project management methodologies and the impact of organizational project management capabilities as "strategic assets" (Jugdev & Thomas, 2002)

that can extend the competencies of the firm. Campbell and Faulkner (2003) define strategic assets as "a set of difficult to trade and imitate, scarce, appropriable, and specialized resources and capabilities that bestow a firm's competitive advantage" (p. 352). Further, according to Jugdev (2006), companies are including project management as part of their business strategy so that project management is viewed as "a bundle of unique knowledge-based assets" (p. 269) that can contribute to business performance and a firm's competitive advantage. For example, project teams can provide a central point where new knowledge, skills and attitudes are developed while stimulating a learning environment that enhances creativity in order to deliver complex products (Cicmil & Hodgson, 2006).

Intangible assets such as project management reside within an organization's knowledge base and are represented by its intellectual, organizational, and social capital (Jugdev & Thomas, 2002). Pettigrew et al (2002) introduce two types of organizational knowledge –"tacit" and "explicit" knowledge. These authors view "tacit" knowledge as "implicit knowledge that is difficult to articulate; however, it is learned only through observation and by actually doing it" (p. 140). In contrast, "explicit" knowledge refers to "codified knowledge that can easily be communicated or transferred" (p. 140). According to Jugdev (2006), the resource-based view of strategy is pertinent to project management since project management is a knowledge-based practice that emphasizes human and organizational assets based on explicit and tacit knowledge, skills and know-how (p. 272). Specifically, Jugdev outlines four criteria that assesses an organization's resources in terms of their ability to contribute to competitive advantage: *"Valuable", "Rare", "Inimitable", and "Organizational Focus"* (VRIO framework). Pettigrew et al (2002) state that tacit knowledge is the most strategic resource of firms – since it is difficult

to imitate and relatively immobile, it can constitute the basis of sustained competitive advantage. In alignment with Pettigrew et al (2002), Jugdev surmises that project management should be considered an intangible, tacit and strategic asset that contributes to competitive advantage and therefore "organizations should invest in the requisite practices to develop internal assets that are relevant to positioning project management strategically" (p. 269). Also, Green (2005) postulates that competitive advantage, strategic capabilities and tacit knowledge management should form the lens through which strategic project management is viewed; additionally, he recommends that organizations "create sustainable competitive advantage via project management through developing the scarce, inimitable, valuable and firm-specific resource of star project managers and the tacit knowledge they help to create" (p. 12). Finally, Wessels (2007) suggests that firms invest in developing their strategic project leaders by assisting in the development of their competencies and capabilities through formal and on-the-job- training, professional certifications i.e., PMP), mentoring, evaluation and competitive compensation methods and advancement opportunities (p. 25).

Conclusions

Today's rapidly evolving, global and dynamic business environment has created an organizational climate of uncertainty and dramatic complexity that demands attention to real and perceived competitive threats and forces which challenge the survival of modern companies. Projects are considered appropriate mechanisms to control endeavors in turbulent environments but perhaps more importantly, they are considered as the appropriate way to stimulate a learning environment and enhance creativity in order to produce and deliver complex products (Cicmil & Hodgson, 2006, p. 113).

Organizations depend upon initiating and executing projects that are derived from and aligned with corporate strategy and that ultimately create the projects and project strategies that produce the required strategic objectives (Anderson & Merna, 2005). Understanding how strategic business objectives are cascaded down to the project and program level and successfully implemented is critical for competitive positioning and high-performing organizations.

Unfortunately, project management as a discipline and practice has suffered numerous and continued failings and most notably lacks sufficient empirical research and theoretical foundations of alignment (Milosevic & Srivannaboon, 2006; Stanleigh, 2006). As an alternative to exclusively examining the traditional project management body of literature, this literature review explores the research regarding project success and its impact on competitive advantage from the separate fields of project management and strategic management to gain insight into parallel theoretical and empirically established themes.

This literature review examines studies that provide insight into the key project management elements that facilitate the attainment of sustainable competitive advantage by specifically examining the translation of business strategy to project strategy using strategic project management. This review of the literature presents an examination of four selected strategic project management models – each one proposing a way to align business objectives with project strategy in support of overall competitive advantage through project portfolio management and the cultivation and management of organizational competencies, capabilities and project leadership within the context of the *'resource-based view' of strategy.* The focus of this review is on the lack of alignment between business and project strategy, which Lanka & Martin (2007) believe is a significant contributor, if not the primary cause for, project failures. The goal is to determine how organizations can achieve sustainable competitive advantage through the alignment of strategic business objectives and project management.

Theory of Strategic Project Management

Heerkens (2007) defines *"strategic project management"* as "a series of practices, procedures, processes, tools, and behaviors which, when considered collectively, characterize the extent to which an organization creates effective linkages between excellent project management practices and excellent business practices – all in the name of advancing the overall strategic objectives of the organization" (p.1). The theory of strategic project management is presented as the alignment of projects, processes and resources with strategic business objectives (the traditional tactical and operational view); however, this study also expands the current field of research by demonstrating how the adoption of strategic project management methodologies contributes to sustainable competitive advantage (Green, 2005). Four models that describe strategic project

management are examined as a way to improve and extend the collective discussion in the literature. Models include those presented by Heerkens (2007), Green (2005), Wessels (2007) and Naughton (2006) and an examination of these four models reveals several common, underlying determinants of competitive advantage (see *Table 9*). All four authors agree that the theory of strategic project management is based on alignment between organizational business strategy with project strategy and that project portfolio management is a critical and necessary requirement for the implementation of strategic project management. Further, three of the four authors (with the exception of Heerkens) include the core competencies and capabilities of an organization's internal assets as a significant component of strategic project management, with an emphasis on the strategic leadership and project management skills of project managers. In addition, Green, Wessels and Naughton surmise that the competitive advantage of an organization is based upon the scarcity, and unique qualities of their resources, which is in accordance with the resource-based view of strategy, which according to Pettigrew et al (2002), emphasizes firm-specific resources as the fundamental determinants of competitive advantage and performance (p. 55).

Implementing Strategic Project Management

According to Patton and White (2002), rapid implementations of strategic plans require *"critical integrative links"* (CILs) to "transform the broad plan [strategic] into specific integrated action steps and to establish processes that enable the high-velocity strategic implementation needed for a sustainable competitive advantage" (p. 2). These authors suggest that strategies be driven down to the operational levels of the organization where they can quickly evolve into a large number of projects; these projects that are derived from the high level strategic plan are the various specific

cross-organizational changes that are necessary to implement the strategies, goals and vision of the strategic plan (p. 3). Two foundational CILs are listed below that assist organizations with formally defining, articulating, managing and aligning project strategy with business strategy (Shenhar, 2000). These CILs serve to bridge the gap between strategic planning and implementation while ensuring that linkages between the strategic direction of the organization and its execution via projects are tightly integrated (Patton & White, 2002):

- CIL #1: Adopting project portfolio management to maximize the value of the total collection of an organization's projects and programs to ensure that projects and programs selected for execution align with the business-level strategies (Garfein, 2007); and

- CIL #2: Developing strategic project leadership (Patton & White, 2002) via project management competencies and capabilities that contribute to an organization's sustainable competitive advantage (Hamel & Prahalad, 1990; Green, 2005).

Additional authors cited in the review of literature provide theoretical support for implementing the concept of strategic project management by aligning projects within the organizational project portfolio to business strategy. The process incorporates the development and cultivation of appropriate skills, capabilities and competencies to undertake projects and execute them successfully to achieve the required business objectives. When viewed collectively, the authors selected for use in this study present a larger construct for strategic project management that is based on a methodology of aligning projects with business-level strategic plans, which includes:

- Communicating the strategy throughout the organization and cascading it through lower-level strategies involving initiatives that align the culture, policies and measures with the strategy (Jamieson & Morris, 2005);

- Analyzing the possible value of each potential project, based on an assessment of alignment to the corporation's goals and objectives (Garfein, 2007);

- Implementing projects at various levels of the organization that reflect the vision of the strategy (Brache, 2002).

Project Portfolio Management

According to MacIntyre (2006), a primary challenge facing organizations today is aligning projects with business strategy as only twenty-three percent of nearly one hundred fifty global executives considered their project portfolios completely aligned with the core business strategy (p. 32). Also, Stanleigh's (2006) research indicates that only thirty-two percent of firms indicate that they have a process for the prioritization of projects (p. 5), while Garfein (2007) notes that organizations typically only realize approximately sixty percent of their strategies' potential due to defects and breakdowns in planning and execution (p. 4). However, by implementing project portfolio management (PPM) as part of an overall strategic project management initiative, many organizations have improved project success rates by thirty-five percent (Dolan, 2006, p. 7).

In addition to increasing project success rates, PPM is viewed by Patton and White (2002) as the "first missing link" in strategy implementation in the absence of an implementation process that is "focused on the portfolio of strategy-fulfilling projects" (p. 1). PPM is an iterative process and continuous cycle of project portfolio analysis, implementing project management of the projects,

and linking projects to strategic goals and objectives (Eidsmoe, 2000, p. 45). Specifically, PPM is a methodology for analyzing an organization's entire slate of projects as though they are financial investments so that resources are allocated based on how much value a project brings to the business (p. 87). Further, ensuring that the strategy of the portfolio is always aligned with the corporate and business strategy is a key activity of portfolio management (Jamieson and Morrison, 2004, p. 111). Some authors (Aubry et al, 2007; Cabanis-Brewin, 2006; Jamieson & Morrison, 2004) identify project portfolio as the primary interface with corporate strategy – strategy cascades down to portfolios, from portfolios down to programs and then from programs down to individual projects.

Strategic Project Leadership, Competencies and Capabilities

The successful translation of business strategy into project strategy involves not just creating and institutionalizing a PPM infrastructure but also integrating an extensive range of competencies and capabilities into the organizational context. Jamieson and Morris (2004) state that strategy moves from the business level to projects through extensively integrated company-wide processes and practices, deployed by highly skilled people. As a result, the review of the literature analyzes the relationship between project management competencies and capabilities to competitive advantage by examining the process for implementing strategic project management utilizing strategic management's *"resource-based view of strategy"* as a CIL for creating alignment between organizational business strategies and projects. The resource-based view of strategy (RBV) assesses competitive advantage in the context of an organization's unique internal assets (Pettigrew, et al, 2002).

Adopting a resource-based view of strategy to understand how strategic business objectives are operationalized through the implementation of project management requires an acknowledgement of the role of traditional project management methodologies and the impact of organizational project management capabilities as "strategic assets" (Jugdev & Thomas, 2002) that can extend the competencies of the firm. In alignment with Pettigrew et al (2002), Jugdev surmises that project management should be considered an intangible, tacit and strategic asset that contributes to competitive advantage and therefore "organizations should invest in the requisite practices to develop internal assets that are relevant to positioning project management strategically" (p. 269).

Several authors (Green, 2005; Wessels, 2007) identify project managers as *strategic implementers* and cross-functional project teams as *strategic tools* to convert strategy into execution. Muller & Turner (2003) view the role of project manager as *chief executive* of the project, as one responsible for "formulating objectives and strategy for the project, and through the purpose of the project, linking those objectives and strategy to the objectives and strategy of the parent organization" (p. 5). Also, Green (2005) postulates that competitive advantage, strategic capabilities and tacit knowledge management should form the lens through which strategic project management is viewed; additionally, he recommends that organizations "create sustainable competitive advantage via project management through developing the scarce, inimitable, valuable and firm-specific resource of star project managers and the tacit knowledge they help to create" (p. 12).

The review of literature demonstrates the significance of project management to the realization of competitive advantage through the actualization of business objectives. However, it is important to emphasize the dynamic nature of project strategy over the course of the project lifecycle and continually assess and reassess projects in light of new project developments and changes in the external business environment (Arrto et al, 2007, p. 5). In general, continuous improvement in terms of organizational learning is crucial for sustaining competitive advantage. Specifically, once an organization invests in project portfolio management and the development of organizational project management capabilities, it is necessary that it continues its strategic investment in enhancing capabilities and activities that lead to competitive advantage so that it can ultimately sustain that advantage (Naughton, 2006). As Luftman (2003) states "strategic alignment is a continuous, dynamic, complex process that takes time to develop and even more effort to sustain. Companies that have achieved alignment can facilitate building a strategic competitive advantage that will provide them with increased visibility, efficiency, and profitability to compete in today's changing markets" (p. 393).

References

Andersen, E. & Jessen, S. (2007). Project maturity in organizations. *International Journal of Project Management*, 21, 457-461. Retrieved November 10, 2007, from ScienceDirect database. http://www.sciencedirect.com/science/article/B6V9V-488VXN4-G/2/5ba4064f7943a1ac88f59e90c60b80e0

Anderson, D. & Merna, A. (2005). Project management is a capital investment process. *Journal of Management in Engineering*, 21, 173-178.

Artto, K., Hensman, N., Jaafari, A., Kujala, J., & Martinsuo, M. (2006). Project-based management as an organizational innovation: Drivers, changes, and benefits of adopting project-based management. *Project Management Journal,* 37, 87-97.

Arrto, K. , Dietrich, P., Kujala, K. & Martinsuo, M. (2007). What is project strategy? *International Journal of Project Management*, XX, XX.

Aubrey, M., Hobbs, B. & Thullier, T. (2007). Organizational project management: An historical approach to the study of PMOs. *International Journal of Project Management*, X, XX. In press, retrieved November 10, 2007 from ScienceDirect database: http://www.sciencedirect.com/science/article/B6V9V-4R1NNJK-1/2/0af6f9d1d936aaacd230bdbbc2f907a7

Aubry, M., Hobbs, B., & Thuillier, D. (2007). A new framework for understanding organizational project management through the PMO. *International Journal of Project Management*, *25*, 328-336. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=24711284&site=ehost-live

Aubrey, M. & Hobbs, B. (2007). Program investigating project management offices (PMOs): The results of phase 1. *Project Management Journal*, 38, 74-86.

Aubrey, M. & Hobbs, B. (2007). *The PMO: The untamed beast*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Baca, C., Bull, L. Cooke-Davies, T. & Porskrog, S. (2007). *OPM3® – The path to organizational achievement of strategic business improvement*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Brache, A. (2002). *How organizations work: Taking a holistic approach to enterprise health*. New York: John Wiley & Sons, Inc.

Brantley, W. (2007). *Justifying the value of pm deployment in your organization through an ROI impact study*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Brown, G. (2003). *Strategic project management*. Retrieved October 30, 2007, from http://www.1000ventures.com/business_guide/spm.html

Brown, C., Morrison, J. & and Smit, M. (2006). A supportive organizational culture for project management in matrix organizations: A theoretical perspective. *South African Business Journal*, 37, 39-54.

Brown, C. (1999). Towards a strategy for project management implementation. *South African Journal of Business Management*, *30*, 33. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=2329313&loginpage=login.asp&site=ehost-live

Burn, M., Galliers ,R. , Louis, C. & Powell, P. (1998) *Successful management of information technology: a strategic alignment perspective*. Paper presented at the 31st Annual Hawaii International Conference on System Sciences.

Cabanis-Brewin, J. & Pennypacker, J. (2006). *Best practices for aligning projects to corporate strategy*. Paper presented at the annual North American meeting of the Project Management Institute, Seattle, WA.

Campbell, A. & Faulkner, D. (2003). *The Oxford handbook of strategy*. Oxford, UK: Oxford University Press.

Chiasson, M., Hilgers, L., Javidan, M. & Marcolin, B. (2004). *Strategic IS alignment: The necessity for a hybrid framework linking shared vision, leadership, and change management and diffusion theory*. Paper presented at the 37th Annual Hawaii International Conference on System Sciences.

Cicmil, S. & Hodgson, D. (2006). New possibilities for project management theory: A critical engagement. *Project Management Journal,* 37, 111-122.

Clark, B. (2007). *Bridging OPM3® and CMMI® - A case study*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Cleland, D. (1999). *Project management: Strategic design and implementation*. NY: McGraw-Hill.

Crawford, L. (2006). Developing organizational project management capability: Theory and practice. *Project Management Journal,* 37, 74-86.

Crawford, J. (2006). The project management maturity model. *Information Systems Management*, *23*, 50-58. Retrieved November 10, 2007, from Military & Government Collection database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=mth&AN=22291667&site=ehost-live

Cooper, H. (1998). *Synthesizing research: A guide for literature reviews*. Thousand Oaks, CA: SAGE Publications, Inc.

Dalcher, D. (2005). Breakthrough IT change management: How to get enduring change results. *Project Management Journal,* 36, 62.

Dalcher, D. (2005). IT project portfolio management. *Project Management Journal,* 36, 65.

Deguire, M. & M.Thiry (2007). Recent developments in project-based organizations. *International Journal of Project Management*, *25*, 649-658. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=26577061&loginpage=login.asp&site=ehost-live

Dietrich, P., & Lehtonen, P. (2005). Successful management of strategic intentions through multiple projects – Reflections from empirical study. *International Journal of Project Management*, *23*, 386-391. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=18102201&loginpage=login.asp&site=ehost-live

Dvir, D. & Shenhar, A. (2007). Project management research: The challenge and opportunity. *Project Management Journal,* 38, 93-99.

Eidsmoe, N. (2000). The strategic program management office. *PM Network*, 39-45.

Ellis, T. & Levy, Y. (2006). A systems approach to conduct and effective literature review in support of Information Systems research. *Informing Science*, 9, 181-212.

Englund, R., & Graham, R. (1999). From Experience: Linking Projects to Strategy. *Journal of Product Innovation Management*, *16*, 52-64. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=11941534&loginpage=login.asp&site=ehost-live

Garfein, S. (2007). *Executive guide to strategic portfolio management: Roadmap for closing the gap between strategy and results*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Graham, A., & Longman, A. (2006). Projects that work. *USA Today Magazine*, 135, 74-76. Retrieved November 10, 2007, from Academic Search Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=aph&AN=22189029&site=ehost-live

Green, S. (2005). *Strategic project management*. Retrieved from the Internet on November 10, 2007 from: http://www.projectscenter.com/projectmanagementsoftware/documents/strategicprojectmanagement.pdf

Grundy, T. (1998). Strategy implementation and project management. *International Journal of Project Management*, 16, 43-50.

Grundy, T. (2000). Strategic project management and strategic behavior. *International Journal of Project Management*, 18, 93-103.

Guynes, C., Kroon, V. & Peak, D. (2005). Information technology alignment planning—a case study. *Information & Management*, 42, 635 – 649.

Hamel, G. & Prahalad, C. (1990). The core competence of the corporation. *Harvard Business Review, 68, 79-91.*

Harmon, P. (2007*). Once more: Porter on competitive advantage*. Retrieved October 27, 2007, from: http://www.bptrends.com/publicationfiles/advisor20070130.pdf

Heerkens, G. (2007). *Introducing the revolutionary strategic project management maturity model (SPM3)*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Henrie, M. & Sousa-Poza, A. (2005). Project management: A cultural literary review. *Project Management Journal,* 36, 5-14.

Heracleous, L. (2003). *Strategy and organization: Realizing strategic management.* Cambridge: University Press.

Hewitt, M. (2002). Carrying out a literature review. *Trent Focus Group*, 1-4.

Hildebrand, C. (2007). Full speed ahead. *PM Network*, 21, 56-60.

Hilsen, B. (1996). Beginners guide to the research proposal. Retrieved Dec. 5, 2007 from: http://www.ucalgary.ca/md/CAH/research/res_frm1.htm

Hobbs, B., Crawford, L., Tuner, J. (2006). Aligning capability with strategy: Categorizing projects to do the right projects and to do them right. *Project Management Journal,* 37, 38-50.

Hobday, M. (2000). The project-based organization: An ideal form for managing complex products and systems? *Research Policy*, 29, 871-893.

Hussey, D. (1999). *Strategy and planning: A manager's guide.* New York, NY: John Wiley & Sons, inc.

Ibbs, C. (2000). Assessing project management maturity. *Project Management Journal*, *31*, 32. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=2856459&loginpage=Login.asp&site=ehost-live

Ireland, L. (2004). *Enterprise project management – A strategic view*. Retrieved October 24, 2007, from http://www.asapm.org/resources/a_epm_ireland.pdf

Ives, M. (2005). Identifying the contextual elements of project management within organizations and their impact on project success. *Project Management Journal,* 36, 37-50.

Johnson, G., Scholes, K. & Whittington, R. (2005). *Exploring corporate strategy*. Essex, England: Pearson Education, Ltd.

Jiang, J, & Klein, G. (1997). Project selection criteria by strategic orientation. *Information & Management*, 36, 63-75.

Jugdev, R. (2006). Project management: A strategic asset? Retrieved from the Internet on November 26, 2007 from: https://dspace.ucalgary.ca/bitstream/1880/44255/1/2006%20Project%20management%20-%20Strategic%20asset%20AMA%20Handbook.pdf

Jugdev, K. (2004). Through the looking glass: Examining theory development in project management with the resource-based view lens. *Project Management Journal,* 35, 15-26.

Jugdev, K., & Thomas, J. (2002). Project management maturity models: The silver bullets of competitive advantage?. *Project Management Journal*, *33*, 4. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=8603018&loginpage=Login.asp&site=ehost-live

Kendra, K. & Taplin, L. (2004). Project success: A cultural framework. *Project Management Journal,* 35, 30-45.

Kenny, C. (2006*). Linking corporate strategy to project management*. Paper presented at the annual Latin American meeting of the Project Management Institute, Santiago, Chile.

Kloppenborg, T., & Opfer, W. (2002). The current state of project management research: Trends, interpretations, and predictions. *Project Management Journal*, *33*, 5. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=6770755&loginpage=Login.asp&site=ehost-live

Lamb, R. (1984). *Competitive strategic management.* Englewood Cliffs, NJ: Prentice Hall, Inc.

Lampel, J. (2001). Towards a holistic approach to strategic project management. *International Journal of Project Management*, 19, 433-435.

Lanka, M. & Martin, M. (2007). *Strategically aligning your project portfolios: Introducing a new paradigm in project portfolio management*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Leedy, P. & Ormrod, J. (2005). *Practical research: Planning and design*. Upper River Saddle, NJ: Pearson Education, Inc.

Leeman, T. (2002). Managing the chaos of change. *Journal of Business Strategy*, 23, 11-15.

Letavec, C. (2007). *Establishing the PMO value proposition*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Longman, A. & Mullins, J. (2004). Project management: Key tool for implementing business strategy. *Journal of Business Strategy*, 25, 54-60.

Luftman, J. (2004). *Managing the information technology resource: Leadership in the information age*. New Jersey: Pearson Education, Inc.

Luftman, J. (2003). *Competing in the information age*. New York, NY: Oxford University Press, Inc.

Lyons, K. (2005). How to write a literature review. Retrieved from the Internet on October 23, 2007 from: http://library.ucsc.edu/ref/howto/literaturereview.html

MacIntyre, J. (2006). The right fit: Executives should enlist project managers as powerful allies when aligning projects with strategy. *PM Network*, 20, 30-35.

Milosevic, D. & Srivannaboon, S. (2006). A two-way influence between business strategy and project management. *International Journal of Project Management*, *24*, 493-505. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=21830179&loginpage=login.asp&site=ehost-live

Milosevic, D. & Srivannaboon, S. (2006). A theoretical framework for aligning project management with business strategy. *Project Management Journal,* 37, 98-110.

Morris, P. & Jamieson, A. (2004). *Translating corporate strategy into project strategy: Realizing corporate strategy through project management*. Newton Square, PA: Project Management Institute, Inc.

Morris, P. & Jamieson, A. (2005).Moving from corporate strategy to project strategy. *Project Management Journal,* 36, 5-18.

Mullaly, M. (2006). Longitudinal analysis of project management maturity. *Project Management Journal,* 36, 62-73.

Muller, R. & Turner, R. (2003). On the nature of the project as a temporary organization. *International Journal of Project Management*, 21, 1-8. Retrieved November 10, 2007 from the ScienceDirect database: http://www.sciencedirect.com/science/article/B6V9V-45FYY53-1/2/aa60a7c08f7b62578fd4728292f65250

Naughton, E. (2006). *Strategic project management – A competitive advantage*. Retrieved October 25, 2007, from http://www.webpronews.com/expertarticles/2006/05/25/strategic-project-management-a-competitive-advantage

Nelson, W. (2002). The perfect balance for a project portfolio. *Baseline*, 13, 87.

Obenziner, H. (2005). *What can a literature review do for me? How to research, write, and survive a literature review*. Retrieved from the Internet on October 23, 2007 from: http://128.223.17.107/aim/Capstone07/LiteratureReviewHandout.pdf

Oliver, R. (2002). Instinctive strategy: Organic organizations rule. Journal of Business Strategy, 32, 7-10.

Olson, J. & Branch, K. *Teams and project- and program-based organizations*. Retrieved from the World Wide Web on October 30, 2007: http://www.au.af.mil/au/awc/awcgate/doe/benchmark/ch08.pdf#search=%22project%20based%20organization%22

Patton, J. & White, D. (2002). *Closing the strategic vision/implementation gap*. Proceedings of the Project Management Institute Annual Seminars and Symposium, San Antonio, TX.

Pennypacker, J., & Grant, K. (2003). Project management maturity: an industry benchmark. *Project Management Journal*, *34*, 4. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=9302698&loginpage=Login.asp&site=ehost-live

Pettigrew, A., Thomas, H & R. Whittington. (2002). *Handbook of strategy and management*. London: Sage Publications.

Project Management Institute (2004). *A guide to the project management body of knowledge (PMBK Guide)*. Newton Square: PA.

Roney, C. (2004). *Strategic management methodology*. Westport, CT: Praeger Publishers.

Sauer, C. & Willcocks, L. (2004). *Strategic alignment revisited: Connecting organizational architecture and IT infrastructure*. Paper presented at the 31st Annual Hawaii International Conference on System Sciences.

Shenhar, A. (2004). Strategic project leadership®: Toward a strategic approach to project management. *R&D Management*, 34, 569-578.

Sherer, S. (2004). *IS project selection: The role of strategic vision and it governance*. Paper presented at the 37th annual Hawaii International Conference on System Sciences.

Sklaver, R. (2007). *Driving adoption of your project portfolio management system*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Söderlund, J. (2004). Building theories of project management: Past research, questions for the future. *International Journal of Project Management*, 22, 183-191.

Söderlund, J. (2004). On the broadening scope of the research on projects: a review and a model for analysis. International Journal of Project Management, 22, 655-667. Retrieved November 10, 2007, from Business Source Premier database. http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=14715867&loginpage=Login.asp&site=ehost-live

Srivannaboon, S. (2006). Linking project management with business strategy. *Project Management Journal,* 37, 88-96.

Stanleigh, M. (2006). From crisis to control: New standards for project management. *Ivey Business Journal,* 70, 1-4.

The Standish Group (1994). *Chaos*. Retrieved October 25, 2007 from: http://www.projectsmart.co.uk/docs/chaos-report.pdf

Thirty, M. (2007). *From PMO to PBO: The PMO as a vehicle for organizational change*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Thiry, M., & Deguire, M. (2007). Recent developments in project-based organizations. *International Journal of Project Management*, *25*, 649-658. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=26577061&loginpage=Login.asp&site=ehost-live

Van Der Merwe, A. (2002). Project management and business development: integrating strategy, structure, processes and projects. *International Journal of Project Management*, 20, 401-411.

Verma, K. (2007). Project management challenges and best practices for enterprise packaged applications. *PM World Today*, 9, 1-20.

Watson, R. & Webster, J. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS Quarterly*, 26, p. 13 – 23.

Weiss, J. & Thorogood, A. (2006). *A diagnostic for exploring IT alignment as a strategic weapon*. Paper presented at the 31st Annual Hawaii International Conference on System Sciences.

Wessels, D. (2007). *The emergence of strategic project management*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.

Whitley, R. (2006).Project-based firms: New organizational form or variations on a theme? *Industrial and Corporate Change,* 15, 77-99.

Winter, M., Andersen, E., Elvin, R., & Levene, R. (2006). Focusing on business projects as an area for future research: An exploratory discussion of four different perspectives. *International Journal of Project Management*, 24, 699-709. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=23214283&loginpage=Login.asp&site=ehost-live

Appendix A: Search Strategy Documentation

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
UO Libraries Catalog > Keyword and Subject search	**Strategic project management**	26/3	Poor, one usable result	1. Cleland, D. (1999). Project management: Strategic design and implementation. NY: McGraw-Hill.	1. Reference
	Strategy AND project management	30/0	Poor, no usable results		
	Project management AND strategy	30/0	Poor, no usable results		
	Business strategy AND project management	3/0	Poor, no usable results		
	Corporate strategy AND project management	2/0	Poor, no usable results		
	Organizational strategy AND project	3/0	Poor, no usable results		
	Enterprise project management	19/0	Poor, no usable results		
	Corporate strategy	176/3	Fair, three usable results. Majority of returns were prior to 1998 (LR cut off date).	• Campbell, A. & Faulkner, D. (2003). *The Oxford handbook of strategy*. Oxford, UK: Oxford University Press. • Pettigrew, A., Thomas, H & R. Whittington. (2002). *Handbook of strategy and management*. London: Sage Publications.	1. Problem area context 2. Problem area context 3. Problem area context

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				• Johnson, G., Scholes, K. & Whittington, R. (2005). *Exploring corporate strategy*. Essex, England: Pearson Education, Ltd.	
	Business strategy	471/0	Poor, no usable results. Majority of returns were prior to 1998 (LR cut off date).		
	Project strategy	111/0	Poor, no relevant results		
	Project portfolio management	3/0	Poor, no relevant results		
	Strategic alignment	10/0	Poor, no usable results		
	Strategic management	1194/0	Poor, no relevant results. Majority of returns were prior to 1998 (LR cut off date).		
	Strategic project management models	0	Poor, no relevant results		
	Project management models	29/0	Poor, no relevant results		
	Organizational strategy	133/0	Poor, no usable results		
	Strategic portfolio management	9/0	Poor, no relevant results		
	Project management office	307/0	Poor, no relevant results (most were prior to 1999 and referred to		

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
			the environment).		
	Project Management	1888/1	Poor, no usable results (most were prior to 1998 and referred to the environment).		
	Project Management (as the Subject)	33/2	Poor, two results	Project Management Journal and Project Management Quarterly	
OneSearch > QuickSets (Core Research)	**Strategic project management**	117/0	Poor, no relevant results (most returns were prior to 1998)		
OneSearch > QuickSets (Business and Economics)	**Strategic project management**	60/0	Poor, , no relevant results		
OneSearch > QuickSets (Science)	**Strategic project management**	30/0	Poor, no relevant results		
OneSearch > QuickSets (OneSearch Articles)	**Strategic project management**	117/1	Poor, one cited result	1. Shenhar, A. (2004). Strategic project leadership®: Toward a strategic approach to project management. R&D Management, 34, 569-578. Database: Business Source Premier.	2. Sub-topic B
OneSearch > Advanced (General)	**Strategy AND project management**	169/1	Poor, one cited result	3. Crawford, J. (2006). The project management maturity model. *Information Systems Management*, *23*, 50-58. Retrieved November 10, 2007, from Military & Government Collection database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db	4. Sub-topic B

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				=mth&AN=22291667&site=ehost-live	
EBSCO HOST Research Database – *Academic Search Premier*	**Strategic project management**	4/0	Poor, two articles related to topic, however one is a one-page book review and the other relates to the pharmaceutical industry		
	Strategy AND project management	307/2	Fair, three articles related to topic and cited.	1. Graham, A., & Longman, A. (2006, September). Projects that work. *USA Today Magazine*, 135, 74-76. Retrieved November 13, 2007, from Academic Search Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=aph&AN=22189029&site=ehost-live 2. Anderson, D. & Merna, A. (2005). Project management is a capital investment process. *Journal of Management in Engineering*, 21, 173-178.	1. Reference 2. Problem area context
	Project management AND strategy	Same as above	Same as above	Same as above	Same as above
	Project management strategy	14/0	Poor, few results and most were prior to 1998		
	Business strategy AND project management	8/1	Poor, one result cited	1. Hoffman, T. (2004). Alignment, alignment, alignment. Computerworld, 38, 46.	1. Reference

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
	Corporate strategy AND project management	4/0	Poor, one result was already cited		
	Organizational strategy AND project	10/0	Poor, no relevant results		
	Organizational strategy AND project management	2/0	Poor, no relevant results		
	Enterprise project management	17/0	Poor, no relevant results		
	Corporate strategy	1080/0	Poor, no relevant results, majority are prior to 1998		
	Strategic project management models	0/0	No results		
	Project management models	3/0	Poor, no relevant results		
	Organizational strategy	234/0	Poor, no relevant results (mostly medical results)		
	Organizational strategy AND project management	2/0	Poor, no relevant results		
	Strategic portfolio management	1/0	Poor, no relevant results		

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
	Project management office	42/0	Poor, no relevant results		
EBSCO HOST Research Database – *Business Source Premier*	**Strategic project management**	14/2	Fair, two relevant references	1. Lampel, J. (2001). Towards a holistic approach to strategic project management. International Journal of Project Management, 19, 433-435. 2. Grundy, T. (2000). Strategic project management and strategic behavior. International Journal of Project Management, 18, 93-103.	1. Reference 2. Reference
	Strategy AND project management > project management	639/17	Excellent, many pertinent references located at cited within document	1. Thiry, M., & Deguire, M. (2007). Recent developments in project-based organizations. *International Journal of Project Management*, *25*(7), 649-658. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=26577061&loginpage=login.asp&site=ehost-live 2. Srivannaboon, S. (2006). Linking project management with business strategy. *Project Management Journal,* 37, 88-96. 3. MacIntyre, J. (2006). The right fit: Executives should enlist project managers as powerful allies when aligning projects with strategy. *PM*	1. Sub-topic B 2. Problem area context 3. Problem area context 4. Problem area context 5. Problem area context 6. Sub-topic B 7. Sub-topic B 8. Problem area context 9. Sub-topic B 10. Reference 11. Reference 12. Problem area context 13. Problem area context 14. Reference 15. Problem area context 16. Sub-topic B 17. Problem area context

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				Network, 20, 30-35. 4. Milosevic, D. & Srivannaboon, S. (2006). A two-way influence between business strategy and project management. *International Journal of Project Management*, *24*, 493-505. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=21830179&loginpage=login.asp&site=ehost-live 5. Milosevic, D. Z. (2006). A theoretical framework for aligning project management with business strategy. *Project Management Journal,* 37, 98-110. 6. Hobbs, B., Crawford, L., Tuner, J. (2006). Aligning capability with strategy: Categorizing projects to do the right projects and to do them right. *Project Management Journal,* 37, 38-50. 7. Stanleigh, M. (2006). From crisis to control: New standards for project management. *Ivey Business Journal,* 70, 1-4. 8. Morris, P. & Jamieson, A. (2005).Moving from corporate	

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				strategy to project strategy. *Project Management Journal,* 36, 5-18. 9. Dietrich, P., & Lehtonen, P. (2005). Successful management of strategic intentions through multiple projects – Reflections from empirical study. *International Journal of Project Management*, *23*, 386-391. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=18102201&loginpage=login.asp&site=ehost-live 10. (2005). Meetings of the minds. *Baseline*, 44, 59-62. 11. Ives, M. (2005). Identifying the contextual elements of project management within organizations and their impact on project success. *Project Management Journal,* 36, 37-50. 12. Longman, A. & Mullins, J. (2004). Project management: Key tool for implementing business strategy. *Journal of Business Strategy*, 25, 54-60. 13. Anderson, D., & Merna, T. (2003). Project Management Strategy—project management represented as a process based set of management	

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				domains and the consequences for project management strategy. *International Journal of Project Management*, *21*, 387. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=10231987&loginpage=login.asp&site=ehost-live 14. Leeman, T. (2002). Managing the chaos of change. *Journal of Business Strategy*, 23, 11-15. 15. Van Der Merwe, A. (2002). Project management and business development: integrating strategy, structure, processes and projects. *International Journal of Project Management*, 20, 401-411. 16. Brown, C. (1999). Towards a strategy for project management implementation. *South African Journal of Business Management*, *30*, 33. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=2329313&loginpage=login.asp&site=ehost-live 17. Englund, R., & Graham, R. (1999).	

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				From Experience: Linking Projects to Strategy. *Journal of Product Innovation Management*, *16*, 52-64. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=11941534&loginpage=login.asp&site=ehost-live	
	Project management AND strategy	Same as above	Same as above	Same as above	
	Project management strategy	49/0	Poor, no relevant results		
	Business strategy AND project management	66/0	Poor, no relevant results other than six references already cited		
	Corporate strategy AND project management	23/0	Poor, no relevant results other than five references already cited		
	Organizational strategy AND project management	10/0	Poor, no relevant results other than one references already cited		
	Organizational strategy AND project	26/0	Poor, no relevant results other than one references already cited		

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
	Enterprise project management	46/0	Poor, no relevant results other except one that was written by a consulting company		
	Strategic project management model	0	Poor, no relevant results		
	Project management models	24/0	Poor, no relevant results		
	Organizational strategy > business planning	147/0	Poor, no result		
	Strategic portfolio management	7/0	Poor, no relevant results		
	Project management office	121/ 2	Fair, two relevant results	1. Aubry, M., Hobbs, B., & Thuillier, D. (2007). A new framework for understanding organizational project management through the PMO. *International Journal of Project Management*, *25*, 328-336. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=24711284&site=ehost-live 2. Aubrey, M. & Hobbs, B. (2007). Program investigating project management offices (PMOs): The results of phase 1. *Project Management Journal*, 38, 74-86.	1. Sub-topic B 2. Sub-topic B
EBSCO HOST	**Strategic project**	0			

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
Research Database – *Harvard Business Review*	**management**				
	Project Management	63/1	Poor, most resources are prior to 1998	1. Hamel, G. & Prahalad, C. (1990). The core competence of the corporation. *Harvard Business Review, 68, 79-91.*	2. Reference
	Project management office	1/0	Poor, no relevant resources found		
	Business strategy	93/0	Poor, no relevant resources found, most resources are prior to 1998		
EBSCO HOST Research Database – *Business Source Premier > Project Management Journal*	**Strategic project management**	0			
	Strategy	35/0	Poor, all eight results were previously located via Business Source Premier Search and cited in document		
	Enterprise project management	1/0	Poor, result is one page book review		
	Project management models	2/0	Poor, results are book reviews		
	Project management office	5/0	Poor, one resource has already been cited and the others are book reviews		
	Organizational	55/3	Fair, found three usable references and additional eight that were already located via Business Source	1. Henrie, M. & Sousa-Poza, A. (2005). Project management: A cultural literary review. *Project Management Journal,* 36, 5-14.	1. Reference 2. Reference 3. Sub-topic A

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
			Premier and cited in the document	2. Kendra, K. & Taplin, L. (2004). Project success: A cultural framework. *Project Management Journal,* 35, 30-45. 3. Crawford, L. (2006). Developing organizational project management capability: Theory and practice. *Project Management Journal,* 37, 74-86.	
	Project portfolio management	5/1	Fair, found one usable reference cited in document	1. Dalcher, D. (2005). IT project portfolio management. *Project Management Journal,* 36, 65.	1. Sub-topic B
	Project management research	11/2	Fair, found two usable references	1. Dvir, D. & Shenhar, A. (2007). Project management research: The challenge and opportunity. *Project Management Journal,* 38, 93-99. 2. Kloppenborg, T., & Opfer, W. (2002). The Current State of Project Management Research: Trends, Interpretations, and Predictions. *Project Management Journal*, *33*, 5. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=6770755&loginpage=Login.asp&site=ehost-live	1. Sub-topic A 2. Sub-topic A
	Project management maturity	13/3	Fair, found 3 usable references	1.Mullaly, M. (2006). Longitudinal analysis of project management maturity. *Project Management Journal,*	1. Sub-topic A 2. Sub-topic A

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				36, 62-73. 2. Ibbs, C. (2000). Assessing Project Management Maturity. *Project Management Journal*, *31*, 32. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=2856459&loginpage=Login.asp&site=ehost-live 3. Jugdev, K., & Thomas, J. (2002). Project Management Maturity Models: The Silver Bullets of Competitive Advantage?. *Project Management Journal*, *33*, 4. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=8603018&loginpage=Login.asp&site=ehost-live	3. Sub-topic A
	Capability	14/3	Fair, identified three usable resources	1. Crawford, L. (2006). Developing organizational project management capability: Theory and practice. *Project Management Journal,* 37, 74-86. 2. Hobbs, B., Crawford, L., Tuner, J. (2006). Aligning capability with strategy: Categorizing projects to do the right projects and to do them right.	1. Sub-topic B 2. Sub-topic B 3. Sub-topic B

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				Project Management Journal, 37, 38-50. 3. Pennypacker, J., & Grant, K. (2003). Project management maturity: an industry benchmark. *Project Management Journal*, *34*(1), 4. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=9302698&loginpage=Login.asp&site=ehost-live	
	Project management theory	6/1	Poor, only one relevant article	1. Cicmil, S. & Hodgson, D. (2006). New possibilities for project management theory: A critical engagement. Project Management Journal, 37, 111-122.	1. Sub-topic B
	Culture	11/3	Fair, three relevant articles found	1. Artto, K., Hensman, N., Jaafari, A., Kujala, J., Martinsuo, M. (2006). Project-based management as an organizational innovation: Drivers, changes, and benefits of adopting project-based management. Project Management Journal, 37, 87-97. 2. Henrie, M. & Sousa-Poza, A. (2005). Project management: A cultural literary review. *Project Management Journal,* 36, 5-14. 3. Kendra, K. & Taplin, L. (2004). Project	1. Sub-topic A 2. Sub-topic A 3. Sub-topic A

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				success: A cultural framework. *Project Management Journal,* 35, 30-45.	
EBSCO HOST Research Database – *Business Source Premier > International Journal of Project Management*		4/2	Fair, found two usable references	1. Lampel, J. (2001). Towards a holistic approach to strategic project management. *International Journal of Project Management*, 19, 433-435. 2. Grundy, T. (2000). Strategic project management and strategic behavior. *International Journal of Project Management*, 18, 93-103.	1. Problem area context 2. Problem area context
		64/4	Fair, found four new articles however results returned many articles previously cited	1. Winter, M., Andersen, E., Elvin, R., & Levene, R. (2006). Focusing on business projects as an area for future research: An exploratory discussion of four different perspectives. International Journal of Project Management, 24, 699-709. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=23214283&loginpage=Login.asp&site=ehost-live 2. Anderson, D., & Merna, T. (2003). Project Management Strategy—project management represented as a process based set of management domains and the consequences for project management strategy. International Journal of Project	1. Problem area context 2. Problem area context 3. Problem area context 4. Problem area context

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				Management, 21, 387. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=10231987&loginpage=Login.asp&site=ehost-live 3. Van Der Merwe, A. (2002). Project management and business development: Integrating strategy, structure, processes and projects. *International Journal of Project Management*, 20, 401-411. 4. Grundy, T. (1998). Strategy implementation and project management. *International Journal of Project Management*, 16, 43-50.	
	Enterprise project management	0	Poor, no results found		
	Project management models	1/0	Poor, no relevant results		
	Project management office	2/0	Poor, only relevant result was already cited in document		
	Organizational	63/1	Fair, only one new reference found, identified four other references already cited in document	1. Thiry, M., & Deguire, M. (2007). Recent developments in project-based organizations. *International Journal of Project Management*, *25*, 649-658. Retrieved November 10, 2007, from Business Source Premier	

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=26577061&loginpage=Login.asp&site=ehost-live	
	Project portfolio management	4/0	Poor, no relevant results found		
	Project management research	10/1	Poor, only one new reference identified	1. Söderlund, J. (2004). On the broadening scope of the research on projects: a review and a model for analysis. *International Journal of Project Management*, *22*, 655-667. Retrieved November 10, 2007, from Business Source Premier database: http://0-search.ebscohost.com.janus.uoregon.edu:80/login.aspx?direct=true&db=buh&AN=14715867&loginpage=Login.asp&site=ehost-live	1. Reference
EBSCO HOST Research Database – *Science Direct > International Journal of Project Management*	**Project management maturity**	6/1		1. Erling S. Andersen and Svein Arne Jessen, Project maturity in organizations, International Journal of Project Management, Volume 21, Issue 6, , Selected papers from the Fifth Biennial Conference of the International Research Network for Organizing by Projects. Held in Renesse, Seeland, The Netherlands, 28-31 May 2002., August 2003, Pages 457-461. Retrieved November 10, 2007, from ScienceDirect database:	1. Sub-topic B

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				http://www.sciencedirect.com/science/article/B6V9V-488VXN4-G/2/5ba4064f7943a1ac88f59e90c60b80e0	
	Capability	37/0	Poor, no new references and identified 3 that were already cited in document		
	Project management theory	86/2	Fair, identified two new references however many results have already been cited in the document	1. Aubrey, M., Hobbs, B.& Thullier, T. (2007). Organizational project management: An historical approach to the study of PMOs. International Journal of Project Management, X, XX. In press, retrieved November 10, 2007 from ScienceDirect database: http://www.sciencedirect.com/science/article/B6V9V-4R1NNJK-1/2/0af6f9d1d936aaacd230bdbbc2f907a7 2. Muller, R. & Turner, R. (2003). On the nature of the project as a temporary organization. International Journal of Project Management, 21, 1-8. Retrieved November 10, 2007 from the ScienceDirect database: http://www.sciencedirect.com/science/article/B6V9V-45FYY53-1/2/aa60a7c08f7b62578fd4728292f65250	1. Sub-topic A 2. Sub-topic A
	Culture	53/0	Poor, identified three resources that have		

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
			already been cited in the document		
EBSCO HOST Research Database – *The McKinsey Quarterly*	**Strategic project management**	0			
	Project management	14/0	No relevant results found		
Knowledge@Wharton	**Project management**	11/0	No relevant results		
PMI 2007 World Congress Research Papers: http://congresses.pmi.org/NorthAmerica2007/TheCongress/DailyAtAGlance.cfm	**Research presented in specific areas of focus, selections are Advanced Project Management, Communications and PMOs.**	12/10	Excellent, located many references that have thus been cited in the document.	1. Brantley, W. (2007). *Justifying the value of pm deployment in your organization through an ROI impact study*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA. 2. Sklaver, R. (2007). *Driving adoption of your project portfolio management system*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA. 3. Letavec, C. (2007). *Establishing the PMO value proposition*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA. 4. Baca, C., Bull, L. Cooke-Davies, T. & Porskrog, S. (2007). *OPM3® – The path to organizational achievement of strategic business improvement*. Paper presented at the annual North	1. Reference 2. Reference 3. Reference 4. Problem area context 5. Sub-topic B 6. Sub-topic B 7. Sub-topic A 8. Sub-topic A 9. Sub-topic A 10. Sub-topic A

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				American meeting of the Project Management Institute, Atlanta, GA. 5. Aubrey, M. & Hobbs, B. (2007). *The PMO: The untamed beast*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA. 6. Thirty, M. (2007). *From PMO to PBO: The PMO as a vehicle for organizational change*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA. 7. Lanka, M. & Martin, M. (2007). *Strategically aligning your project portfolios: Introducing a new paradigm in project portfolio management*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA. 8. Garfein, S. (2007). *Executive guide to strategic portfolio management: Roadmap for closing the gap between strategy and results*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA. 9. Heerkens, G. (2007). *Introducing the revolutionary strategic project management maturity model (SPM3)*. Paper presented at the annual North American meeting of the Project	

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				Management Institute, Atlanta, GA. 10. Wessels, D. (2007). *The emergence of strategic project management*. Paper presented at the annual North American meeting of the Project Management Institute, Atlanta, GA.	
Google search engine	**Strategic project management**	76,600,000/3	Poor, only three usable references, mostly marketing material and education classes, did not continue searching past 100 hits due to continuous degradation in quality and reliability of references.	1. Naughton, E. (2006). *Strategic project management – A competitive advantage*. Retrieved October 25, 2007, from http://www.webpronews.com/expertarticles/2006/05/25/strategic-project-management-a-competitive-advantage 2. Green, S. (2005). *Strategic project management*. Retrieved from the Internet on November 10, 2007 from: http://www.projectscenter.com/projectmanagementsoftware/documents/strategicprojectmanagement.pdf 3. Ireland, L. (2004). *Enterprise project management – A strategic view*. Retrieved October 24, 2007, from http://www.asapm.org/resources/a_epm_ireland.pdf	1. Reference 2. Problem Area context 3. Reference
Project Management Institute: http://www.pmi.org/Resources/Pages/Default.aspx	**Strategic project management**	48/4	Good, located additional five new resources and conference proceedings for inclusion and reference to topics.	1. Cabanis-Brewin, J. & Pennypacker, J. (2006). *Best practices for aligning projects to corporate strategy*. Paper presented at the annual North American meeting of the Project Management Institute, Seattle, WA. 2. Eidsmoe, N. (2000). The strategic program management office. *PM Network*, 39-45.	1. Sub-topic B 2. Sub-topic B 3. Sub-topic B 4. Sub-topic B

Search Engine/ Database/ Journal	Search Terms	Results # (Initial/Usable)	Quality and Usability (Excellent, Good, Fair, Poor)	Citation	Relevance/Comments
				3. Kenny, C. (2006*). Linking corporate strategy to project management*. Paper presented at the annual Latin American meeting of the Project Management Institute, Santiago, Chile. 4. Patton, J. & White, D. (2002). *Closing the strategic vision/implementation gap*. Proceedings of the Project Management Institute Annual Seminars and Symposium, San Antonio, TX.	