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Executive Development

Project Management for Emergency Responders

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: _____

Abstract

The problem was that the Overland Park Kansas Fire Department (OPFD) did not have a structured method of project management. Absent a consistent methodology, OPFD could not effectively institutionalize project management. The research purpose was to identify methods of project management. The descriptive method sought to answer 6 questions designed to identify adoptable or adaptable methodologies. This included methods that were published and/or in use by local public, private, and academic venues. Identified methods were reviewed for common elements, benefits, and measures of effectiveness. Procedures included a literature review, and four interviews. Six methods were identified. Research also revealed a standard body of knowledge that most method designs share. The recommendation was to customize a method that incorporates the select features of the methods that were identified. Future action research was determined to be necessary.

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Introduction

An emergency response organization, like almost any other modern industry, must be prepared to address adaptive challenges and effect transformational change as necessary to remain agile in a rapidly evolving world. Change must happen quickly to stay abreast of customer needs and expectations, often with fewer resources. The National Institute of Standards and Technology (NIST) in the Criteria for Performing Excellence publication (2002) found the following:

> Businesses face ever-shorter cycles for the introduction of new/improved products and services, as well as for faster and more flexible response to customers. Major improvements in response time often require simplification of work units and processes and/or the ability for rapid changeover from one process to another. Cross-trained and empowered employees are vital assets in such a demanding environment. (p. 2)

More and more, for an organization to effectively cultivate creativity and foster needed change there is increased reliance on every member to manage projects or to participate on project teams. Projects are a way an organization moves forward, adapts, and implements new ideas, procedures, and technologies. This requires effective project management, whether or not an organization can afford to train or hire skilled personnel to do it. Cleland (2000) stated, "Project management is emerging as the discipline of the future, and the discipline that holds promise for the future of organizations" (p. 1.5). Project management is required for an organization to remain capable, progressive, and on the leading technological edge of providing service to both internal and external customers. To perform project management effectively, similar to any aspect of business, the workforce must be equipped to do the job.

Gradually becoming less distinguishable from others in the business community, emergency response organizations are certainly no stranger to rapidly developing customer needs and expectations. Diverse populations, technological advances, and new challenges that are being realized in the modern age of terrorism emphasize the need to remain agile and responsive, and to use innovative approaches to conducting business. The need for change management processes is clear. Several units within the March, 2004 Executive Development course of the National Fire Academy (NFA) relate to change, change management, and creativity. Project management provides a repeatable framework for change processes. As such, NIST identifies project management as one of several key business processes that are "…considered most important to business success by your organization's senior leaders" (NIST, 2002, p. 24), along with things like innovation, technology acquisition, and research and development. While ignoring such a key provision within emergency response community may not appear to hold the same adverse consequences as with the private sector, it might be even worse. Ignoring project management could lead an emergency service provider to be less prepared, equipped, or responsive than necessary.

The Overland Park Kansas Fire Department (OPFD) has determined through thoughtful analysis the need for institutionalized project management. This culminated from organizational performance survey data and internal discussion forums. A lack of formalized project planning and management has resulted in change processes that are unstructured, inconsistent, undocumented, and somewhat intimidating for many stakeholders to undertake.

The research problem is that OPFD does not currently have a structured method of project planning and management. Obviously, the absence of a standardized methodology that can be easily practiced by representative members will thwart progress towards the

institutionalization of project management. Identifying systematic methods of project

management that are available to adopt or adapt for use is considered to be the natural first step

in the process.

The purpose of this research is to identify structured systems of project planning and

management for OPFD. For simplification, a structured project planning and management

system is considered synonymous with the common terminology "project management method."

To fulfill this purpose, the descriptive method will be used to answer six research questions.

Future evaluative and action research for final selection and application will be recommended as

necessary based upon the findings.

The research questions are the following: (1) What project planning and management

method(s) are in use by other City of Overland Park departments (i.e. Public Works, Police,

Parks and Forestry)? (2) What project planning and management method(s) are in use by at least

three private businesses within the City of Overland Park? (3) How is the effectiveness of such

methods measured? (4) What published methods for project planning and management are

available for public use, and what are the benefits of these systems? (5) What project planning

and management methods are being taught in local academic centers and what are the benefits of

these systems? (6) What are the common elements and benefits of these systems?

Background and Significance

The Overland Park Kansas Fire Department (OPFD) through processes of internal audits

and organizational performance surveys has identified a need to institutionalize a formal system

of project management. OPFD has 155 employees that comprise four divisions: Operations,

Training, Prevention, and Support Services. Of the total employee cadre, over 123 work in the

Operations Division. Although skilled firefighters and paramedics, these human resources may

never have had formal training in the field of project management. Still, they are often called

upon to do significant project work. These personnel are part-time project managers with other

very important job responsibilities. Lack of project management experience, training and/or

direction has impaired overall project efficiency, consistency, and rate of long-term success.

This lack of direction has often been perceived as lack of support for new ideas and processes.

Employees are apprehensive about proposing new ideas, or taking on projects because they do

not know what is expected of them. Yet in order to maximize resources, the department's

administrators remain heavily reliant upon them to serve in such a capacity in order to effectively

carry out the organizational mission.

Institutionalized project management begins with the identification of an effective

methodology to select and use. As Kerzner (2001) wrote

Achieving project management excellence, or even maturity, may not be possible without

a repetitive process that can be used on each and every project. This repetitive process is

referred to as the project management methodology. Continuous use of the methodology

will drastically improve a company's chances for success. (p. 83)

A selected method will provide both foundation and direction for employees that find themselves

in project management roles. Even the most capable employees need direction. It is frustrating

for an employee to be given an increased level of responsibility for getting things done in an

organization without being advised how to successfully do it. Stakeholders in the OPFD have

previously been left to invent their own method, or to use an existing method that they have

researched on their own. While many fire department employees have been giving their best

efforts while managing projects over the years, they have not placed formal, repeatable, and

teachable framework around what they have accomplished.

The importance of this research should not be underestimated, not only for the benefits that might be realized after its application, but because of the prevailing condition that will most likely continue without it. Without institutionalized project management beginning with a foundational approach that can be identified by this research, project follow through and accountability will continue to be less than desirable. Products and programs that have been created will often outlast their intended organizational usefulness. Change processes will remain undocumented, thus becoming less fruitful as catalysts for future endeavors. As time passes, stakeholders will not know exactly why, and how certain programs began, or the players that were involved in a project's design. An opportunity to maximize efforts to nurture a workforce of change agents will have been missed.

The identification of a successful project management methodology is a vital component for the provision of consistent direction for project assignments. When used in concert with an existing department idea management system, this template will provide the foundational methodology for making ideas for organizational improvement a reality. This applied research project is related to the March 2005 Executive Development course of the Federal Emergency Management Agency's National Fire Academy (NFA). Specifically, unit's three and five emphasize the importance of nurturing creativity in organizations, and fostering change processes that prepare organizations as they face adaptive challenges (FEMA, 2004, p. 3-1 to 5-21). Effective project management can streamline organizational change and overall responsiveness to adaptive challenges, including local, regional, and national directives such as the National Incident Management System. As such, this research project also relates to and supports one of the U.S. Fire Administration's operational objectives, which is to "Respond appropriately in a timely manner to emerging issues" (FEMA, 2004).

By exploring project management methods and their common elements, this research will serve as an initial discovery phase towards the final development and/or adoption of a basic project management guidance document and template, along with associated training. It will result in the planting of the seed that promises to harvest a number of long-term benefits. Precipitating from this research, a consistent project management methodology will reinforce program follow through. With institutionalized project management, projects and programs will have personal accountability so that success is maintained and organizational usefulness can be periodically evaluated. Change processes will be archived, resulting in a reduction of redundant efforts and a decreased dependence upon tribal knowledge. Stakeholders will be able to research why, and how a program began. They will also know the key players that were involved in the project's design, and will be able to identify any continuing program stewards. Archived projects and programs can be referenced for continuing maintenance, passing of responsibility, training purposes, or to be shared with other interested parties. They can also serve as case studies, reflective of what project managers faced during their project management experience.

<div align="center">Literature Review</div>

Beginning in April of 2005, this researcher collected published literature and other sources of information regarding the field of project management. Research was initially performed at the Learning Resource Center (LRC) of the NFA in Emmitsburg, Maryland. Subsequent research venues included the Central Resource Library (CRL) of the Johnson County Public Library in Overland Park Kansas, and an Internet search using the Google™ search engine. Discussions and/or interviews with project managers within the City of Overland Park Kansas were also conducted.

This research had some natural limitations, primarily because project management is a broad area of study that covers applications of unlimited size and scope. Research was limited to a practical volume of literature due to time and spatial constraints. This limitation also applied to the identification of example methods within public, private, and academic sectors. The researcher chose to only look at local venues (within the city boundaries) that were readily available. Thus, the research includes a very limited number of the countless methods that are in use around the world everyday. Further, the measurement of the benefits and effectiveness of example project management methodologies is clearly more subjective than objective. It is understood that authors, along with the people that use methods of project management could be representing their personal preferences rather than purely objective information.

Relating to the overall research problem, the research supports the use and stresses the importance of a consistent method of project management for an organization. This is especially true as organizations are increasingly faced with adaptive challenges and change. Cleland (2000) indicates that change processes are often navigated through a myriad of projects, noting that managing projects is virtually the same as managing change. Expanding upon this, Cleland emphasizes that "Project management can provide structure to change and can provide visibility into the reasons for change as well as the process for change" (p. 3.43). According to Cleland, projects are the building blocks in the design and execution of organizational strategies, and are an organization's leading edge of new and improved processes.

Project management, as defined by Wysocki (2000) is "…a method and set of techniques based on the accepted principles of management used for planning, estimating, and controlling work activities to reach a desired end result on time – within budget and according to specification" (p. 79). Martin (2001) describes project management simply as "a set of tools,

techniques, and knowledge that, when applied, helps to produce better results for your project" (p. 9). Not every toolbox contains the exact same inventory or arrangement. Likewise, project management a vast subject with countless approaches and systems designed for projects of infinite variety and scope. Fortunately, there were general themes that surfaced during this research. First, the *recognized* principles of project management according to Wysocki include Defining, Planning, Executing, Controlling, and Closing. As such, these can be considered as common elements of effective systems. Another thread woven within every resource was the benefit of adopting a single standardized and systematic approach for applying these basic principles. As expressed by Martin when referring to the absence of such a systematic approach, "Trying to manage a project without project management is like trying to play football without a game plan" (p. 9).

Standardization is of particular importance among organizations where personnel with other primary job responsibilities carry out the bulk of the project work. Firefighters and paramedics fall into this category of workers, as their project management responsibilities are only incidental to their main discipline. Baker (2000) describes this type of worker as an *accidental* project manager. "Like many in the modern workforce, they are project managers by accident, not by design" (p. 30). Research does not discourage the use of such personnel as project managers, considering the need for efficiency in modern workforce structures. Wysocki (2000) notes that the familiar command and control business structures are being replaced, moving towards self-directed work teams, and various other forms of "projectized" organizational structures. "In all cases, empowerment of the worker lies at the foundation of these new structures" (p. 5). Wysocki concludes that structural changes that are built to bolster worker empowerment require expanded project management skills for all stakeholders. It is

suggested that when such personnel are used, they will enjoy more project management success when using a structured approach. Frame (1999) contends that this avoids the projects themselves being "…carried out in an accidental, ad hoc fashion" (p. 183).

According to Frame, project management should not be treated casually; rather, it should be institutionalized. Competence in project management is asserted to support a culture of openness, free-flow of information, empowerment, and to encourage ideas. Frame indicates that a historic lack of institutionalized project management has resulted in it's being known as "the accidental profession" for decades. This is due to most projects moving forward through a muddled system of trial and error. "As organizations turn their attention to carrying out their efforts through projects, they must deal with project management consciously and systematically" (p. 196).

Cleland (2000) stated, "Once a decision has been made to institute the use of project management in the organization, a strategy needs to be developed to establish a framework on how project management will be carried out" (p. 7.66). As mentioned, the number and variety of approaches to project management are limitless. Choosing a framework that best suits an organization's mission could prove to be a challenge. Martin (2001) describes two general styles of project management systems that help to refine this decision. These include a *directive* style, which is a traditional system where a project manager plans, controls, and delegate's tasks. This allows for faster project planning but often results in longer overall project execution times. Next is a *participatory* style. This is a more modern approach where the project manager both facilitates and leads. Essentially, a project team operates under the direction of a leader that monitors the project progress. Martin indicates that this participatory style is more desirable, and is known for having open communication channels, nurturing more ideas and better decisions.

Further, the participatory style generates ownership and accountability, higher morale and less rework. Though requiring longer planning times when compared with the directive style, Martin asserts that individual and team performance is increased, thus reducing project execution times.

Beyond the two general styles of project management, the research identified two schools of thought concerning whether to fully adopt an existing method, or to customize such a method to meet specific organizational needs. It is notable that none of the referenced materials suggested designing a method from scratch. Chapman (2003) supports customizing an existing system, finding that the approach and content of an adopted system should be "…principle-based, tailored, focused, and aligned with relevant and realistic organizational capabilities and goals." Cleland (2000) also supports a customized approach that is based upon a reliable template. "Well developed project management processes that are tailored to the business provide the most benefits" (p. 1.23). Conversely, Martin (2001) finds value in adhering to a proven method where the design work has already been accomplished, and has been tried and tested. In his words, "This allows you to focus on what's really important – the content of the work" (p. 11).

Whether a system is customized or adopted in its entirety, having a repeatable template is suggested by the research as being a necessary component for the institutionalization of project management. Forsberg (2000) identifies such a template as being a model that helps to explain how the adopted system will work. Forsberg also stresses that a project management template will "…provide a common conceptual frame of reference," and "…can express rules more simply" (p. 14). According to Forsberg simplicity is imperative, for if a model or template has to be studied each time it is applied, it has minimal or even negative value. An easy-to-use template will clarify stakeholder relationships, key system elements and will consciously

eliminate confusion factors. These benefits can promote project team performance and

efficiency, raising organizational standards. Frame (1999) suggests that this is directly related to

overall organizational competence, noting that well-respected competency assessment models

(such as ISO 9000, the Deming Prize, and the Baldrige Award) are defining competence in terms

of adherence to well-formulated and consistently applied business practices (p. 187).

The preceding research information serves to provide substantial general benefits to

institutionalizing project management practices in an organization, and more specifically to have

a consistent systematic methodology. This will assist this researcher in identifying the benefits

of example systems. They would all share the benefits of being project management methods,

but each may possess specific benefits that make for a better choice. Martin (2001) has

developed the CORE™ method (p. 11). CORE™ is Ms. Martin's published system, but it also

stands for some benchmark qualities that could be used as baseline measures for any method's

effectiveness. These qualities are *Collaborative*, *Open architecture*, *Results oriented*, and *Easy

to use*. A collaborative method is one that can be used in the participatory mode, so it would

work well for both single project managers and project teams. A method that has an open

architecture can be used for projects of various size and scope, and for any type of organization.

Project management must of course be designed to bear fruit for an organization, providing

results in a successful manner. Finally, project management should be easy to learn and easy to

follow.

Baker (2000) lists what is believed to be the five processes that are essential elements to

any project. These are: Initiation, Planning, Executing, Controlling, and Closing. "Like living

beings, all projects have predictable stages that start with an idea to do something and end

(hopefully) with the delivery of a complete project that meets its goals for quality or

performance" (p. 17). It is notable that these are aligned with the Project Management Institute's

(PMI) process groups as listed in the Project Management Body of Knowledge (PMBOK®)

Guide (1996, p.28). Although not a method itself, the PMBOK® Guide is considered to be the

worldwide standard reference for terminology and processes. Each process requires a different

set of tasks, behaviors and skills, such as conducting meetings and scheduling the work to be

accomplished. As a result, it is important that any method have an accompanying manual or

guidance document to use as a reference. For this research, a project management method is

inclusive of such references. Methods that do not offer detailed explanations of each step of

their process will not be considered as being a true method.

<div align="center">Procedures</div>

Research Question One

This researcher solicited representatives from each department of the City of Overland

Park during a joint safety meeting. This was done to identify any city department that had an

institutionalized method of project management. It is notable that OPFD is not the only city

department that does not. The researcher was then directed to the associated contact person if

applicable. From there, two city departments including Overland Park Public Works (OPPW)

and Overland Park Leisure Services (OPLS) were selected. The first was selected because it

offered a custom method, and the second because it used a published method.

Appointments were made by telephone after a brief description of the research was

conveyed. Meetings were conducted with the respective project management authority, each

scheduled to last thirty minutes (see Appendix A). A meeting was conducted on September 15th,

2005 with OPPW Civil Engineer Matt Laipple. A meeting was conducted on September 26th,

2005 with OPLS consultant Mr. Harold Engelhaupt at 10515 W. 135th Street. The meeting with

Mr. Engelhaupt (a private contractor to OPLS) also addressed research question two.

This researcher discussed the methodologies as they were demonstrated, and collected

any available sample documents respectful of proprietary restrictions. If not identified during the

course of the discussion and/or demonstration, the following three interview questions were

asked: (1) Is the system adopted or adapted from an available published source? (2) What are

the benefits of the system? (3) How is the effectiveness of the system measured? Notable is that

this interview question addresses the applied research question number three.

Research Question Two

This researcher solicited the assistance of two local private firms, namely the Pangea

Group and Tercon Consulting. These firms were already known to have institutionalized project

management methods. This was known through personal experience, and was not random. A

third private firm (Harold Engelhaupt) was discovered through an interview for research question

one, as OPLS will outsource much of their project management work through a private

contractor. It is believed that a cross-section of small, medium, and large organizations were

adequately represented, Harold Engelhaupt being a sole proprietor of his local business, and the

Pangea Group being a national firm. Tercon Consulting is an international firm. Visiting the

local chamber of commerce, and soliciting the membership for assistance with the research

question either in person or through a survey instrument could also have accomplished obtaining

the representative group.

Appointments were made by telephone after a brief description of the research was

conveyed. Meetings were conducted with the respective project management authority, each

scheduled to last thirty minutes (see Appendix A). A meeting was conducted on September 23rd,

2005 with Arl Altman, the vice-president of an Overland Park based construction-consulting

firm called Pangea Group, at 8500 College Blvd. Suite 111. A meeting was conducted on

September 26th, 2005 with private consultant Harold Engelhaupt at 10515 W. 135th Street. A

final meeting was conducted on October 7th, 2007 with consultant Lorin Walker of Tercon

Consulting at 7450 West 130th Street.

At each meeting, this researcher discussed the methodologies as they were demonstrated,

and collected any available sample documents respectful of proprietary restrictions. If not

identified during the course of the discussion and/or demonstration, the following three interview

questions were asked: (1) Is the system adopted or adapted from an available published source?

(2) What are the benefits of the system? (3) How is the effectiveness of the system measured?

Notable is that this interview question addresses research question three.

Research Question Three

This research question was addressed during the course of the meeting discussions and

interviews that were conducted to answer the preceding two research questions.

Research Question Four

Beginning in April of 2005, this researcher collected published literature and other

sources of information regarding the field of project management. Research was initially

performed at the Learning Resource Center (LRC) of the NFA in Emmitsburg, Maryland.

Subsequent research venues included the Central Resource Library (CRL) of the Johnson County

Public Library in Overland Park and the Google™ Internet search engine. The key phrase

"project management method" was used for all searches. All resources that were identified as

being available on the shelf at either the LRC or the CRL were reviewed, as well as the top 5

relevant Internet sites.

Research Question Five

Overland Park has several external degree centers for undergraduate and graduate level programs. For the purpose of this research, an academic center was considered to be an accredited college or university that was located within the City of Overland Park. This is a recognized limitation of the research, as only one example was identified. Johnson County Community College (JCCC) has a campus located at 12345 College Boulevard in Overland Park. The course catalogue is available online at www.jccc.net, and includes a search engine to assist the prospective student. This researcher used the key phrase "project management" to identify any available project management programs. Two project management courses were identified. Both the course syllabus and associated textbook was assessed for each course to determine if any specific methodology was included as a course objective.

Research Question Six

Project management methods that were identified by this research were compared for common elements and benefits. For example, if two or more methods contained a project execution step, then "project execution" would be considered a common element between these methods. If two or more methods were described as having an open architecture, then "open architecture" would be considered a common benefit between these methods. A table was created to assist with this comparison (see Appendix B). As a frame of reference for the table, the research focused on five processes as listed by Baker (2000) as being the elements to compare. The research used the qualities identified by the CORE™ (Martin, 2001) project management method as being the benefits to compare. A table was created to provide for a quick visual comparison.

As previously mentioned, this research had some limitations. Project management is a broad area of study that covers applications of unlimited size and scope. Research was limited to a practical volume of literature due to time and spatial constraints. This limitation also applied to the identification of example methods within public, private, and academic sectors. The researcher chose to only look at local venues (within the city boundaries) that were readily available. Thus, the research includes a limited number of methods that are used. The measurement of the benefits and effectiveness of example project management methodologies is more subjective than objective. It is understood that authors, along with the people that use methods of project management are likely representing their own personal preferences rather than purely objective information.

<div align="center">Results</div>

Research Questions One and Three

Two city departments in Overland Park indicated that an institutionalized method of project management was being used. This included the Overland Park Public Works (OPPW) and Overland Park Leisure Services (OPLS) departments.   Research questions one and three were answered through visitation with representatives from these departments (see Appendix A).

Overland Park Public Works.

OPPW Civil Engineer Matt Laipple demonstrated the project management method that is used by his department. OPPW Project Procedures Manual is a custom intranet based method that is designed to apply a repeatable instructional framework to all public works projects. Such projects are quite large and discipline-specific, including things like road and bridge construction, and street maintenance. The customized method provides limited architecture for use by organizations other than public works departments without significant alteration, but the

general concept is appealing. Through the city's intranet site (called OPNet), the project

manager and his or her team can easily access and navigate through a project from beginning to

end. The method has six phases, including Vision, Preliminary Design, Final Design, Pre-

Construction, Construction, and Retrospect. The user is presented with the general outline (or

template) of the method including the six phases and their subparts. Within each phase there is a

phase description, flowchart, phase/task checklist, task descriptions, and list of exhibits. The

user can move through each phase by simply clicking on a series of links. The link connects the

user to a description of the respective phase, along with basic instructions on what to do. The

electronic instruction manual is just a click away from the user.

Mr. Laipple indicates that the effectiveness of the OPPW method is measured by its

ability to handle a multitude of projects simultaneously. Also, that it is institutionalized so that

the same steps are followed every time. Another benefit is that the method serves as an active

project archiving system. Mr. Laipple emphasizes that ease of use is an important measure of

effectiveness for OPPW. The instructional format and user-friendliness of the OPPW method

significantly reduces training time. Pre-designed templates, checklists, and form letters for each

stage of a project are at the project manager's fingertips. Lastly, Mr. Laipple stressed that

system reliability is a vital effectiveness measure, as system downtime can result in exponential

project delays, threatening the loss of project funding. The OPPW method has proven to be a

reliable method in this regard.

Overland Park Leisure Services.

OPLS Department personnel use the Critical Path Method (CPM). Much of their project

work is outsourced. Smaller projects follow the same methodology, since the outsource vendor

has also provided CPM training to OPLS. This method will be addressed in research question

two, as it is also in use by a private contractor to OPLS.

Research Questions Two and Three

     Pangea Group.

     A meeting was conducted on September 23rd, 2005 with Arl Altman, the vice-president

of an Overland Park based consulting firm called the Pangea Group (see Appendix A). Pangea

Group is a national construction project management and consulting firm based in St. Louis

Missouri. They have a district office in Overland Park. This researcher spoke with Mr. Arl

Altman, who is a vice-president of the organization. Pangea Group has institutionalized the use

of project management. In answer to research question two, the method that they utilize is a

software application that is commercially available called Primavera Project Planner®. This

software is used in concert with proprietary organizational guidelines that frame how a project is

managed from start-up to closeout. Mr. Altman indicates that the benefits of using this software

is primarily in the three areas of tracking, specifically the project budget, time, and resources.

Tracking is displayed in a logical, color-coded diagram and schedule. The schedule alerts the

project manager to notify key personnel in the project loop as necessary to keep the work

activities running smoothly. Multiple projects can be run simultaneously in a multi-user

environment, but each user must be licensed. This increases the system cost. Large and

multifaceted projects can be run efficiently with the software, and all records can be archived.

     Mr. Altman emphasizes that when a project is first conceived, the initial planning work

and metrics of success are accomplished through company guidelines. Mr. Altman suggests that

the software then becomes primarily an instrument for data input and tracking. The work of

initial project concept, planning and managing is still up to human beings. This being said, they

do not measure the effectiveness of the method, rather they measure the effectiveness of the

project manager using the method. This answers research question three, the effectiveness of the

method used by Pangea Group is not currently measured.

Pangea Group primarily works with construction projects of significant size and scope.

A small project for this group is considered to be one with a budget of under $500,000.00. The

software works well for the large projects that the Pangea Group oversees, but may not be

practical for smaller projects. According to Mr. Altman, using this particular platform for very

minor project work might be like "Swatting a fly with an elephant."

Harold Engelhaupt.

A meeting was conducted on September 26th, 2005 with private consultant Harold

Engelhaupt at 10515 W. 135th Street (see Appendix A). Harold Engelhaupt is a private

consultant that has a contractual arrangement with the City of Overland Park, specifically to

perform project management work for Overland Park Leisure Services (OPLS). This

arrangement also serves to answer research question one. Mr. Engelhaupt has facilitated training

programs for OPLS employees concerning the project management method that has been

institutionalized by his business, thus it is also the method deployed by OPLS when not

outsourcing a project. The Critical Path Method (CPM) is a published method that was designed

in 1957 by the Dupont™ Company to address complex challenges in the chemical industry.

CPM models the activities and events in a network format similar to an expanded Gantt chart or

network diagram. CPM has been published in a number of project management texts, including

Kerzner (2001). It is interesting that Kerzner views CPM as a network scheduling technique

rather than a project management method (p. 671). Mr. Engelhaupt learned CPM in the late

1960's while working for the railroad. He has used it for a wide variety of applications, and remarks that a primary benefit is simplicity.

CPM provides a graphical view of the project, and helps the project manager in determining the project completion time. The method also shows which activities are critical to keeping the schedule on track. Mr. Engelhaupt comments that CPM provides for organization, tracking, and for anticipating important aspects of a project, stating "I can sleep at night without worrying about what needs to be done next." Mr. Engelhaupt describes the method as being a roadmap to project closure, breaking down each task on a predicted timeline. Concurrent tasks are shown as parallel paths, connecting at nodes that signify project milestones. The visual display helps the manager to maximize the steps in the process while following a critical pathway to completion. Mr. Engelhaupt places the CPM chart for each active project in a conspicuous location so that all project stakeholders can stay abreast of the project timeline. He says, "This keeps management off your back." It is easy to follow the project status. As tasks are completed, the associated project track is highlighted to demonstrate the progression.

In response to research question three, Mr. Engelhaupt does not measure the effectiveness of the method. Rather, he evaluates whether the method is working for the project team, or the project team is working for the method. He stated, "When a project is completed on time, within budget, and the method was easy to use, modify as necessary, and follow, then the method is effective." Mr. Engelhaupt stressed that the CPM method is "simplicity over elegance." He describes it as easy to learn, straightforward, and all-inclusive for even the most novice of project managers. As noted in response to question number five, CPM is also a method that is taught at a local community college.

Tercon Consulting.

A meeting was conducted on October 7th, 2007 with Lorin Walker of Tercon Consulting

at 7450 West 130th Street (see Appendix A). Tercon Consulting is an international consulting

firm in the subject areas of leadership, business strategies, and solutions including project

management. Placing into practice what they teach worldwide, Tercon does have an

institutionalized method of project management. Director of Organizational Development

Services Lorin Walker described the method as a "hybrid" methodology. Using standard

principles as outlined by the Project Management Institute (PMI), Tercon's method is named

"ProjectTeam EXCELerator™ (PTE)." PTE described by Mr. Walker as being easily

customized to fit the needs of each project, project team, and organization. As such, it has a very

open architecture and is collaborative. The PTE framework is similar to the five project

processes outlined by Baker (2000), plus they have added an additional process called

"Integrating." Mr. Walker describes the integration process as "effectively incorporating the

deliverables from the project into the organization's world of work." Each of the six processes

(Initiating, Planning, Executing, Controlling, Closing, Integrating) requires their own structure,

systems, staffing, and skills to reach objectives.

The PTE method is proprietary, but does include a guidance document and associated

training if an organization elects to contract with Tercon Consulting to provide project

management assistance. Mr. Walker considers the results-oriented nature of the PTE method as

being its most noticeable benefit, stating "…you can achieve results while you manage your risk

on a project." He also identifies four "value drivers" that are used to measure the method's

performance. These include the method's cost, quality, schedule, and safety. Ease of use is a

benefit of the PTE method that was stressed by Mr. Walker. He indicated that complex methods

with thick manuals are not effective in her experience because people "…find them intimidating, and just won't read them (the operating guide)." According to Mr. Walker, software applications are somewhat useful adjuncts for the tracking and scheduling of projects, but they are often seen as too cumbersome and intimidating for the novice or occasional user.

Research Question Four

Several published methods of project management were revealed during the course of this research. This includes the CORE™ Method (Martin, 2001), Project Management Life Cycle Method (Wysocki, 2000), and the Critical Path Method (CPM). Many of the resources offered conceptual "how to" guidance and information (similar to the PMBOK® Guide) to prospective project managers, but did not present a unique method of their own. Rather, they would refer to existing methods such as CPM or project management software. It is important to reiterate the importance of the Project Management Institute's publication, the PMBOK® Guide. Though not a method, it is the published standard principles of project management that nearly all methods are designed around.

CORE™ Method.

Martin's (2001) book fully describes the CORE™ methodology and it's associated benefits. As noted in the literature review of this research, Martin published this participative method of project management. CORE stands for: Collaborative, Open architecture, Results oriented, and Easy to use. The four general components are representative of the method's participative nature. They also reflect the benefits of the method, including it's adaptability to various types of organizations, and adaptability to project scope and size. Lastly, the method is noted for its simplicity. A process flow chart provides a visual representation of the specific

phases of the CORE™ method. Each phase essentially building upon the phase that precedes it, and ends with an approval process prior to moving onto the next.

Project Management Life Cycle Method.

Wysocki's (2000) book fully describes the Project Management Life Cycle methodology and associated benefits. The Project Management Life Cycle Method culminated after many of years of consulting and training organizations in the area of project management. Wysocki and Weiss noticed upon close examination of a variety of methodologies a number of common underlying principles. Wysocki and Weiss then published a method that was fashioned from these common elements, noting, "…features reoccur in successful methodologies" (Wysocki, 2000, p. 83). A primary benefit of this method is described as being its compatibility with other successful methodologies, noting "…the Project Management Body of Knowledge (PMBOK)….has an underlying methodology that is remarkably similar to ours." The method is also described as being easy to use, even referring to it as being "…organized common sense" (p. 84).

Critical Path Method.

The benefits of this method were mentioned in the results section of research question two. Kerzner (2001, p. 671-699) fully describes the Critical Path Method (CPM) and it's associated benefits in his project management textbook.

Research Question Five

Johnson County Community College (JCCC) was the only academic center within the city that was found to offer a course specific to project management. JCCC delivers both an introductory (CPCA 121 – Intro to Project Management), and more advanced project management course (CIS 262 – Project Management). The course goals include familiarizing

the participant with two methods of project management including CPM, Program Evaluation

Review Technique (PERT), and also the software application Microsoft Project™. The five

process groups as outlined in the PMBOK® Guide are also a part of the curriculum. Noteworthy

is that JCCC delivers Fire Science courses at the Overland Park Fire Training Center. It might

be possible for the project management programs to be facilitated there as well, making it more

convenient for OPFD employees to attend.

Internet search results did show countless other business training and consulting firms,

such as Tercon Consultants, that offer project management training and certifications. For the

purpose of this research, an academic center was considered to be an accredited college or

university that was located within the City of Overland Park.

Research Question Six

A table (see Appendix B) is presented as a general reference to compare common

elements and benefits of the project management methodologies that were identified by this

research. The table includes the five processes as listed by Baker (2000) and in the PMBOK®

Guide. These are considered *elements* to compare. The table also lists the four qualities

identified in Martin's (2001) CORE™ method for a comparison of *benefits*. If an "X" appears in

the associated box on the table, then the respective method should be considered as featuring that

element or benefit. Using this visual, an easy comparison of common elements (and benefits)

can be made.

Unexpected Results

This researcher was surprised to find that there is an organization known as the Project

Management Institute (PMI). This is an international organization that sets standards for project

management, and serves as the core "body of knowledge" for the field. Every publication that

was researched referenced this organization and the PMBOK® Guide that they publish. This

helped me to understand that project management methodologies are generally aligned with a

standard. This understanding will ultimately help OPFD with final method selection. It will also

aid in the adaptation or complete design of a method that is based upon a standard.

Discussion

Projects are a fact of life for any organization, including those in the emergency response

industry. Projects are how things get done, whether it be designing and purchasing a new piece

of apparatus, implementing a new technique or procedure, or launching a new initiative. OPFD

administrators know that project management is necessary, but they also realize that hiring a full-

time project manager(s) is easier said than done. A fire department's workforce is streamlined to

meet the prevailing mission of saving lives while being cost-effective for the taxpayers.

Consequently, workers are trained and equipped mainly to perform the technical life-saving

aspects of their job, not to be project managers. This being said, I am in full agreement with

Baker's (2000) description of this type of worker as being an accidental project manager. "Like

many in the modern workforce, they are project managers by accident, not by design" (p. 30).

Being an "accidental" project manager is not always a bad thing. Rather, it is evidence of

worker empowerment. Managing a project can be an effective career development tool. Every

organizational stakeholder should be given the opportunity to participate in change processes that

become the fruit of project management. Employees should have the ability to come up with an

idea, and to carry their idea towards organizational reality. There are few better ways to provide

for employee development than to have them actively participate in organizational change.

Emergency responders are not used to doing things without established guidelines and

protocols. These are provided for things that they train heavily on, and perform often. This

should apply for project management as well. As Martin (2001) stated, "Trying to manage a project without project management is like trying to play football without a game plan" (p. 9). It is our duty as administrators to arm our personnel with the tools and training that is necessary to fulfill our expectations. If we want employees to manage projects and to champion change, we would benefit by giving them the right tool.

If you have ever wondered when, how, or why your organization began doing things a certain way, you might understand the problems associated with informal change processes. As Cleland (2000) wrote, "Project management can provide structure to change and can provide visibility into the reasons for change as well as the process for change" (p. 3.43). That structure should be one that serves the workforce, not one that the workforce serves.

Of all of the qualities identified by Martin's (2001) CORE™ method, ease of use is the most important to this researcher.   This would be followed by the method's ability to be collaborative, as most department projects and activities are team-based. As for the method having an open architecture, this researcher agrees that for any method to be useful, it must be expandable and adaptable for a wide range of project variety and scope. Interestingly, this is the same expectation we have of an incident management system. Since OPFD is not in the business of building major highway intersections, the project management method of choice should be adapted as minimally necessary to be practical for our application and discipline. As Cleland (2000) said, "Well developed project management processes that are tailored to the business provide the most benefits" (p. 1.23). While the Overland Park Public Works model has some interesting concepts, such as it's being intranet-based, it does not offer much promise as a method for our specific discipline.

Both Wysocki (2000) and Baker (2000) identified five "recognized" principles of project management. These were Initiation (referred to as "defining" by Wysocki), Planning, Executing, Controlling, and Closing. These are also the five that were outlined in the PMBOK® Guide (1996). As general principles, these are easily adaptable to most any method. This researcher believes that an adopted system should contain all of them, and in that order. In a sense, these principles are like incident priorities and strategic goals, as they are things that must be accomplished to achieve a successful conclusion. Emergency responders can relate with things like this, as they are practiced every working day. This is food for thought. The adaptation of a project management method, specifically in its accompanying guidance document and training approach, could be analogous with emergency response to make the method more easily understood. A project could be identified with an incident, and as Frame (1999) asserted, it should be dealt with "…consciously and systematically" (p. 196).

My research did not identify a method of project management that was specific to the fire service. It would have been nice to have found such an adaptation, and then simply adopt it as our own (respective of any propriety restrictions). I see this as an opportunity. If a successful adaptation eventually precipitates from this research that is specific to our discipline, it could be made readily available for other fire departments. In fact, it is possible that institutionalized project management in fire service organizations is rare primarily because discipline-specific adaptations are rare. This applied research could eventually lead to the improvement of change processes for many other fire service organizations.

The research problem of OPFD not having a structured method of project planning and management is common to many organizations. Simply "winging-it" from project to project is

not a way of doing business that will lead to lasting success. To reiterate what Kerzner (2001) wrote,

> Achieving project management excellence, or even maturity, may not be possible without a repetitive process that can be used on each and every project. This repetitive process is referred to as the project management methodology. Continuous use of the methodology will drastically improve a company's chances for success. (p. 83)

Having a repeatable methodology is indeed a necessary component for the institutionalization of project management. Fortunately, there is no need to start from scratch. There are countless methods being used every day that all center around accepted standard practices, just as there are many basic firefighting textbooks based upon the identical national standard. Some project management methods work better than others for things like bridge building, or for manufacturing candles. While OPFD doesn't necessarily do these things, we do deliver goods and services to our customers, both internal and external. We do create new products for distribution like firefighter collector cards, post-fire customer service booklets, or more recently in our department, rapid intervention team kits.

Sorting through endless example methods, with each having their own nuances, does not appear to be necessary. This research has identified a reasonable qualitative measure using Martin's (2001) CORE™ acronym. Coupled with the five principles as identified by Baker (2000), foundational criteria for the selection of a method have been laid. Any method meeting these criteria along with having a solid supportive guidance document could be adopted or adapted for use. The research sought to identify existing methods that are published and/or are used locally. More importantly, to identify what it is about such systems that make them considered to be beneficial or efficient for organizational use. This will help us to evaluate any

method that we choose both pre and post implementation. All of this is vital to the decision making process. Interestingly, this gathering of information is a part of the front-end loading work that lies within the initiation phase of project management. This not intended to be a glorified literature review, although there are volumes of information to sort through. It is intended to provide information that can be applied towards the recommendation of a platform that will institute change, improve our organizational efficiency, and potentially disseminate to others in the fire service.

<div align="center">Recommendations</div>

After careful consideration, my recommendation is the internal development of basic project planning and management method along with a simplified guidance document and supportive training. This will require action research that builds upon what has been gleaned from this research. Simplification is key. More detailed references that expand upon topics such as running a meeting are readily available at our local libraries. Baker's (2000) guidebook would be an excellent resource to have on the shelf as a quick and easy reference. A big, thick, comprehensive manual would only serve to make a simple methodology appear threatening. The OPFD administrative staff should review the contents of this research, along with the identified methodologies. Both the Project Management Life Cycle (PMLC) method, and the PTE method offer the complete line-up of essential elements and benefits that were identified by the research (see Appendix B). They are also most aligned with the PMBOK® standard. Since PTE is proprietary, the PMLC method should be the basis for a simplified adaptation. The final adaptation should also be combined with an intranet-based approach similar to the OPPW method, since every fire station has intranet access. As research has shown, there are a very wide array of approaches and tools for project planning and management. Researching and

refining an existing method will be useful in gleaning a very basic and understandable approach

that targets the novice (or accidental) project manager.

The focus area of the method should be one of assisting the novice project manager with

front-end planning in order to help sell their idea properly. This is where many ideas lose steam,

and may never see the light of day. As Wysocki (2000) wrote, "If we had to pick one area where

a project could run into trouble it would be at the very beginning" (p. 109). A successful

planning and management guide should provide as many job-related analogies as possible. This

has proven to be instrumental in the success of previous endeavors for the target group.

However, all city departments will not understand such analogies. Thus, any replication of the

method for use by other departments would need to be reviewed, and altered as necessary to be

more applicable for the specific target group. Yet replication of this system should be

encouraged for other city departments where similar workforce constructs are present, such as

the parks department and police department.

Final modification and refinement will require a trial period. For this reason, the system

itself should be viewed as a new program, and as such be assigned a continuing steward. This

will lead to an evolution of the method, taking the department into the proper depth of project

management and implementation. As mentioned, the method should place the most emphasis on

the planning component. This is the department's most pressing need, and where most ideas

stumble. Once a project gets approved, more resources are generally allocated to assist in its

execution.

This researcher recommends internal development and training over outsourcing, even

though very reputable firms such as Tercon Consulting with their PTE method are a viable

option. Outsourcing would increase both cost, and the risk of potentially stigmatizing the

concept and unduly challenging its acceptance. Fortunately, through this research it is clearly

unnecessary to reinvent the wheel. The fundamental principles and standards of project

management are in the public domain and methods such as PMLC and CORE™ are published

for reference in extensive detail. The outsourcing alternative can always be reintroduced and

pursued if appropriate.

A customized project planning and management guidance document and template will

stimulate employee interest in championing their creative impulses. Further, improved project

planning will result in a higher degree of success, building a sense of confidence among our

people that they can truly make a difference. As Cleland (2000) wrote, "Project planning allows

the stakeholders to participate and feel they are a part of the solution to an organization's

change" (p. 3.45). The method will promote stewardship and follow through, and will archive

change processes from which to build upon. Implemented with existing adjuncts, organizational

stakeholders will become more confident, self-directed, and participatory in true organizational

change processes. This in turn will evolve into better systems, develop better leaders, and

cultivate the creative impulses of an extraordinary workforce.

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Appendix A

Interviews

Overland Park Public Works

Matt Laipple is an Overland Park Public Works (OPPW) Civil Engineer and project manager.

Mr. Laipple was interviewed for 30 minutes on September 15th, 2005 in Overland Park, KS.

Three interview questions were asked.

(1) Is your project management method adopted or adapted from an available published source?

No, the method is entirely custom, but it does use standard project management concepts.

(2) What are the benefits of your method? The method is easily accessible from the city intranet

site. It makes for a repeatable framework that also serves an instruction manual for completing a

project. The method is easy to navigate through, and includes templates and form letters that are

necessary steps for the types of projects that we (public works) do.

(3) How is the effectiveness of the method measured? It has to have the ability to handle

multiple projects simultaneously. Also, it is effective because the same steps are followed each

and every time. Each project is tracked and archived for future reference. It is very easy to use;

I think that this is the most effective feature of the method. The method reliability is vital;

downtime could prove to be very costly. Delays on a public works project could result in our

losing county or state funding.

Overland Park Leisure Services

Harold Engelhaupt is a private consultant and project manager for Overland Park Leisure

Services Department (OPLS). Mr. Engelhaupt was interviewed for 30 minutes on September

26th, 2005 in Overland Park, KS. Three interview questions were asked.

(1) Is your project management method adopted or adapted from an available published source?

Yes, the method is called the Critical Path Method, or CPM for short. I first learned CPM in the

late 1960's when I was working for the railroad.

(2) What are the benefits of your method? It is very simple to use. I have used it for years on a

variety of projects. CPM lays out your project activities and timeline. It gives you a visual

layout of your project, and makes it easy to identify exactly where you are at on a project. You

can simply highlight completed tasks so that everyone can see the progress. This helps you

determine the completion time. Critical areas are defined so that you can keep on schedule. I

can sleep at night without worrying about what needs to be done next. CPM is not fancy. I see it

as simplicity over elegance.

(3) How is the effectiveness of the method measured? I don't measure the effectiveness per say.

When a project is completed on time, within budget, and the method was easy to use, modify as

necessary, and follow, then the method is effective.

Pangea Group

Arl Altman is a vice-president and project manager for Pangea Group. Mr. Altman was

interviewed for thirty minutes on September 23rd, 2005 in Overland Park, KS. Three interview

questions were asked.

(1) Is your project management method adopted or adapted from an available published source?

We utilize is a software application that is commercially available called Primavera Project

Planner®. This is essentially the tracking method that we use in concert with company

guidelines of project management.

(2) What are the benefits of your method?   The main benefits of using this software is primarily in the three areas of tracking, project budget, time, and resources. Tracking is displayed in a logical sequence. We can also handle multiple projects simultaneously.

 (3) How is the effectiveness of the method measured? We do not measure the effectiveness of the method; we measure the effectiveness of the project manager that uses the method. The work of project concept, planning and management is still up to human beings. The true metrics of success are accomplished through company guidelines. The software is primarily an instrument for data input and tracking.

Tercon Consulting

Lorin Walker is the Director of Organizational Development Services and project manager for Tercon Consulting. Mr. Walker was interviewed for thirty minutes on October 7th, 2007 at 7450 West 130th Street in Overland Park, KS. Three interview questions were asked.

(1) Is your project management method adopted or adapted from an available published source? I would describe our method as a hybrid. It's based upon the 5 processes outlined by PMI, only our method has an additional process called Integrating. The Integrating process is the process of effectively incorporating the deliverables from the project into the organization's world of work. We call our method ProjectTeam EXCELerator™.

(2) What are the benefits of your method?   Well, it is customized to fit the needs of each project, and each project team, and each organization. It's adaptable to any project environment.
It produces results when used effectively, and you can achieve results while you manage your risk on a project. We offer a guidance document and associated training if an organization elects to contract with us. The method is very easy to use, so you don't need a thick manual to follow

along. Most people appreciate that. If you have a method that requires a thick manual, people will find them intimidating, and just won't read them.

(3) How is the effectiveness of the method measured? We use four value drivers to measure performance, cost, quality, schedule, and safety. Project management should be cost effective, and reinforce quality outcomes that are on schedule, and proceed in a safe environment.

Appendix B

Project Management Methods - Elements and Benefits

Project Management Method	Initiation	Planning	Execution	Control	Close Out	Collaborative	Open Architecture	Results Oriented	Easy to Use
CPM		X	X	X	X		X	X	X
CORE	X	X	X		X	X	X	X	X
OPPW		X	X	X	X	X		X	X
PMLC	X	X	X	X	X	X	X	X	X
PPP		X	X	X	X	X		X	
PTE	X	X	X	X	X	X	X	X	X

Note. The 5 processes (Initiation, Planning, Execution, Control, Close Out) as listed by Baker (2000) are considered project management method elements. The 4 qualities (Collaborative, Open Architecture, Results Oriented, Easy to Use) identified by Martin (2001) are considered project management method benefits. An "X" in the corresponding box indicates that the method is described as having that element or benefit. CPM = Critical Path Method; CORE = CORE™ Method (Martin, 2001); OPPW = Overland Park Public Works Project Procedures Manual Method; PMLC = Project Management Life Cycle Method (Wysocki, 2000); PPP = Primavera Project Planner®; PTE = ProjectTeam EXCELerator™.