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BLENDING THE BATTLEFIELD: AN ANALYSIS OF USING PRIVATE MILITARY COMPANIES TO SUPPORT MILITARY OPERATIONS IN IRAQ

THESIS

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AFIT/GRD/ENV/08-M05

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AFIT/GRD/ENV/08-M05

BLENDING THE BATTLEFIELD: AN ANALYSIS OF USING PRIVATE MILITARY COMPANIES TO SUPPORT MILITARY OPERATIONS IN IRAQ

THESIS

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In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Research and Development Management

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Major, USAF

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BLENDING THE BATTLEFIELD: AN ANALYSIS OF USING PRIVATE MILITARY COMPANIES TO SUPPORT MILITARY OPERATIONS IN IRAQ

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Abstract

Over the past fifteen years, the Department of Defense has experienced an increasing trend in the outsourcing and privatization of military operations. Key factors contributing to the growth include declines in military budgets, reductions in active duty end-strength, increases in operational deployments, advancements in weapon system technology, and evolutions in the nature of warfare. However, the continued escalation of incorporating Private Military Companies (PMCs) on the battlefield creates unique challenges. The purpose of this exploratory and descriptive research is to identify utilization rates, describe the types of roles being fulfilled, and synthesize the challenges of augmenting military manpower with civilian contractors. For this effort, the research scope is primarily focused on exploring the use of PMCs to support battlefield operations in Iraq. The research strategy involves the collection, reduction, and analysis of existing census data and secondary archival data from multiple sources. To add flexibility to the study, interactive data analysis techniques are employed using a combination of several qualitative methodologies. The conclusions drawn from the resulting data analysis framework are intended to facilitate a better understanding of the complexities of using civilian contractors in a war zone as well as outline key focus areas for improving the planning, management, and oversight of PMC operations. In addition, this research expands the existing body of knowledge on this dynamic topic.

To my patient and understanding family...we accomplish more together than any one of us could achieve on their own.

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Heather L. Gallup

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BLENDING THE BATTLEFIELD: AN ANALYSIS OF USING PRIVATE MILITARY COMPANIES TO SUPPORT MILITARY OPERATIONS IN IRAQ

I. Introduction

Chapter Overview

The main purpose of this chapter is to address the background of the issue, purpose and scope of the research, and research questions of the study. In addition, a brief summary of the methodology as well as the relevance and anticipated benefits of this study are presented. The chapter concludes with a brief description of the thesis structure.

Background

Over the last decade, corporate markets have increasingly embraced the concept of outsourcing. According to Greaver, the basic premise of outsourcing involves the transfer of a recurring internal task from the parent organization to an external supplier. Typically, the business relationship between these two organizational entities is defined and controlled through a contractual relationship (Greaver, 1999:3).

As with any business strategy, various benefits and disadvantages exist when outsourcing tasks to a third party. With the expansion of the global marketplace, outsourcing and privatization efforts are used by many corporations worldwide to decrease cost, improve competitive advantage, add organizational flexibility, and fill voids in critical skill sets. Nonetheless, the use of outsourcing has some disadvantages

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such as reductions in oversight, control, loyalty, and strategic decision making (Rochester, 1995; Outsourcing, 2008).

However, the corporate world is not the only entity embracing the transfer of responsibilities to third party sources. The Department of Defense (DoD) has a long history of implementing various contractual mechanisms to transfer military job responsibilities from government control to the private sector (Friedman, 2002:1). The United States military forces have traditionally relied on the support of civilian workers to execute the mission. There are numerous examples of civilians providing key logistical expertise and support during many of the major conflicts throughout history. However, most of the tasks accomplished by civilians occurred far behind the lines of battle. More recently, changes in technology and the nature of warfare have obscured the demarcation of the boundaries of the battlefield, essentially rendering it a "nonlinear theater of military operations" (Kidwell, 2005:29).

More recently, there has been an escalation in the use of civilians to augment military troops on the battlefield (Blizzard, 2004:6). There has been a noticeable rise in companies comprised entirely of civilian contractors used to support military operations residing within the area of war or conflict. The privatized military industry is growing rapidly, with contract awards of over $100B in global revenues to the private sector for service contracts in support of military operations in 2003 (Singer, 2004b). Additionally, Andahazy comments that Avant, in her book *The Market for Force: The Consequences for Privatizing Security*, reports the growth projections for this market indicate contract award amounts will exceed $200B by 2010 (Andahazy and others, 2006:3).

These civilian corporate organizations supporting battlefield operations are occasionally compared to mercenaries and are commonly known as Private Military Companies (PMCs). However, a review of the relevant literature indicates multiple terms are often used interchangeably when discussing PMCs. These terms include Private Military Firms (PMFs), Private Security Companies (PSCs), Private Security Firms (PSFs), and Non-Governmental Organizations (NGOs). For consistency and ease of reading, the term PMC will be used exclusively to describe these civilian organizations studied in this research effort.

Purpose and Scope of Research

The purpose of this research is to explore and describe the use of PMCs on the battlefield to support military operations. This exploration will focus on describing the extent to which PMCs are currently being used on the battlefield and highlighting the existing challenges.

Prior to conducting the research, a manageable scope of the topic to be studied must be defined. All research efforts encompass a range of limitations, especially with respect to the length of time available to conduct this research. In order to effectively manage the time constraints impacting this research effort, a defining boundary need to be created to establish the scope of the research. As a result, the intended scope of this research effort is to explore the level of PMC involvement and support being used to support battlefield operations in the war in Iraq.

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Research Questions

In order to direct the research effort on exploring and describing the use of PMCs to support military operations on the battlefield, five research questions were formulated. In general, these questions were used to assist in the selection of the appropriate research strategy and influenced the corresponding data collection and analysis tasks. The first four research questions specifically focus on using military census data to provide several descriptive characteristics on the use of PMCs in the current war in Iraq. The fifth and final research question uses archival data and intends to capture the primary challenges of using PMCs to support military operations on the battlefield in the current war in Iraq.

Research Question #1.

The first research question is *"How many PMC personnel are being used to support battlefield operations in Iraq?"* To answer this research question, census data on the use of civilian contractors in Iraq will be analyzed. According to Dow, unclassified census data was provided by the United States Central Command (CENTCOM) in response to a Freedom of Information Act (FOIA) request made by *ePluribus Media*. In turn, *ePluribus Media* made the census data, *Contracting Information on Contractors Operating in Iraq – FOIA 07-0163,* publically available on the organization's website in July 2007 (Dow, 2007; United, 2007). This census data is analyzed to investigate the level of PMC use and extent the military is outsourcing operations on the battlefield.

Research Question #2.

The next research question is *"Who are the top ten companies responsible for employing the largest number of PMCs personnel in Iraq?"* The military census data includes reporting on which companies have been awarded contracts in Iraq and reports

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how many employees are being utilized to support each contract. The main purpose of this research question will be to understand which companies are the most dominant and influential suppliers in this complicated industry.

Research Question #3.

The subsequent research question is related to Research Question #2. Research Question #3 is *"Of the top ten companies identified in Research Question #2, what primary mission areas are being outsourced?"* This research question will also be answered by analyzing the military census data. The main purpose of this question will be to understand the primary types of skill sets the DoD is outsourcing to the private military sector.

Research Question #4.

The fourth research question is *"Who are the top ten corporate entities using armed PMCs personnel in Iraq?"* Again, a specific subset of the census data will be analyzed. The main purpose of this research question will be to understand which companies are the primary employers of PMC personnel that are armed and carry weapons.

Research Question #5.

The next research question is *"What are the recurring themes regarding the challenges that arise when PMCs are used to support battlefield operations?"* This question will bring to light the most frequently highlighted challenges of using PMCs to support battlefield operations based on an analysis of archival and secondary textual data.

Relevance of Research

Conducting a research effort to explore the descriptive characteristics and inherent challenges of using PMCs on the battlefield in Iraq is both relevant and timely. Clearly, the use of civilians to augment military forces on the battlefield is relevant to the DoD. The military commanders and troops are impacted daily by the existence and operations of PMC personnel on the battlefield.

In addition to being relevant, this research effort is also timely. While civilians have been used throughout history to support military operations, there has been a significant growth in PMCs over the past fifteen years (Novak, 2004:14). The rise in PMCs became particularly evident in Iraq during July 2007 as the number of civilians on the battlefield surpassed the number of troops (Miller, 2007a). As such, it is critical now more than ever to understand the role PMCs are playing in supporting the war in Iraq. In addition, Dow notes the Office of Federal Procurement Policy issued a formal memorandum in May 2006 requesting an accounting of PMCs in Iraq (Dow, 2007). Furthermore, the media reporting of recent allegations of human rights violations indicates the increased use of PMCs in Iraq is gaining worldwide attention.

In addition to an increase in the number of PMC personnel, researching this topic now is timely due to the increasingly large investments being made by the DoD and other agencies in the privatized military industry. For example, in his video documentary titled *Iraq for Sale: The War Profiteers*, Greenwald reports that federal contract awards to Blackwater USA increased significantly from an estimated "$774,000 in 2001" to over "$221,000,000" just four years later (Greenwald, 2006). For clarification, Greenwald did not report any amounts for 2006. In comparison, the Committee on Oversight and

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Government Reform reports larger contract award amounts to Blackwater, estimating $736,906 in 2001 to $593,601,018 in 2006 (Committee, 2007a:3). Regardless of which source is used to assess the growth in contracts awarded to Blackwater, Figure 1 demonstrates the PMC investment trend in significantly escalating.
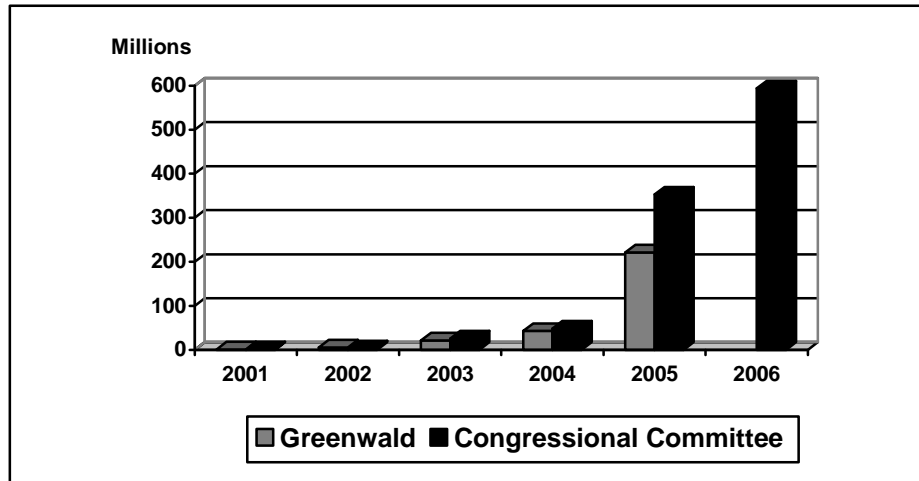
Figure 1. Blackwater's Contract Awards
(derived from Greenwald, 2006; Committee, 2007a:3)

In conclusion, although the widespread use of PMCs in Iraq is an emerging topic, multiple authors in the literature indicate this trend of using civilians to support battlefield operations will increase in future conflicts. As such, the escalating use of PMCs to augment military troops on the battlefield must be understood in order to improve the planning, execution, and oversight of these blended operations. In order to understand this topic, various methodologies were reviewed in order to select an approach that answered the five research questions relevant to this effort.

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Methodology

The use of PMCs to support military operations in Iraq is an emerging and dynamic area of study. As such, this research effort is primarily exploratory and descriptive in nature. The focus is on the use of qualitative data as extensive quantitative data are not yet available on this topic. However, the incorporation of some quantitative analysis measures and descriptive statistics was possible using pivot tables and frequency reporting. In addition, the use of pie charts and bar graphs facilitate a visual summary of the data analysis results (Neuman, 2006:348).

The type of qualitative data evaluated as part of this study is existing archival and secondary data that is available in the public domain. Many different types of sources are used and data sampling included a span of fifty-seven texts published over four years. For this study, a variety of sources are used, including military census data, congressional research reports, Government Accountability Office (GAO) reports, other theses, professional papers, professional journals, newspaper articles, and several books. Overall, the particular methodology selected during various phases of this study is primarily driven by the type of data analyzed. For example, military census data must be collected, analyzed, and synthesized differently than textual secondary data.

To answer the first four research questions, military census data reporting the use of contractors in Iraq was used. Specific inclusion and exclusion criterion were applied in order to reduce the census data and extract the subset necessary for this research effort. For example, the military census information was formatted in a Microsoft Excel spreadsheet consisting of 77,941 cells of data. The data was presented in 1,901 rows of raw data with 41 columns per row. As a result, manually summarizing and analyzing this

voluminous amount of data was time and resource prohibitive. To simplify the process, sorting and filtering tools as well as pivot tables were used to manipulate the raw data into multidimensional views. Next, various comparisons and patterns in the pivoted data were explored in order to answer the first four research questions of this study. Visual aids, based on the quantitative descriptive characteristics of the data, were created to facilitate the presentation of the results.

Conversely, archival data were utilized to answer the fifth research question. Specifically, these data were in textual format and were collected from multiple secondary sources. When data collection was complete, data reduction efforts included the application of inclusion and exclusion criterion. After reducing the data to the information relevant to this research effort, interactive data analysis techniques were employed using a combination of several different qualitative methodologies to answer the research and research questions. In general, a data analysis framework was constructed using key concepts from thematic content analysis, thematic coding, and comparative analysis. Additional information on the methodology approach, to include details on the processes for data collection, data reduction, and data analysis, will be covered in Chapter 3.

Anticipated Benefits

Several possible benefits may result from this research effort on the use of PMCs to support military operations on the battlefield. As previously mentioned, the escalated use of PMCs on the battlefield in Iraq is an emerging and dynamic topic of study. Most importantly, the research will contribute to the body of knowledge in this area.

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In addition, the use of PMCs to augment military troops will likely to continue in Iraq as well as future conflicts. The research describes the level of PMCs being used and constructs a qualitative data analysis framework to outline the challenges of using civilians to support military operations on the twenty-first century battlefield. The conclusions drawn from the resulting data analysis framework are intended to facilitate a better understanding of the level of use as well as the complexities of using civilian contractors. In turn, an outline of key focus areas will assist in improving the planning, management, and decision making for PMC operations. Additionally, the research will summarize recommendations in the use of PMCs to assist in future operational scenarios.

Thesis Structure

This thesis effort is organized into five chapters: the introduction, the literature review, the proposed methodology, the analysis and results, and the conclusions. Chapter I serves as the introduction section and provides information on the purpose of the research, research and research questions, and the intended scope of study. Chapter II outlines the literature review and contains a summary of relevant data sources on the definition of key terms, past use and current trends of PMCs, and potential issues of using civilians to augment military forces in combat operations. In Chapter III, Methodology, the focus is on describing the details of the research strategy and methodologies employed. This chapter will provide detailed insight into the specific strategies used for data collection, reduction, organization, and analysis. Chapter IV, Analysis and Results, presents the data analysis and results in a structured framework. Both quantitative and qualitative methods of analysis and reporting will be used. The resulting framework will

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highlight the complexities and challenges of using a civilian footprint to support military operations on the battlefield. Chapter V, Conclusions and Recommendations, presents the conclusions, strengths and limitations of the study, suggestions for actions, and topic areas for further study.

Chapter Summary

This chapter provided an overview of the research effort. As previously discussed, this study investigates to what extent PMCs are supporting military operations on the battlefield in Iraq and the emerging themes of the challenges that arise from doing so. The next thesis chapter provides a summary of the information discovered during the extensive literature review. Chapter II specifically addresses a multiple definitions of civilian, soldier, mercenary, and Private Military Company. In addition, a review of past PMC use, the changing environment of the DoD, and some current trends of the use of PMCs in Iraq presented. The chapter concludes with a summary review of the laws regulating and governing the use of PMCs as well as some top-level insight into some of the controversial issues of using civilians to augment military forces in combat operations.

II. Literature Review

Chapter Overview

As outlined in Chapter I, the general research topic being investigated in this study is the outsourcing and privatization of military operations. Specifically, this research effort is focused on exploring and describing the extent to which PMCs are supporting military operations on the battlefield and identifying the resulting challenges from utilizing civilian support. As previously mentioned, the scope of this study is limited to researching the use of PMCs supporting the war in Iraq.

Chapter II of the thesis is focused on the literature review. The purpose of the literature review is to provide an evaluation of existing sources relevant to the use of PMCs to support military operations on the battlefield. In addition, the literature review findings are useful in providing supporting data to answer the research and research questions.

To scope the literature review effort, three areas were identified as relevant to the research on investigating the increasing use of PMCs to support the war in Iraq: defining key terms, briefly describing the past use of PMCs, and providing an overview on the use of PMCs in Iraq. As such, this literature review begins with multiple definitions of several key terms integral to this research effort. Next, brief a summary of the past use of PMCs, significant changes in the DoD environment, and current trends in the use of PMCs in the ongoing war in Iraq is covered. The chapter concludes with an overview of alleged incidents involving PMCs in Iraq and a top-level view of the issues of using a civilian footprint to support operations in a war zone.

Background

The predominant literature currently available for review included online journals, periodicals, as well as newspaper and magazine articles. To a lesser extent, professional papers, academic reports, and several books were available. In general, these sources primarily focused on briefly describing the past use, factors driving the recent increase in the privatized military industry, and the challenges of using civilian support.

However, as the use of PMCs in the war in Iraq is an emerging topic, a limited amount of previous academic research efforts relevant to this topic was identified during the course of this study. Nonetheless, a literature assessment indicated a significant amount of media content reporting was available for review. A similar assessment of the literature was reported by Schreier, where the existing research on PMCs was described as "journalistic, descriptive in nature rather than integrative or comparative with similar companies" and "little elucidation of the variations in activities of PMCs…" (Schreier and Caparini, 2005:11).

However, in reviewing the literature, there appeared to be an increasing interest in studying the privatization of the military industry in the twenty-first century. The ongoing war in Iraq was a pivotal contributor to this increased interest. More recently, several books have been published on the use of PMCs in Iraq. One of the researchers at the forefront of the use of PMCs is Dr. Peter Singer, the author of *Corporate Warriors* and a senior fellow at the Brookings Institution. In addition to the books, there has been an increased interest from Congress in understanding the role PMCs are playing in Iraq. It is anticipated that additional studies will be conducted in the near future that assess the

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role of PMCs in the war in Iraq. In support of this assumption, this research effort is intended to contribute to the body of knowledge on PMC use in the war in Iraq.

Definition of Key Terms

Understanding definitions of the terminology of the topic being studied is a fundamental part of the overall research. As such, this is a reasonable preliminary step and involves exploring the relevant literature to gain a working level knowledge of these key terms in order to create a foundation upon which to build an improved understanding of this topic. In order to present a broader perspective on each term, multiple definitions are included. For the purposes of this study, the terms will attempt to define the potential key players on the twenty-first century battlefield: civilian, soldier, contractor, mercenary, and Private Military Company.

Civilian.

Throughout history, there has been a distinct line drawn between civilians and combat forces. In essence, the fundamental difference is that a civilian does not engage in hostilities. According to *Webster's New World Dictionary*, a civilian is "a person not an active member of the armed forces or of an official force having police power" (Civilian, 1982:137). The *American Heritage Dictionary of the English Language* contains a similar definition "a person following the pursuits of civil life, especially one who is not an active member of the military or police" (Civilian, 2000). Furthermore, *Webster's Third New International Dictionary* defines a civilian as "a resident of a country who is not on active duty in one of their armed services" (Civilian, 1976:413).

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All of the definitions support the very basic concept that civilians are unarmed bystanders in a conflict.

Soldier.

While members of the armed forces of the twenty-first century may actually be soldiers, sailors, or airmen, the term soldier is defined as part of this research effort for simplicity. This decision is reasonable as the intent of defining this term is not to highlight differences among the services but rather to observe the differentiating characteristics of those involved in the Profession of Arms from other groups.

Throughout history, soldiers have engaged in the Profession of Arms to defend their country through military service. In addition, the soldiers served as a means by which to further the political interests of the state. Therefore, it is reasonable to classify a soldier as defined by *Webster's Third New International Dictionary* as "a person engaged in military service….a member of an organized body of combatants" (Soldier, 1976:2168). Similarly, *Merriam-Webster's Online Dictionary* defines a solder as "one engaged in military service and especially the army" (Soldier, 2007).

Contractor.

As a general principle, a contractor refers to a civilian or corporate organization hired to provide a good or service as specified in a contractual relationship. *Webster's Third New International Dictionary* mentions that a contractor is "one that performs work…or provides supplies…according to a contractual agreement" (Contractor, 1976:495). With respect to contractors supporting the military, Goddard expands on this definition and stipulates a contractor's services are within the bounds of "life support,

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construction, engineering, weapon system support, and other technical services, and who are not combatants but civilians accompanying a military force" (Goddard, 2001:7).

Mercenary.

As reported by Singer, *Webster's Dictionary* defines mercenary as "a soldier hired into foreign service" (Singer, 2003:40). According to Schumacher, the simplistic view of a mercenary is those hired to kill in exchange for financial compensation. However, Schumacher elaborates that while civilians on the battlefield today are similarly motivated by money, most do not fit the "Wild West hired-gun stereotype" many envision (Schumacher, 2006:13). Pelton contends that a mercenary is a "soldier-for-hire" but elaborates on two additional insights. First, Pelton makes a distinction that "mercenaries *fight* while security contractors *protect*" (Pelton, 2006:5) Additionally, Pelton suggests the primary consideration in determining if someone is a mercenary is influenced to a greater extent by the individual hired rather than by a description of the task (Pelton, 2006:6). Similarly, Goddard expands on the definition of a mercenary. He describes a mercenary as a person or corporate entity "financed to act for a foreign entity within a military style framework (including conduct of military style operations) without regard for ideals, legal or moral commitments, and domestic and international laws" (Goddard, 2001:8).

Private Military Company.

The literature review indicates the generalized definition of a mercenary involves those being compensated to fight on behalf of another party. However, it is apparent in the literature review that there is an on-going debate as to whether or not PMCs are equivalent to mercenaries.

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As previously mentioned in Chapter I, several naming conventions have been used with respect to PMCs. These terms include Private Military Firms (PMFs), Private Security Companies (PSCs), Private Security Firms (PSFs), and Non-Governmental Organizations (NGOs). For this research, PMC was selected as the common terminology to describe these types of entities.

Singer, a widely recognized and acknowledged expert in the study of PMCs, defines the private military entities as "business organizations that trade in professional services intricately linked to warfare" (Singer, 2003:8). Goddard's definition slightly deviates as he designates a criterion of registration for a PMC:

> a registered civilian company that specializes in the provision of contract military training (instruction and simulation programs), military support operations (logistics support), operational capabilities (special forces advisors and command, and control, communications and intelligence [(C3I] functions) and or military equipment, to legitimate domestic and foreign entities (Goddard, 2001:8).

In McCallum's thesis research, he contemplates how PMCs are different from mercenaries with respect to Singer's definition. McCallum included a table showing

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Singer's definition of a private military entity (Singer, 2003:47) compared to the six

Geneva Convention stipulations that must be satisfied and is included below as Table 1

(McCallum, 2007:11).

Table 1. McCallum's Comparison of PMFs and Mercenary
(McCallum, 2007:11)

Singer's PMFs (Singer, 2003:47)	Mercenary Defined by Geneva Convention
"Organization: Prior corporate structure"	"Is specially recruited locally or abroad"
"Motives: Business profit driven as opposed to individual profit driven"	"Does, in fact, take a direct part in the hostilities"
"Open Market: Legal, Public entities"	"Is motivated to take part in the hostilities essentially by the desire for private gain"
"Services: Wider range, varied clientele"	"Is neither a national of a party to the conflict nor a resident of territory"
"Recruitment: Public, specialized"	"Is not a member of the armed forces of a party to the conflict"
"Linkages: Ties to corporate holdings and financial markets"	"Has not been sent by a state which is not a party to the conflict on official duty as a member of its armed forces."

Based on the information presented in Table 1, McCallum appears to concur with

Singer's assessment that the distinguishing characteristic between PMCs and mercenaries

is the "corporate nature" of the private companies and uses the terms "stable" and "long

term structuring" (McCallum, 2007:12). In addition, Schreier distinguishes "temporary

and *ad hoc*" as characteristics of a mercenary as opposed to the more permanent structure

of PMCs. (Schreier and Caparini, 2005:17). Schumacher does not consider PMCs

mercenaries but rather " a new breed of military trainers, technicians, advisors, drivers,

consultants, medical, and security personnel" (Schumacher, 2006:56).

Unclear Classification.

In addition to distinguishing PMCs from mercenaries, a review of the literature conveys the ongoing debate surrounding the lack of an universally agreed to position on which category actors on the battlefield that PMCs exclusively belong (Schreier and Caparini, 2005:18). Notwithstanding the inability to label PMCs with a distinct classification, as depicted in Figure 2, the literature reviewed suggests the use of PMCs has historical precedence.
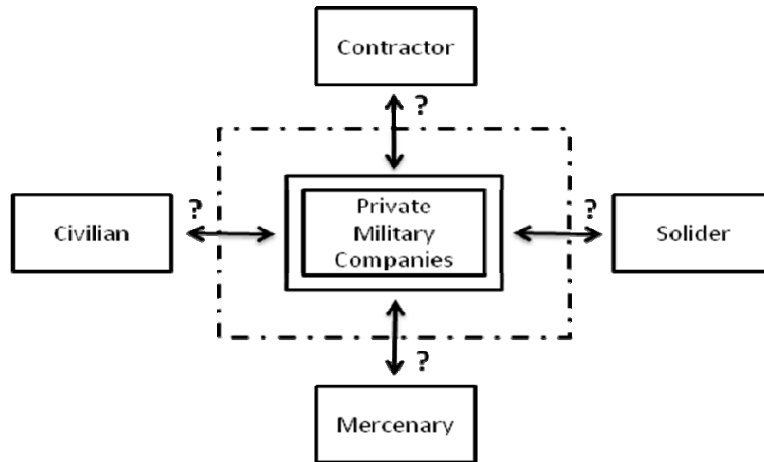
Figure 2. Unclear Classification of PMCs

Past Precedence for Use of PMCs

A review of the literature indicates the idea of using civilian manpower to support military troop strength is not a novel concept. The basic concept of outsourcing logistical and support tasks to civilians has been used by many military organizations throughout the centuries (Friedman, 2002:1). The literature expands on describing the various conflicts incorporating the use of PMCs. However, a summary of this information is not relevant to this study and are not included here.

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For this research effort, the literature was reviewed to understand the initiation of PMC use by the United States. According to Blizzard, the first use of civilian contractors to augment the existing U. S. force structure was during by George Washington. During this conflict, Blizzard mentions civilians were routinely used to transport supplies. In addition, Blizzard notes the use of civilians to support battlefield operations remained reasonably stable during the Revolutionary and Mexican War (Blizzard, 2004:6). To demonstrate the historical perspective on the use of civilian support, Zamparelli presented a summary comparing the number of civilians and military used during major American conflicts and is provided in Table 2 (Zamparelli, 1999:12).

Table 2. Zamparelli's Civilian Participation in Major Conflicts
(Zamparelli, 1999:12)

War/Conflict	Civilians	Military	Ratio
Revolution	1,500 (est)	9,000	1:6 (est)
Mexican/American	6,000 (est)	33,000	1:6 (est)
Civil War	200,000	1,000,000	1:5 (est)
World War I	85,000	2,000,000	1:2
World War II	734,000	5,400,000	1:7
Korean Conflict	156,000	393,000	1:2.5
Vietnam Conflict	70,000	359,000	1:6

After the Vietnam War, the literature suggests there was somewhat of a lull in the use of civilians to augment military troops because of a shift in the perspective of war (Blizzard, 2004:6). However, the early 1990s ushered in the activities surrounding the Gulf War. According to Corn, the approximate ratio of civilians to military in the Gulf War was 1:60 (Corn, 2007). In contrast, Castillo estimates the ratio of civilians to military during the Gulf War was 1:50 (Castillo, 2000:26). However, according to the

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United States Government Accounting Office report, *DoD Force Mix Issues - Greater Reliance on Civilians in Support Roles Could Provide Significant Benefits*, the inconsistency in reporting this ratio may be due to "not systematically keep track of all civilians employees and contractor personnel who deployed to support the Gulf War" (United, 1994:30). Although the reporting of this ratio for the war is inconsistent, the general concept aims to convey that civilian contractors made up only a small portion of the total manpower on the battlefield.

After the Gulf War, the next major shift in DoD operational focus was to support the events in the Balkans during Operation Allied Force. Although this engagement was only a few years after the end of the Gulf War, Peters noted the ratio of civilians to military had changed. Peters estimated the ratio of civilian contractors to military troops was 1:10 during the Bosnia peacekeeping operations (Peters, 1996).

To clarify any confusion in comparing the ratio reporting, Zamparelli explained an important distinction in the ratios published for the Gulf War and Bosnia compared to previous conflicts summarized in Table 1. He clarified that these numbers only included a tally of the contractors that initially deployed with the troops. As a result, these ratios should not be compared to the ratios previously provided in Table 1. (Zamparelli, 1999:12).

In general, the literature demonstrates that although there is historical precedence for using PMCs, the use of civilians supporting operations on the battlefield has grown significantly. While it is important to acknowledge this growth, it is necessary to comprehend the changes in the DoD environment that influenced the expansion in the privatization of war. By understanding the primary factors that drove the increase in

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outsourcing, a foundation exists upon which to build an appreciation for the likelihood of this trend continuing in the future.

DoD Changes

The DoD has been simultaneously experiencing many changes over the past several decades that have directly contributed to the increased use of PMCs to support military operations (Turner and Norton, 2001; Singer 2005). The four primary areas of change in the DoD include reduced budgets, diminished manpower levels, increased operational deployments, and advanced weapon systems technologies. However, the literature reviewed as part of this study principally covered these four areas with overarching statements and descriptions. As such, additional literature was sought and synthesized to further understand and characterize the supporting data behind the top level statements.

Budget.

The first of the four factors identified in the literature as influencing the growing trend in PMC use is continued budget reductions within the DoD. During the 1980s, often referred to as the "Reagan Years," historical budget tables indicate military budgets increased to unprecedented levels. However, the budget data demonstrates that throughout the early 1990s, declines in the military budget continued. A summary of the

DoD budget authority data from fiscal year (FY) 1965 through FY 2006, adjusted to reflect constant FY 2000 dollars, is presented in Figure 3 (Fraser and others, 2008; Office, 2008:134).
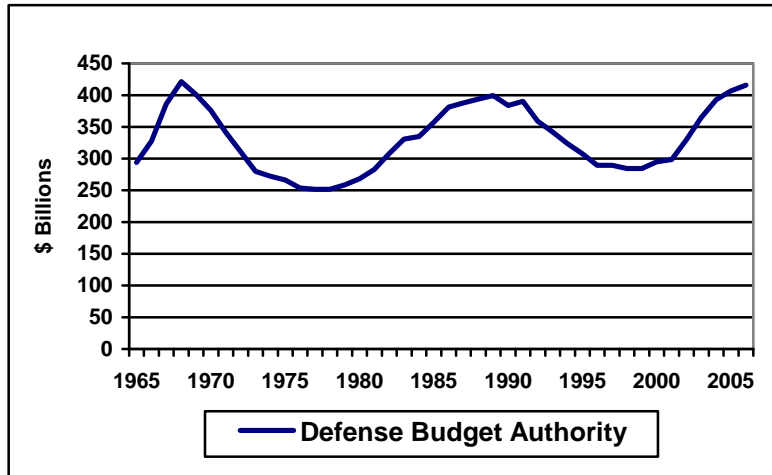
Figure 3. DoD Budget, FY 1965-2006
(derived from Fraser and others, 2008; Office, 2008:134)

Understandably, a cursory review of the budget information presented in Figure 3 could potentially lead to the premature conclusion that in response to the recent events surrounding the start of the twenty-first century, military budgets are again increasing. For example, significant events such as the attacks that occurred on September 11th, 2001 , the Global War on Terrorism (GWOT), and the wars in Afghanistan and Iraq have influenced increases in military operations and spending. For example, a review of the literature indicates the FY 2008 President's Budget was reported to be the "highest since World War II" (Hartung, 2007). In addition, Shanker suggests, based on a quote by Kosiak, the projected FY 2009 military budget will be the "11th year of continuous increases" (Shanker, 2008). From these observations, an assumption could be made that defense budgets are reversing the reduction trend.

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While it may initially appear that funding for the DoD budget has increased over the last several years, this issue is somewhat more complex. According to Spring, additional consideration should be given to assessing the recent trend in the percentage of the Gross Domestic Product (GDP) represented by the defense budget (Spring, 2007). Using data obtained from the historical budget tables published by the Office of Management and Budget, Figure 4 shows the relationship between the defense budget and the percentage of GDP for fiscal years 1965-2006 (Fraser and others, 2008; Office, 2008:136). As demonstrated in Figure 4, the defense budget as a percentage of the Gross Domestic Product has been primarily declining. According to Fraser, of *The Heritage Foundation*, "At 4 percent of GDP, defense spending is one and a half percentage points of GDP below the 45-year historical average and well below Cold War and Vietnam War levels" (Fraser and others, 2008).
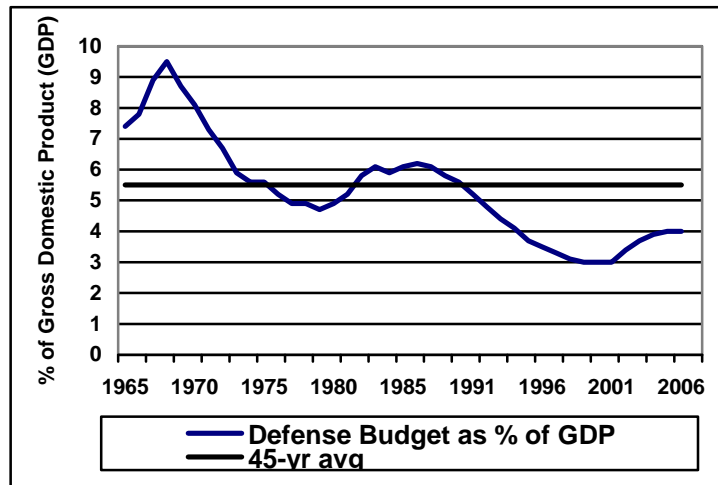
Figure 4. Defense Budget As Percentage of GDP, FY 1965-2006
(derived from Fraser and others, 2008; Office, 2008:136)

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Manpower.

As expected, the continued reductions of DoD budgets directly impacts the ability of the military to maintain adequate force strength. As such, another factor amplifying the use of PMCs to augment military operations is the significant reductions in manning levels. Over the last thirty-five years, the DoD has experienced noteworthy declines in manpower. According to the DoD's Statistical Information Analysis Division (SIAD), which maintains historical reports of DoD personnel statistics, there were significant reductions in DoD end strength levels for active duty military personnel in the United States between fiscal years 1955 through 1995. A visual depiction of the decline in total DoD active duty personnel is provided in Figure 5 (Department, 1997).
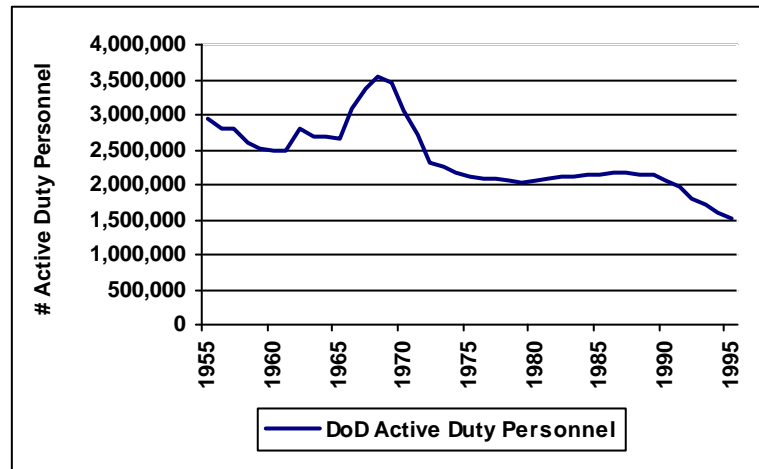
Figure 5. DoD Active Duty End Strength, FY 1955-1995
(derived from Department, 1997)

Deployments.

In parallel with these significant reductions in active duty end-strength, the military has also increased the number of operational deployments, particularly since the Gulf War. According to Martinez, during the period from 1950 to 1989, the Army was

involved in only "ten major deployments" (Martinez and Tepas, 1999). However, the Army was not the only service supporting deployed operations. As such, a more encompassing view of all DoD overseas deployments during this timeframe is reported by the Congressional Research Service (CRS). A review of the data provided by CRS in the Congressional Report, *Instances of Use of United States Armed Forces Abroad, 1798-2007*, indicates the DoD was engaged in approximately forty-four overseas deployments from 1950 to 1989. Furthermore, the DoD significantly increased operational tempo by supporting approximately one hundred and ten overseas deployments between 1990 and June 2007 (Congressional, 2007). The trend in the number of operations, shown in Figure 6, include an array of military, peace keeping, and humanitarian missions.
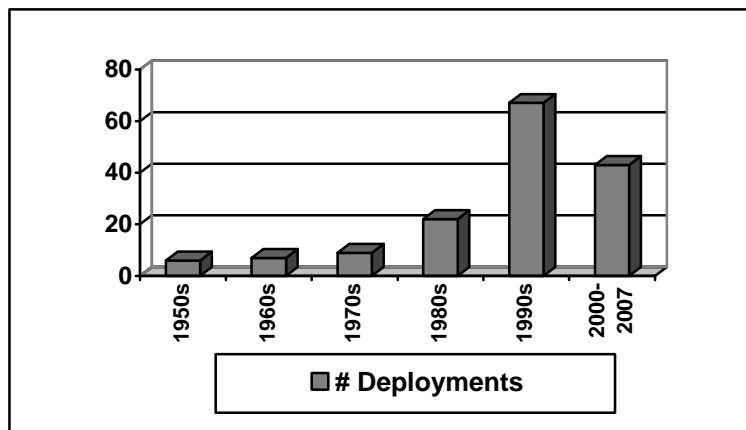
Figure 6. Operational Deployments, 1950-June 2007
(derived from Congressional, 2007)

Technology.

Concurrent with the rise in operational tempo, a fourth factor contributed to an increased use of PMCs. Increases in technology resulted in the fielding of more complex weapon systems (Turner and Norton, 2001; Novak, 2004:18). For example, modern

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weapon systems incorporate specialized equipment such as "computers, lasers, biological sniffers, mass spectrometers, robots, night-vision systems, people sensors, satellite radios, video recording equipment, and ground and aerial surveillance radar." (Schumacher, 2006:31). In addition, many military platforms have become increasingly software intensive over the past three decades. According to Nelson, this increased reliance on software based platforms was evident in two areas. Nelson, using data from Etter's presentation at the 1999 Software Technology Conference, noted there was a significant increase in the source lines of code, as depicted in Figure 7 (Nelson and others, 1999:54).
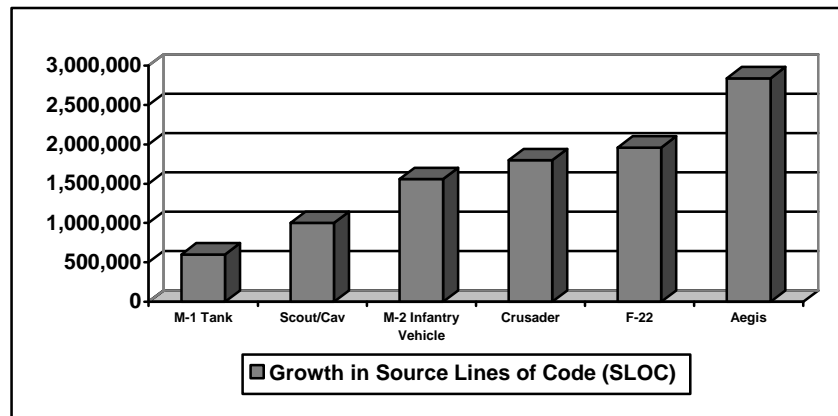
Figure 7. Weapon System Software Sizes
(derived from Nelson and others, 1999:54)

However, growth in the source lines of code was not the only means by which software impacted weapon system designs. The second area impacted was the number of weapon system functions that were dependent on software. For example, as the complexity of aircraft platforms increased, more of the system functions were controlled

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by software. Nelson, using data from the 1992 Bold Stroke Executive Software

Conference, compared various weapon systems and the functional dependency on

software, as shown in Figure 8 (Nelson and others, 1999:55).
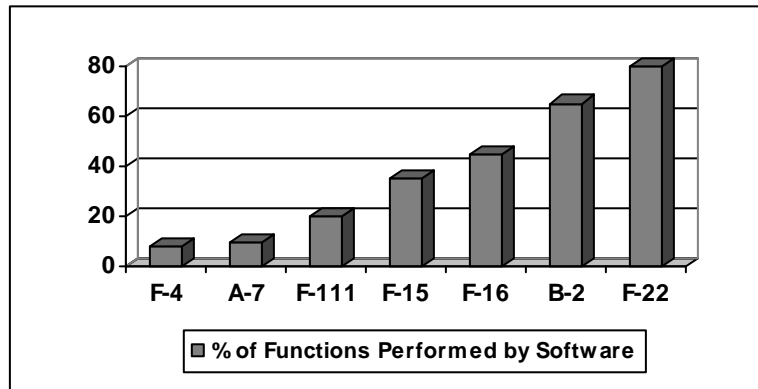
Figure 8. Weapon System Functions Performed by Software
(derived from Nelson and others, 1999:55)

In addition to the increased reliance on software intensive weapon systems, the

use of revolutionary capabilities, such as stealth composites, has driven a need for

specialized skill sets. However, as the military continued reducing manpower levels, no

significant investments were made in maintaining an adequate organic capability of these

specialized skills sets. This is evident in the rise of contractor logistic support contract

awards in the 1990s. Core tasks related to software coding and maintenance as well as

stealth technologies were also outsourced to the private sector.

Recent Use of PMCs in Iraq

While historical precedent exists for outsourcing support tasks to contractor

personnel, the use of PMCs has escalated over the past fifteen years (Novak, 2004:14).

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This escalation, as shown in Figure 9, is apparent in the significant increase in the ratio of contractors to military troops over the past fifteen years (Peters, 1996; Miller, 2007).
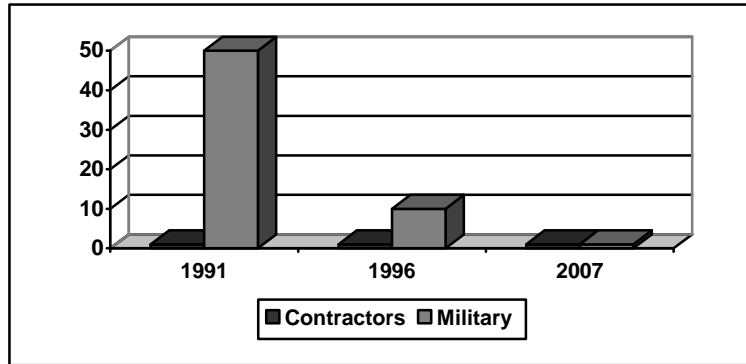
Figure 9. Contractors to Troops Ratio
(derived from Peters, 1996; Miller, 2007)

More so, the most significant observation in Figure 9 is that in 2007, the estimated number of civilian contractors essentially equaled the number of troops. During 2007, the major conflict being support by the DoD was the war in Iraq. However, Singer speculates that this dramatic increase in PMC support on the battlefield went largely unnoticed by the American population (Singer, 2004b). However, in March 2004, some tragic and very public events unfolded that brought the use of PMCs in Iraq into the media spotlight.

Defining Moment.

Many Americans recall where they were during some of the defining moments in recent U.S. history to include events such as the bombing of Pearl Harbor, assassination of John F. Kennedy, walking on the moon by Neil Armstrong, and collapse of the twin towers at the World Trade Center. However, another iconic moment occurred on March 31, 2004, when horrifying images of the mutilated and charred bodies of four Blackwater

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contractor personnel hanging from a bridge in Fallujah, Iraq, were shown on the evening news (Singer, 2004b). For some, this tragic event evoked memories of the images of the bodies of American soldiers being desecrated and paraded through the streets of Mogadishu, Somalia, during OPERATION RESTORE HOPE in 1993. Nonetheless, the events that transpired that fateful day in Fallujah triggered awareness on the extensive use of PMCs on the battlefield (Singer, 2004b).

As a result, the public was provided a small insight into the extent the DoD is embracing the use of PMCs in Iraq to ensure real-time military operational needs are met. For example, armed PMC personnel are providing security for Coalition Provisional Authority personnel, construction sites, and military convoys (Zabci, 2007). Yet using PMCs as a short term solution to meet real-time military readiness in Iraq presents unique challenges. A report prepared by the United States House of Representatives Committee on Oversight and Government Reform, *Private Military Contractors in Iraq: An Examination of Blackwater's Actions in Fallujah,* summarized the aforementioned Blackwater incident in Fallujah as raising "serious questions about the consequences of engaging private, for-profit entities to engage in essentially military operations in a war zone" (Committee, 2007b:17).

The continued escalation in the use of PMCs in the twenty-first century is also readily apparent in the types of manpower supporting the war in Iraq. According to Miller, the DoD is using civilian contractor guards to support military operations in Iraq at levels higher than in any previous conflict (Miller, 2007a). As such, the current War in Iraq provides an opportunity to assess real-time data on the use of PMCs on the battlefield.

Initial research findings on the utilization rates of civilian contactors in Iraq suggests some alarming trends. When the war in Iraq began in March 2003, an accurate system to estimate the number of civilians residing in-country to support the conflict did not exist. However, in December 2006, Merle reported the number of contractors supporting military operations in Iraq was 100,000 (Merle, 2006). Just a short seven months later, in July 2007, Miller reported the 180,000 contractor employees in Iraq outnumbered the 160,000 military troops deployed there (Miller, 2007a). Miller's report was significant because it represents the first time the number of contractors exceeded the number of military troops in a combat zone. To further complicate matters, Knickerbocker notes the majority of the estimated "126,000 to 180,000" contractors currently in Iraq are not from America but from locations such as "Fiji, Brazil, Scotland, Croatia, Hungary, New Zealand, Pakistan, South Africa, Australia, and other countries" (Knickerbocker, 2007).

Types of Support Being Provided.

PMCs possess a wide range of skill sets enabling the delivery of a multitude of services. In Iraq, many of the PMCs routinely fulfill traditional roles such as logistics and infrastructure support. Kidwell expands upon the types of services provided by including "construction, security, training, maintenance of facilities and equipment, logistical support, transportation, and maintenance of information technology

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capabilities" (Kidwell, 2005:29). In addition, Table 3 provides a visual representation of information extracted from Schumacher's book that summarizes his views of the various categories of support provided by PMCs in Iraq.

Table 3. Schumacher's View of PMC Services in Iraq
(derived from Schumacher, 2006:15)

Contractors	Support Areas	Support Examples
Construction	Infrastructure	Build Housing, Provide Utilities
Trucking	Transportation	Transport "supplies to the soldiers and construction sites"
Training	Training	Train combat and law enforcement
Technical Assistance	Operations, Support	Operate and Maintain Communication Networks
Security	Safety	Guard Personnel, Convoys

In addition, the United States Government Accountability Office (GAO) published a report, *Military Operations - High-Level DOD Action Needed to Address Long-standing Problems with Management and Oversight of Contractors Supporting Deployed Forces*, in December 2006. This report illustrated several types of service areas that have been contractually awarded to PMCs in Iraq. These service areas include support functions such as construction, base operations, force protection and security, and logistics (United, 2006:8).

However, the roles fulfilled by PMCs are evolving from support to more combat-related tasks. In addition, the environment they operate in has grown increasingly hostile and dangerous (Schumacher, 2006:29; Roberts, 2007). Turner comments that the level of PMCs involved in the "tactical success" of operations is unprecedented (Turner and Norton, 2001). In addition to the increased use, many areas once considered inherently military functions are routinely being outsourced. These areas include tasks such as

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interrogation, security, and convoy protection. In effect, this transition is creating a new paradigm for civilian support of military operations on the battlefield. However, this new paradigm is not without challenges and areas of concern.

Areas of Concern.

With the likelihood of continued proliferation of PMCs on the battlefield, consideration must be given to the long-term implications of using civilians in combat. The widespread use of PMCs in combat-related roles is somewhat unchartered territory and there is an increased opportunity for ethical and legal challenges. As noted by Singer, primary areas of concern include the need for regulation, oversight, and accountability with respect to the use of PMCs (Singer, 2005).

For example, the lack of PMC accountability is clearly demonstrated in the fallout of the Abu Ghraib prisoner-abuse scandal. During the extensive media coverage of this scandal, it was noted that six contractors were "identified as individually culpable" but not one of these employees has ever been held accountable for their role in the prisoner-abuse scandal (Singer, 2005). As reported on the evening news, the same conclusion cannot be made about the military troops working beside these contractors in the exact same prison. According to Follman, multiple military members received various judicial and non-judicial punishment for their involvement in the abuses at Abu Ghraib (Follman and Clark-Flory, 2006).

Noteworthy Incidents.

In addition to the events that unfolded at Abu Ghraib, the literature identifies other noteworthy incidents surrounding the use of PMCs in Iraq over the past few years. These troubling events involve allegations of kidnapping, human right abuses, and

friendly fire incidents with military troops. While not all encompassing of every key

incident, a summary of some alleged events reported in the media is presented in Table 4.

Table 4. Overview of Alleged PMC Incidents in Iraq

Timeframe	Alleged Event Summary	Company Mentioned	Source
2003-2004	Contractor interrogators and translators at Abu Ghraib prison	CACI (interrogators) Titan (translators)	Guma, 2004; Hartung, 2004; Pan, 2004; Singer, 2005; Witte, 2007
2004	Four contractors killed and hung from bridge in Fallujah	Blackwater USA	Singer, 2004b
2004	Contractor kidnapped and beheaded	Gulf Supplies and Commercial Services	Wong, 2004
2005	Contractors fired upon U.S. Marine checkpoint	Zapata Engineering	Phinney, 2005; White and Witte, 2005
2005	Contractor fired on civilian vehicles	Aegis Defence Services	Rayment, 2005
2005	Contractor released riot control gas on civilians and American soldiers	Blackwater	Risen, 2008
2006	Contractor shot and killed security guard	Blackwater USA	Committee, 2007a:9
2006	Contractor accused of shooting into two civilian vehicles	Triple Canopy	Jackman, 2006
2006	Five security contractors kidnapped	Crescent Security Group	Associated, 2006
2007	Contractors fired upon civilians, killing 17	Blackwater USA	Flaherty, 2007; Scahill, 2007a
2007	Contractor shot taxi driver	DynCorp	Glanz, 2007

The issues identified above surrounding the use of PMCs in Iraq over the past few

years are not the only concern for the use of PMCs on the battlefield. Reflection and

consideration must be given to an all-encompassing perspective on the use of PMCs with

respect to the future of the military force structure. For example, Singer notes the use of

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PMCs as private entities may represent a challenge to the very existence of the military (Singer, 2005). If countries are able to hire "private armies" or "shadow armies" to accomplish national objectives, maintaining a large active duty military force may not even be necessary. In essence, this means the military may eventually face competition from private industry in the fulfilling the role of the Profession of Arms. This revelation may be viewed by some as an over exaggeration but it is nonetheless troubling to consider future wars could potentially be fought by the lowest bidding non-state actor.

Continued Reliance.

As assessment of the literature indicates the increasing reliance on PMCs to support battlefield operations will continue. This is attributed to the expectation that the driving factors are likely to continue in the out years. For example, defense budgets and manning levels are anticipated to decline in the out years. Additionally, DoD weapons system platforms continue to incorporate the latest technologies to maintain war fighting supremacy. Furthermore, the reported increase in PMCs in Iraq, shown in Figure 10, indicates increased reliance on PMCs is already evident (Merle, 2006; Miller, 2007a).
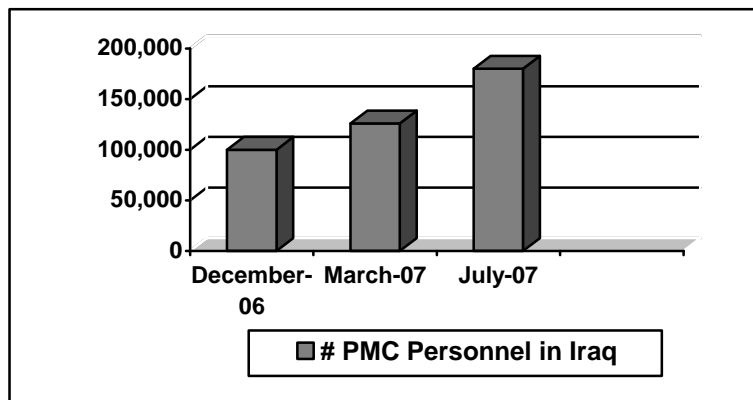
Figure 10. Increase in PMC Personnel in Iraq
(derived from Merle, 2006; Miller, 2007a)

Chapter Summary

      This chapter provided a brief overview of the research topic and an evaluation of the existing sources analyzed as part of this literature review. Faced with the challenges of diminished budgets, reduced manpower, increased operational deployments and advanced weapon systems technology, the DoD has repeatedly turned to the private sector to maintain operational readiness and support increased operational deployments.

      In general, the literature review outlines the DoD's reliance on contractor support has grown significant since the 1990s. More so, the number of contractors in the combat areas exceeded the number of troops deployed to Iraq (Miller, 2007a). In addition, the literature supports the trend toward increased privatization of military operations will likely continue. As a result, there is a clear and immediate need to understand the inherent challenges of using civilians on the battlefield and recommend improvements to the regulation, oversight, and accountability of PMCs (Singer, 2005).

      The next thesis chapter provides an overview of the research strategy and detailed description of the methodology selected for in this study. As previously mentioned, this research is an emerging topic. In turn, the research methodologies are qualitative in nature and dependent on the type of data being analyzed.

Chapter Overview

This chapter presents an overview of the methodology selected for this research effort to answer the research and research questions presented in Chapter 1. The focus of this chapter is to describe the design of the research strategy, restate the research questions, outline the process for collection and analysis of the data, and acknowledge the limitations of the methodology.

Introduction

From a simplistic view, this research effort generally focused on executing five steps in order to transition from defining the purpose of the study to the reporting of the Results (Figure 11). The purpose of this research was previously discussed in Chapters I and II. As such, the next step to consider was the methodology.
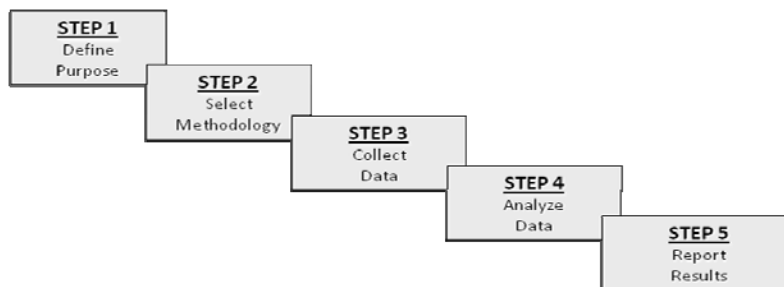
Figure 11. Major Steps of Research Process

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Research Strategy

To select a methodology, a research strategy was required. *Webster's* defines research as "systematic investigation in a field of knowledge, to discover or establish facts or principles" (Research, 1982:635). From an elementary perspective, research involves formally establishing and attempting to answer questions on a particular area of interest. In support of this process, Dane contends research is the "critical process for asking and attempting to answer questions about the world" (Dane, 1990:4).

Research Design.

A key construct of the research is the research design. Yin comments a research design construct, or "blueprint," is required to logically chart the course of the effort from the research question to the conclusions (Yin, 2003:20). Various methods can be used by a researcher to conduct the study: quantitatively, qualitatively, or a combination of both. However, a primary consideration in designing the research strategy is to consider the purpose of the research and the questions that are to be answered. Correspondingly, Thomas agrees that the research strategy is best determined based on the nature of the research and objectives to be satisfied (Thomas, 2003:225). Yin elaborates that in addition to the type of research being asked, a researcher must also consider what level of

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control can be exerted on events as well as a focus on current or past activities (Yin, 2003:5). The relationship of these three considerations, as defined by Yin, with respect to research strategies are presented below (Table 5).

Table 5. Yin's Examples of Relevant Situations for Different Research Strategies (Yin, 2003:5)

Strategy	Form of Research Question	Requires Control of Behavioral Events?	Focuses on Contemporary Events?
Experiment	How, why?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival Analysis	Who, what, where, how many, how much?	No	Yes/no
History	How, why?	No	No
Case Study	How, why?	No	Yes

Quantitative vs. Qualitative Approach.

As previously mentioned, research can be conducted using quantitative, qualitative, or combined effect approach. Quantitative research primarily involves the use of numbers, hypotheses, and statistics while qualitative research usually focuses more on data expressed as words (Neuman, 2006:8). Similarly, Thomas contends quantitative research concentrates on "measurements and amounts" while qualitative research focuses on "describing the kinds of characteristics" (Thomas, 2003:1). In turn, there is often a debate on whether the traceable and rigorous quantitative approaches are superior to the more subject and interpretive nature of qualitative approaches.

Thomas argues "Qualitative methods are neither inherently nor generally superior to quantitative methods, and vice versa" (Thomas, 2003:225). In support of this statement, Thomas emphasizes that while qualitative research may have been challenged in the past, many experts now consider qualitative and quantitative approaches "complementary rather than antagonistic" (Thomas, 2003:6). Furthermore, Libarkin suggests quantitative data and qualitative data to share a reciprocal relationship as depicted in Figure 12. This relationship is intended to illustrate that quantitative data, while primarily focused on numbers, is derived from qualitative data. In turn, qualitative data is usually expressed in words but can be transformed into quantitative data (Libarkin and Kurdziel, 2002).
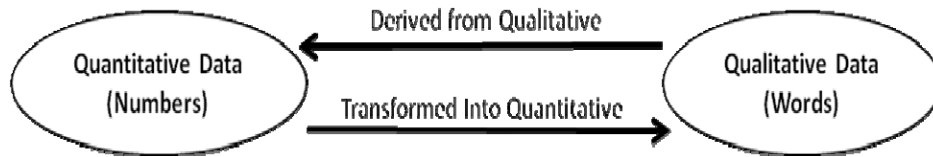
Figure 12. Reciprocal Relationship of Data
(derived from Libarkin and Kurdziel, 2002)

While some may argue the rigor and acceptability of qualitative research, Daley comments the "number and quality of qualitative studies in almost every discipline has increased" (Daley, 2004). Furthermore, a review of the literature on methodologies established qualitative studies are routinely conducted and accepted across an array of professional categories such as medical, education, behavioral sciences, and social sciences research efforts.

More to the point, Thomas emphasizes many researchers today view the debate over which approach is better to be somewhat insignificant. Instead, the selected method

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should focus on being able to answer the research questions (Thomas, 2003:7). With this in mind, the research questions of this study were evaluated to determine a research strategy.

Research Questions

As outlined in Chapter I, the purpose of the research is to describe the basic characteristics of the use of PMCs in Iraq and identify the emerging themes on the challenges involved when using a civilian footprint on the battlefield As discussed above, Yin emphasizes research strategy selection involves assessing the form of the research question. As such, the form of the five research questions created for this study were evaluated against the guidelines in Table 7. The results are presented below with key words highlighted:

- *"**How many** PMC personnel are being used to support battlefield operations?"*
- ***Who*** *are the top ten companies responsible for employing the largest number of PMCs personnel?"*
- *"Of the top ten companies identified in Research Question #2, **what** primary mission areas are being outsourced?"*
- *"**Who** are the top ten corporate entities using armed PMCs personnel?"*
- *"**What** are the recurring themes regarding the challenges that arise when PMCs are used to support battlefield operations?"*

From this assessment, the research strategy approach from the five strategies was down selected to two possible considerations: survey or archival analysis. Next, it was noted that both of these approaches do not require control of external events and can be

used with contemporary events. However, upon further deliberation, a determination was made that a survey approach was not best suited for this topic due to a lack of subject matter experts available to interview within the allotted timeframe. As a result, an archival analysis approach was selected as the research strategy.

Archival Analysis Approach

In his book, Dane notes that archival research "is any research with a public record is the unit of analysis" (Dane, 1990:169). When using an archival analysis approach to answer the research questions, large amounts of data must be reduced to a manageable size in order to draw conclusions. A review of the literature indicates there are numerous methodological approaches to accomplish the reduction. For this research effort, several qualitative methodology approaches are used, including content and thematic analysis, open coding, and comparative analysis.

Content and Thematic Analysis.

Krippendorff notes that content analysis involves "a systematic reading of a body of texts…" and indicates the origin of this method dates back several hundred years when the Church evaluated texts (Krippendorff, 2004:3). Libarkin describes content analysis as a "search for patterns" (Libarkin and Kurdziel, 2002). In a recent research report,

Macnamara compiled a useful summary of excerpts from multiple definitions of content analysis, which are duplicated in Table 6 (Macnamara, 2006:3).

Table 6. McNamara's Summary of Content Analysis Definitions
(Macnamara, 2006:3)

Content Analysis Definitions Listed in Macnamara's Research Paper	Sources Cited by Macnamara
"research technique for the objective, systematic, and quantitative description of the manifest content of communication"	Berelson, 1952:18
"research method that uses a set of procedures to make valid inferences from text."	Weber, 1990:9
"a research technique that is based on measuring the amount of something…in a representative sampling…"	Berger, 1991:25
"a technique for gathering and analyzing the content of text."	Neuman, 1997:272-273

In addition, Dane elaborates that content analysis is appropriate for studies involving large amounts of text. The data analyzed during content analysis can be presented in "written, pictorial, oral, or audiovisual" form (Dane, 1990:169) and may include "books, newspaper or magazine articles…" (Neuman, 2006:322). A key strength of content analysis is that the researcher does not manipulate or intrude upon the data but rather focuses on interpreting the meaning of the content (Neuman, 2006:323).

A subset of content analysis, selected for this research, is thematic content analysis. According to Bryne, thematic analysis is like "sorting a box of buttons" (Bryne, 2001). The principal goal of thematic content analysis is to systematically reduce large amounts of data into key concepts, specifically by theme. Ryan considers the process of identifying themes to be "one of the most fundamental tasks in qualitative research" (Ryan and Bernard, 2003).

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During thematic content analysis, inductive analysis is used to identify patterns and themes in the data. In essence, the inductive approach involves interaction with the data to identify emergent themes rather than forcing themes onto the data. Similarly, Libarkin agrees thematic content analysis focuses on an inductive approach to discover dominant themes in the data (Libarkin and Kurdziel, 2002). However, in order to discover the themes, the data must be coded.

Open Coding.

In general, Strauss regards the analytical process of coding as the actions of separating and interpreting the data. More specifically, open coding is defined as "the process of breaking down, examining, comparing, conceptualizing, and categorizing the data" (Strauss and Corbin, 1990:61). While many coding techniques exist, this effort systematically reduced the data into categories and subcategories through observations of key words in the text (Ryan and Bernard, 2003). For this effort, open coding was used to identify the emerging themes on the challenges of using PMCs on the battlefield.

In order to identify the themes in the data, a systematic and repeatable process of coding the data must be applied. In particular, the coding scheme used depends on the unit of analysis and the intended measurement (Neuman, 2006:325). For this effort, the unit of analysis for the fifth research questions was the entire article or report text. As for the measurement consideration, the data was analyzed to determine if a challenge of using PMCs to support the war in Iraq was mentioned. A frequency count of the number of articles mentioning a theme compared to the total number of data sources analyzed was computed. However, the measurement did not include a frequency count of the number of times a challenge was mentioned within a data source.

In addition, Dane discusses two types of coding approaches for content analysis: manifest content and latent content. Manifest content relies on "concrete denotations" in the text, such as key words, while latent analysis involves "reading between the lines" and considers the embedded message (Dane, 1990:177). For purposes of this study, the coding approach utilized manifest content.

A key aspect of coding is that it is an iterative process where the data is read and re-read during analysis. When "no new themes" are identified, a state of theoretical saturation is reached (Ryan and Bernard, 2003). To clarify, the literature indicates others may refer to this state of saturation as theoretical sampling. Strauss conveys several areas may influence when theoretical saturation is complete: "...the number of texts and their complexity...investigator experience and fatigue...number of investigators" (Strauss and Corbin, 1990:188). For this study, the composition of the texts as well as the experience of the researcher assisted in determining when theoretical saturation was reached. In order to achieve theoretical saturation, repeated interaction of the data is required to support a comparative analysis approach.

Comparative Analysis.

Comparative analysis is often used alongside content and thematic analysis. Comparative analysis is fairly intuitive by definition and involves a recurring process of comparing new data with previously coded data (Patten, 2005:153). From this analysis, a determination could be made on if new categories of themes exist by comparing the textual data for similarities and differences (Ryan and Bernard, 2003).

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Data Collection

Within the five step process of this research effort, the purpose and selected methodology approach have been previously described. The next phase of the research process was to collect data. The use of PMCs to support military operations is an emerging area of study. As such, this research effort is primarily descriptive and qualitative in nature as extensive quantitative data are not yet available on this topic. The type of qualitative data evaluated as part of this study are existing census and archival data. Various sources are used and include military census data, professional papers, journals, periodicals, newspaper/magazine articles, and organizational forums.

Sampling.

While quantitative research tends to focus on selecting a representative sample, qualitative research directs the sampling toward "nonprobability or nonrandom samples" (Neuman, 2006:220.) While various methods of nonprobability sampling exist, purposive sampling was selected due to the exploratory nature of the research topic. Specifically, purposive sampling was used to narrow the broad category of the use of PMCs to a more narrow focus of the recent use of PMCs in the war in Iraq.

Inclusion and Exclusion Criterion.

In order to focus the data collection sampling on relevant data for the purpose of this study, inclusion and exclusion criterion were created based on the focus of the research questions. In order to reduce the collected data to that which was integral to this research effort, four inclusion/exclusion criterion were applied. The first inclusion and exclusion criterion involved the use of data from information available in the public domain. The next inclusion/exclusion criterion focused on the use of PMCs on the

battlefield only in Iraq. As such, data on the use of PMCs in Africa, South America, or other countries were excluded. The third inclusion/exclusion criterion limited the data to the use of PMCs only by the United States. As a result, data on the use of PMCs by other international entities were excluded. The final inclusion/exclusion criterion considered articles published during or after the start of the war in Iraq in March 2003. In addition, a subjective assessment to remove any duplicative data sources was conducted.

Search Techniques.

As previously discussed, only publically available data was used during the course of this research. To assist in the data collection for this effort, multiple sources were utilized to search for relevant data. These sources included the library located at the Force Institute of Technology (AFIT), Defense Technical Information Center (DTIC), and the world wide web. From these three venues, multiple internet, newspapers, and journals were considered.

Sources.

The end result of the application of the inclusion and exclusion criterion of the sources collected resulted in the identification of 57 relevant sources. While other sources on this topic exist, the time limitation on this research effort precluded review of additional data.   To gain a broader perspective on the issue and support triangulation, the textual data collected came from a variety of sources, such as journals, periodicals, professional papers, newspaper articles, and organizational websites. A categorical breakdown on the sources of the 57 textual sources analyzed is provided in Appendix B.

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Data Analysis

To answer the first four research questions, military census data published in July 2007 was used (Dow, 2007; United, 2007). Specific inclusion/exclusion criterion were applied in order to reduce the data and extract the subset necessary for this research effort. This military census information was formatted in a Microsoft Excel spreadsheet consisting of 1,901 lines of raw data. As a result, manually summarizing and analyzing this voluminous amount of data was time and resource prohibitive. To simplify the process, sorting and filtering tools as well as pivot tables were used to manipulate the raw data into multidimensional views. Next, various comparisons and patterns in the pivoted data were explored in order to answer the first four research questions of this study. Descriptive statistics and visual aids were created to facilitate the presentation of the findings.

After the census data was analyzed, the research effort focused on the textual data to answer Research Question #5. Bryne states "All qualitative research studies are unique and thus demand unique strategies for analysis" (Bryne, 2001). Understandably, the textual data was analyzed differently from the census data.

As discussed earlier in this chapter, the textual data was analyzed using the qualitative methods of content and thematic analysis, open coding, and comparative analysis. The analysis of this data was an iterative process of coding and comparing.

To start, the three areas of concern identified by Singer, as reported in Chapter II, served as the basis for the initial thematic coding structure of the data. In addition, a few random textual data sources were reviewed to get an initial understanding of the data. During the initial scan of the data, several additional categories of challenges emerged.

The process of reading and re-reading the data continued. During this recurring review process, as each code category was identified in the data, the category was compared against existing categories. This comparative analysis was necessary to determine if the theme fit into an existing category or if a new category needed to be created.

Three clarifications on the process of coding are necessary. First, the frequency measurement for the coded data only considered if the theme was or was not present in the data source. However, the measurement did not count how many times the theme was mentioned internal to the data source. Next, in order to maintain a documented and traceable research trail, the results of the coded data were entered into a thematic analysis matrix (Appendix C). Third, while Daley comments that multiple computer analysis tools are available for qualitative data analysis, the data for this research was analyzed manually (Daley, 2004).

Limitations of Methodology

The methodology selected has several limitations. First, all data collected and analyzed as part of this study was obtained from secondary sources. Dane suggests that the use of secondary data complicates the issue of determining reliability and validity (Dane, 1990:87). However, the limitation of time to conduct this research combined with the emerging nature of the topic precluded the opportunity to collect primary data. In addition, this study only considers publically available data. Furthermore, no PMC corporate offices were contacted for information on this topic.

Another limitation of the methodology was the lack of incorporating other qualitative approaches such as interviews, surveys, or case studies. However, a

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determination was agreed upon early in the research that very few subject matter experts existed and were accessible for this emerging topic. In addition, it was not feasible to use a case study analysis and have the researcher deploy to Iraq to discuss the use of PMCs and the resulting challenges of incorporating civilians to support battlefield operations. Furthermore, as the war in Iraq is ongoing, the existing data on the use of PMCs to support battlefield operations is likely to update frequently.

Chapter Summary

This chapter summarized the methodology selected to answer the research questions in support of the research purpose. For the first four research questions, census data was quantitatively analyzed to describe the general characteristics of the level of PMC support in Iraq. For the remaining two research questions, an interactive data analysis approach was best suited to support the qualitative assessment. Content analysis of archival data was implemented in order to identify emerging theme. In addition, a description of the research strategy, collection and analysis of the data, quality of the research, and limitations of the methodology was presented. The next thesis chapter addresses the analysis and results of the research.

Chapter Overview

The main purpose of this chapter is to present the results and analysis of this research. As such, Chapter IV presents the results and analysis of the data for each of the five research questions. The presentation of the findings includes qualitative as well as quantitative descriptions.

Introduction

Presentation of the results and analysis can be accomplished through a variety of means. As such, visual and graphical presentations of qualitative data are helpful tools to report the results of the analysis. Examples of these presentations to present the results of the data analysis of this effort include pivot tables, bar and pie graphs, as well as frequency tables (Neuman, 2006:348).

Specifically, the results of the data analysis for the first four research questions are conveyed through the use of pivot tables, bar graphs, and pie graphs. As mentioned in Chapter III, the core purpose of content analysis is to reduce large amounts of raw data into a manageable form. As such, the use of pivot tables and graphs aided in the presentation of the summary characteristics of PMC use in Iraq based on the 1,901 lines of data in the spreadsheet (Dow, 2007; United, 2007).

The results for the fifth research question are presented using a different approach. As the core of this question revolved around identify the primary themes in the archival data, frequency tables are used to display the number of times a specific theme

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occurred within the entire textual analysis. To clarify, the methodology approach selected allowed for the possibility of identifying more than one theme within a single source.

Research Question #1.

As presented in Chapter I, this question was *"How many PMC personnel are being used to support battlefield operations?"* The research effort purposely started with this particular question as it was determined to be the foundation upon which the other research questions were built. Prior to understanding lower levels of composition of the PMC workforce characteristics in Iraq and the challenges of using civilian contractors to support military operations, an assessment needed to be made as to the magnitude of use.

The census data was organized as 1,901 rows of data with 41 columns of information per row. As such, a total of 77,941 cells of data existed. However, not all of these cells of data were relevant to the research questions in this effort. In turn, the multiple fields of raw data included in the census data spreadsheet needed to be sorted, formatted, and organized. Of the 1,901 contract summary entries, it was calculated that there were a total of 534 companies. To clarify, there was no additional consolidation of companies. For example, there were instances where some of the companies listed were actually subcontractors to other companies listed in the census data. The data suggests these companies employed a total of 129,805 personnel to support operations in Iraq. In

addition, the census data was then reviewed to describe the composition of the origin of

these personnel among U.S., coalition, and other countries (Figure 13).
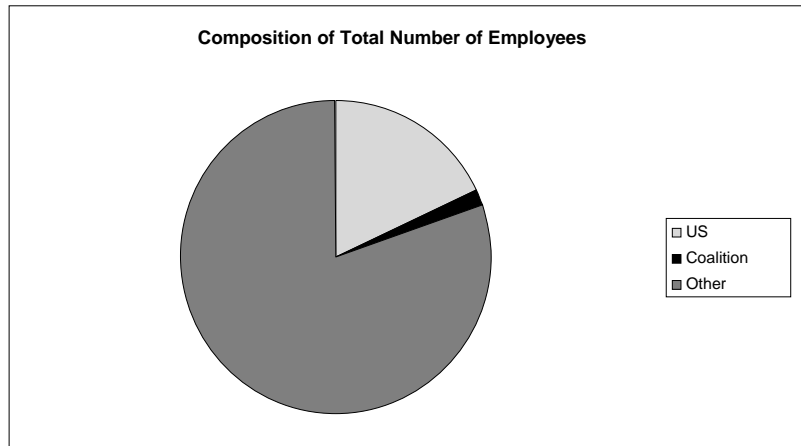
Figure 13. Composition of PMC Personnel

A review of the results in Figure 13 calculated approximately 73.6% of the

129,805 civilian contractor personnel in the census data were categorized as "Other." In

turn, the census data was further examined to distinguish the distribution of the "Other"

employees. Based on the census data, this next tier of information was able to be broken

down into two groups: third country and Iraqi nationals. After reviewing the

data, it was determined that approximately 72.6% of the "Other" employees were third country nationals as shown in Figure 14. To clarify, the census data did not specify the countries of origin for these nationals.

Break Down of "Other" PMC Employees

- □ Third Country
- ■ Iraqi National
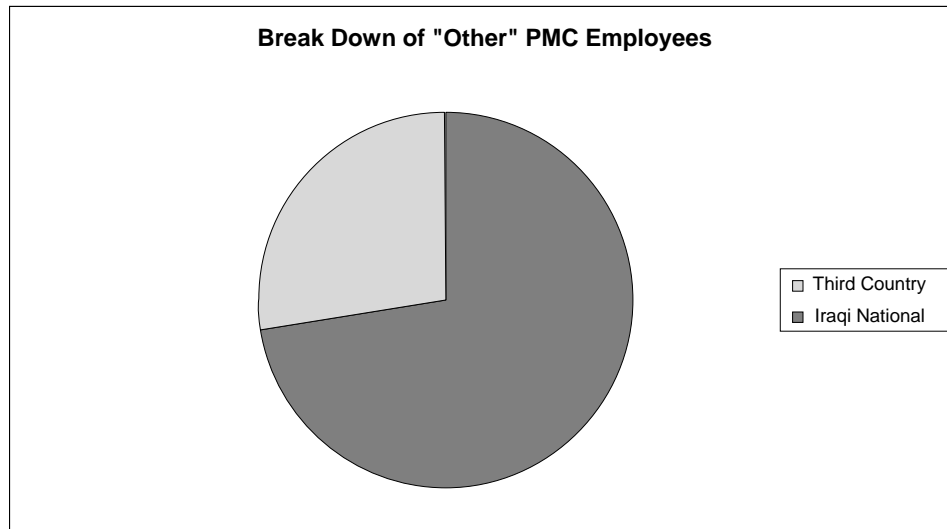
Figure 14. Composition of "Other" PMC Personnel Support

Research Question #2.

With an understanding of the large number of civilian contractors supporting operations in Iraq, the next step was to identify whom the largest employers of these 129,805 personnel were. In turn, the effort then focused on the next research question of *"Who are the top ten companies responsible for employing the largest number of PMCs personnel?"*

To answer this question, the census data was filtered, sorted, and consolidated by individual contractors. As mentioned above, a total of 534 companies employing personnel were identified during this research effort. Within these 534 corporate entities,

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the census data was configured to extract the top ten companies with the largest concentration of employees (Table 7).

Table 7. Top Ten Companies of PMC Employees

Company Name	# of Employees
Kulak	30,301
Kellogg, Brown, and Root (KBR)	15,336
Prime Projects International (PPI)	10,561
L-3 Communications	6,214
Gulf Catering Company	4,002
77 Construction	3,219
Environmental Chemical Company (ECC)	2,390
Serka Group	2,257
IPBD	2,164
Daoud & Partners	2,092

Of these ten companies, it was apparent the largest employer was Kulak as this company represented 30,301 of the 129,805 total PMC employees supporting operations in Iraq. A visual representation contrasting the comparative size of each of these ten companies is provided below (Figure 15).
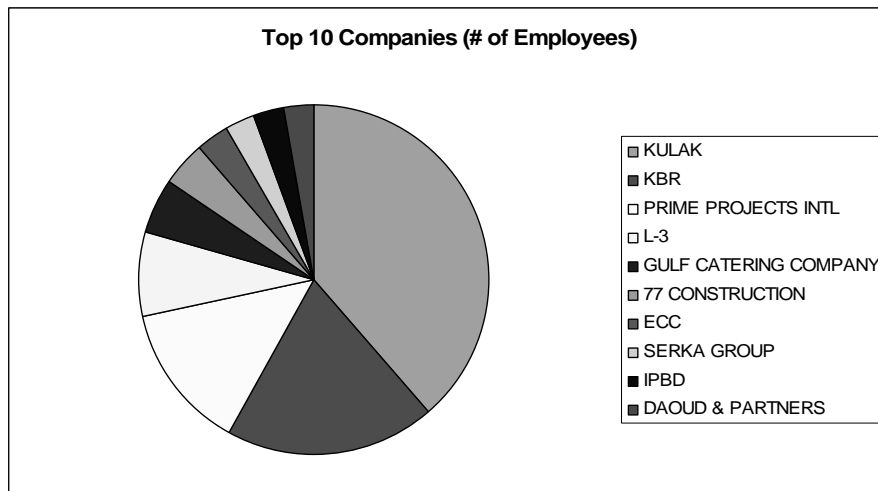
Figure 15. Comparison of Top 10 Companies Employing PMCs

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The analysis of the census data for this research question was taken one step further to gain a perspective on the comparative relationship between the total number of personnel employed by the top ten companies and the total number of employees. The results of the analysis are presented in Figure 16.
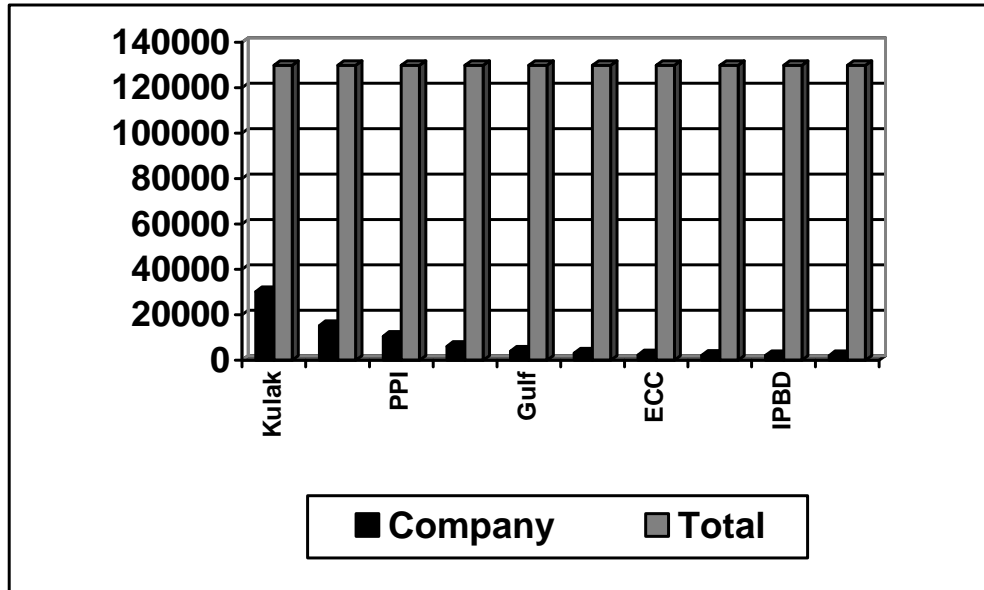
Figure 16. Top Ten Company Employees vs. Total Employees

While the bar graph in Figure 16 provides a visual comparison of the employees in each of the top ten companies in relation to the total number of PMCs contained in the census data, it was difficult to interpret the data in the figure to understand what portion of the PMC market share in Iraq these ten companies hold. To improve upon the visual representation, a pie chart of the total employees in the top ten companies was compared

to the total number of PMCs reported in the census data. The result, displayed in

Figure 17, was these ten companies compose approximately 60.5% of the total 129,805

employees in the market share.

Market Share of Top 10 Companies (# of Employees)

■ # of Employees In Top 10
Companies
□ Remaining # of Total Employees
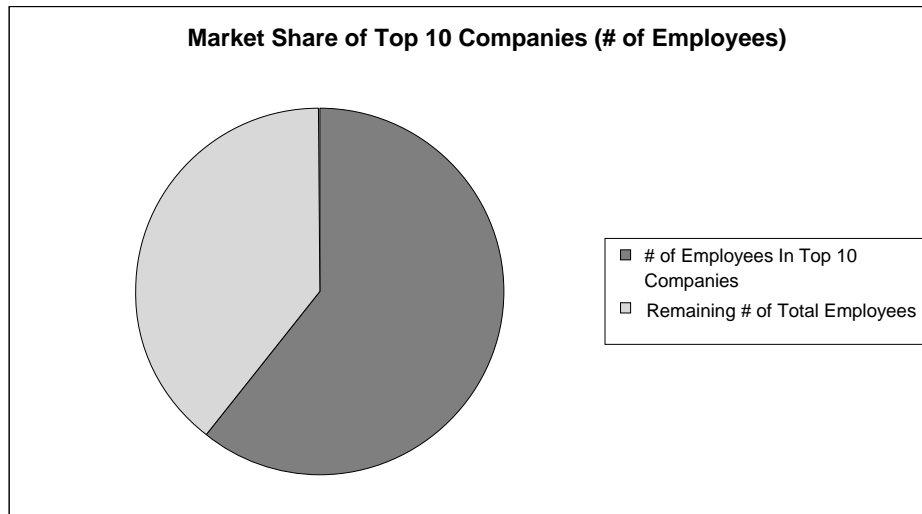
Figure 17. Market Share of Top Ten Companies vs. Total Employees

Research Question #3.

After characterizing whom the primary corporate players were in employing PMC

personnel in Iraq, the research continued to investigate the next research question: *"Of*

the top ten companies identified in Research Question #2, what primary mission areas

are being outsourced?"

The presentations of results for this research question will cover the ten

companies identified previously identified in Table 9: Kulak, KBR, Prime Projects

International, L-3 Communications, Gulf Catering Company, 77 Construction, ECC,

Serka Group, IPBD, and Dauod & Partners. For each of these ten companies, a brief

description of some of the types of tasks the PMCs are fulfilling is presented. In addition, bar graphs are included to show the top three mission areas each company supports in Iraq.

Kulak.

In general, Kulak is a Turkish company that employees construction workers. Kulak is responsible for projects such as runways and roads. Kulak became front page news in January 2007 when a small plane crashed near Baghdad, killing 32 workers (Abdul-Zahra, 2007).

Based on the census data analyzed, Kulak is the largest employer of PMC personnel in Iraq. However, it is worth noting that a contractual relationship exists between Kulak and KBR In general, some examples of the types of support Kulak provides in Iraq include: concrete, heavy equipment, labor, airfield repair, construction, logistics, and life support. Of the 30,301 Kulak employees, the top three mission areas supported in Iraq are construction, airfield repair, and life support, displayed in Figure 18.
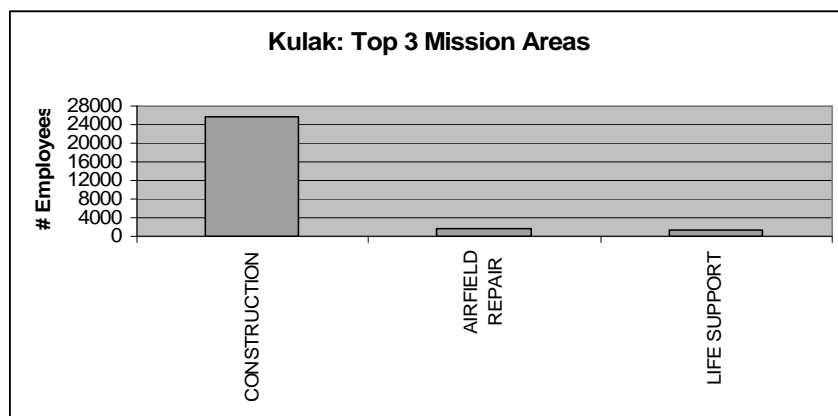
Figure 18. Kulak's Mission Areas

Kellogg, Brown and Root (KBR).

According to their website, the corporate offices of KBR are in Houston, TX (KBR, 2008). In December 2004, an attack by a suicide bomber killed four KBR employees in a dining hall in Mosul, Iraq (Halliburton, 2004). Additionally, KBR is often reported as the largest PMC in Iraq. However, the census data analysis suggests KBR is the second largest employer of PMC personnel in Iraq. However, clarification is needed as Kulak subcontracted to KBR. This relationship changes in April 2007, when KBR separated from the parent company of Halliburton (KBR, 2008).

In general, some examples of the support areas awarded to Kulak provides in Iraq includes: base camp operations and maintenance (O&M), contractor logistics support (CLSS), Joint Military Mail Terminal (JMMT), Theater Transportation Mission (TTM), and the Army Oil Analysis Program (AOAP). Of the 15,336 KBR employees, the top three mission areas supported in Iraq are base camp operations and maintenance, Theater Transportation Mission, and contractor logistics support, as displayed in Figure 19.
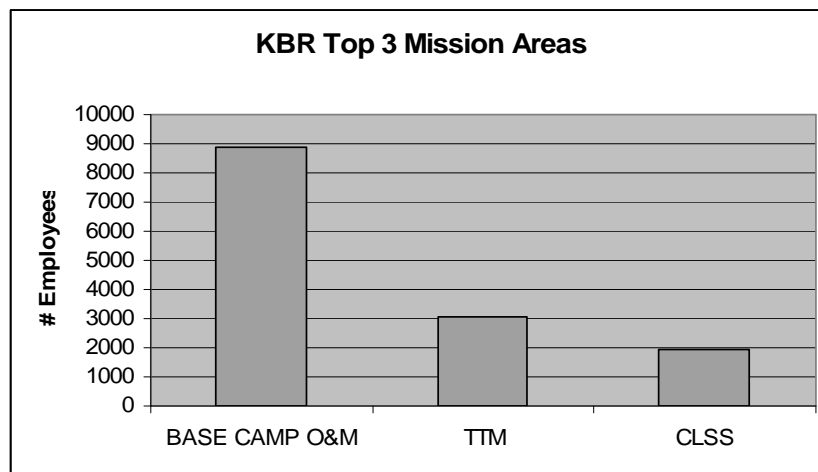
Figure 19. KBR's Mission Areas

Prime Projects International (PPI).

PPI is based out of Dubai and primarily provides labor to KBR to support operations in Iraq (Chatterjee, 2006). Based on the census data analyzed, PPI is also one of the top ten employers of PMC personnel in Iraq. In general, some examples of the types of support PPI provides in Iraq include: crane services, construction, labor, life support, logistics, IT support, Theater Transportation Mission (TTM), dining facility services, as well as water and waste services. Of the reported 10,561 PPI employees, the top three mission areas supported in Iraq are labor, life support, and logistics, as displayed in Figure 20.
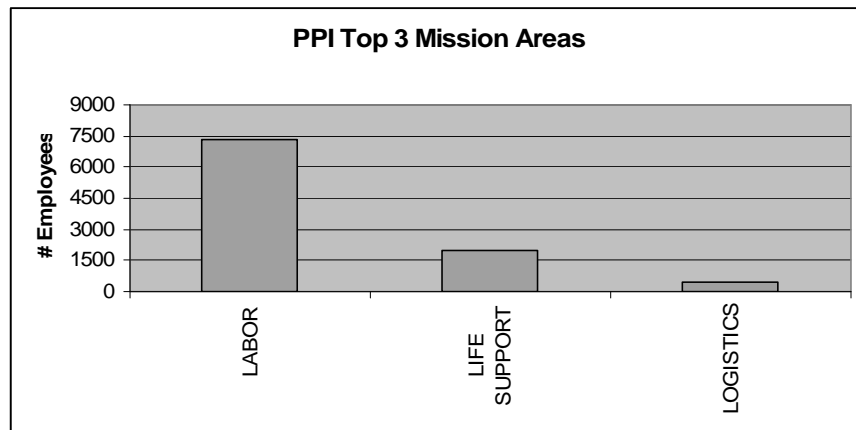
Figure 20. PPI's Mission Areas

L-3 Communications (L-3).

L-3 is headquartered out of New York City, NY (L-3, 2008). Based on the census data analyzed, L-3 Communications also employees a significant amount of PMC personnel in Iraq. In general, some examples of the types of support L-3 provides in Iraq include: aircraft maintenance, tactical wheeled vehicles (TWV), Automation Logistics Assistance Team (ALAT), interrogator, translator, linguist, intelligence, and IT services.

Of the reported 6,214 L-3 employees, the top three mission areas supported Iraq are translator, intelligence, and interpreter, as displayed in Figure 21.

L-3 Top 3 Mission Areas
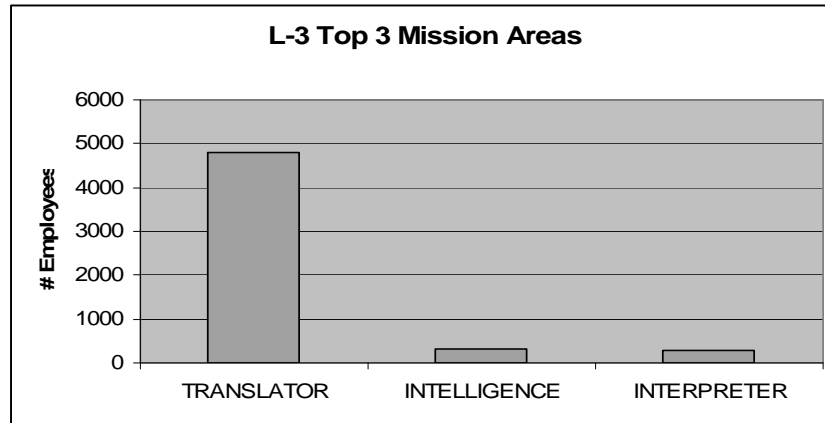
Figure 21. L-3's Mission Areas

Gulf Catering.

Gulf Catering is a Saudi company employed by KBR (Miller, 2007a). Based on the census data analyzed, Gulf Catering is a key employer of PMC personnel in Iraq. In general, some examples of the types of support Gulf Catering provides in Iraq include: labor, dining facilities, environmental control unit (ECU) maintenance, as well as food

and waste services. Of the reported 4,008 Gulf Catering employees, the top three mission

areas supported in Iraq are dining facilities, food and waste services as well as labor, as

displayed in Figure 22.
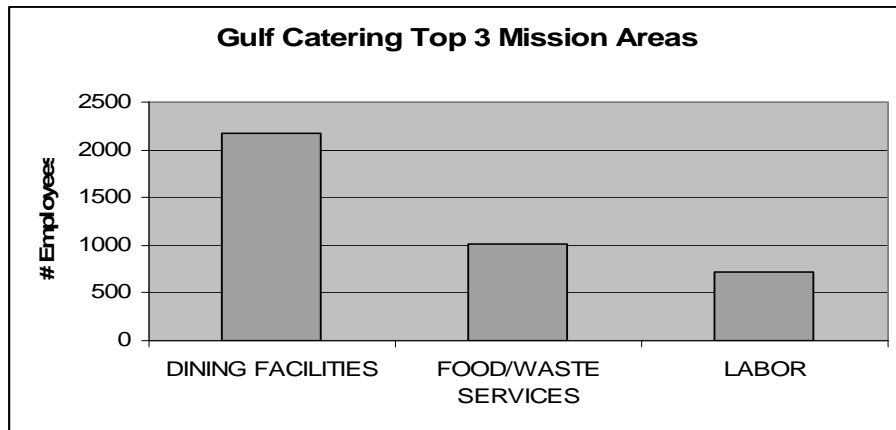
Figure 22. Gulf Catering's Mission Areas

77 Construction.

According to the company website, 77 Construction is an Iraq based company (77

Construction, 2008). Based on the census data analyzed, 77 Construction is another large

employer of PMC personnel in Iraq. In general, some examples of the types of support

77 Construction provides in Iraq include: construction, force protection, life support,

logistics, overhead coverage systems, tent camp operations and maintenance as well as

waste management. Of the reported 3,219 employees of 77 Construction, the top three

mission areas supported in Iraq are life support, construction, and waste management, as

displayed in Figure 23.
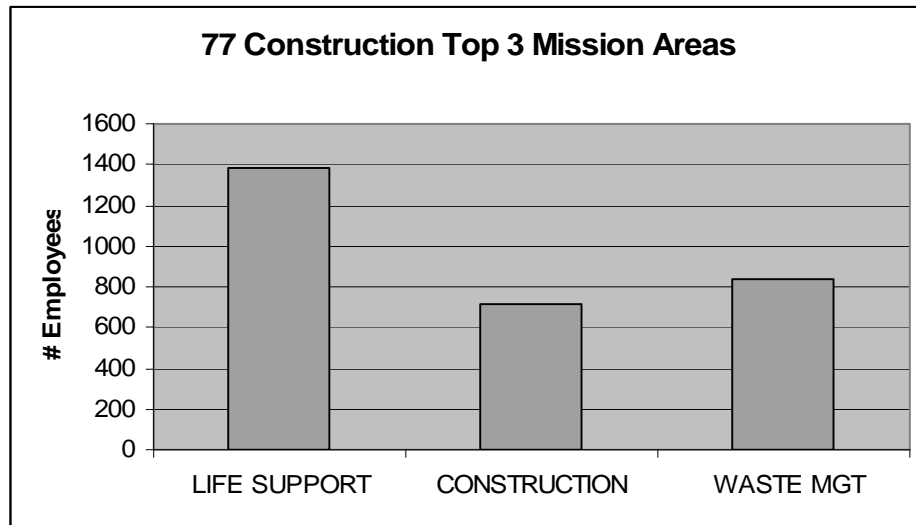
Figure 23. 77 Construction's Mission Areas

Environmental Chemical Corporation (ECC).

The corporate offices of ECC are located in Burligame, CA (Environmental,

2008). Based on the census data analyzed, ECC is the seventh largest employer of PMC

personnel in Iraq. Only one mission area was recorded in the census data. Of the

reported 2,390 employees of ECC, the mission area supported was reconstruction and is

displayed in Figure 24.
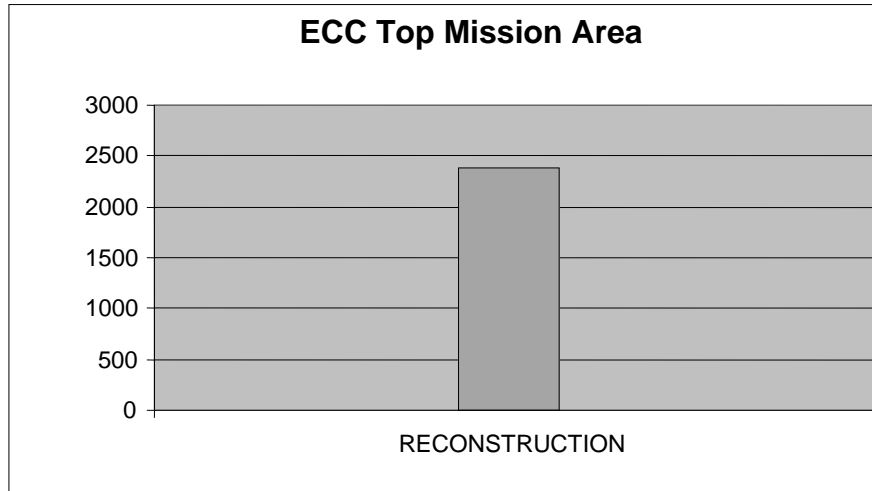
Figure 24. ECC's Mission Area

Serka Group.

Miler reports that Serka Group is a Turkish based company (Miller, 2007a).

Based on the census data analyzed, Serka Group employs a significant number of PMC

personnel in Iraq.   In general, some examples of the types of support Serka Group

provides in Iraq include: concrete, logistics, Theater Transportation Mission (TTM),

labor, construction, as well as equipment rental and repair.   Of the reported 2,250

employees of Serka Group, the top

three mission areas supported in Iraq are labor, construction and equipment rental/repair, logistics, and Theater Transportation Mission, as displayed in Figure 25.
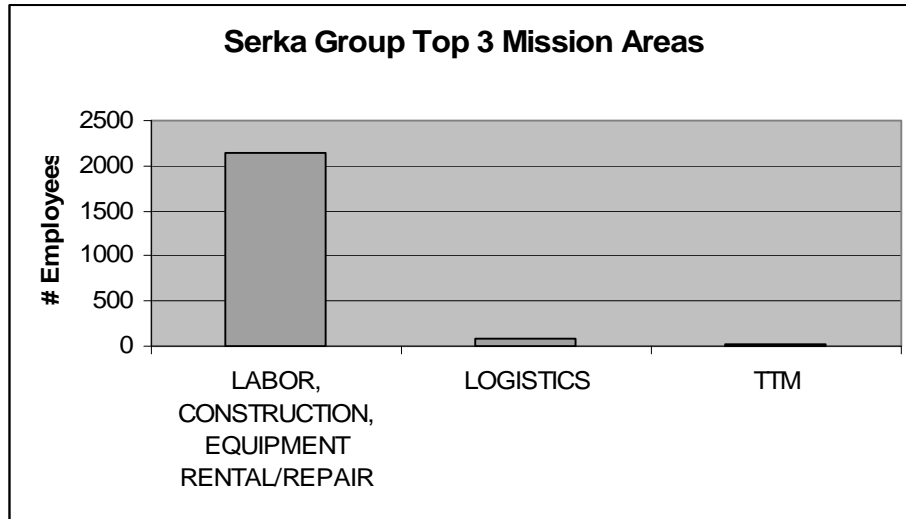
Figure 25. Serka Group's Mission Areas

IPBD Ltd.

According to Miller, IPBD is based in England (Miller, 2007a). Based on the census data analyzed, IPBD is a substantial employer of PMC personnel in Iraq. In general, some examples of the types of support IPBD provides in Iraq include: labor, base support, logistics, laundry, Theater Transportation Mission (TTM), and waste services.

Of the reported 2,164 employees of IPBD, the top three mission areas supported in Iraq are labor, operations and maintenance for laundry, and Theater Transportation Mission, as displayed in Figure 26.

IPBD Top 3 Mission Areas
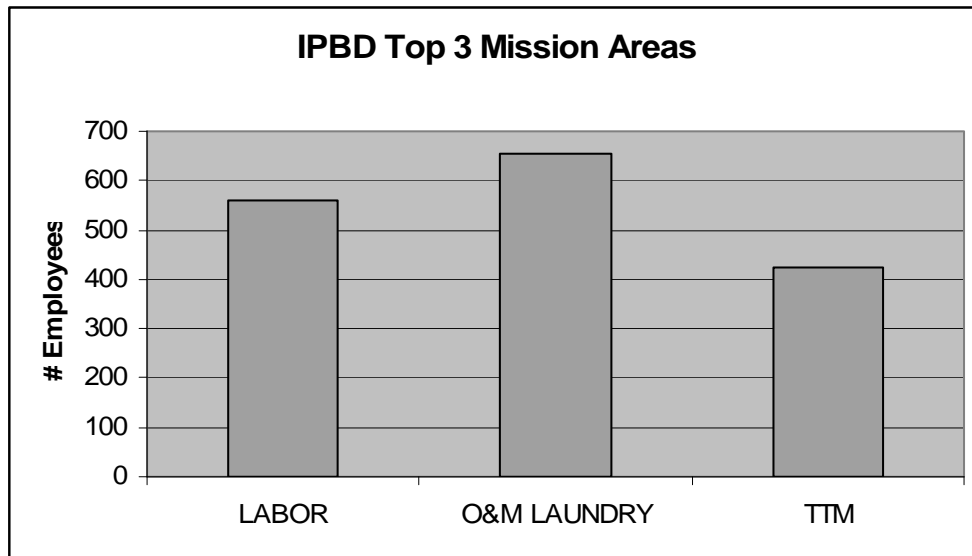
Figure 26. IPBD's Mission Areas

Daoud & Partners.

The main office of Daoud & Partners is located in Amman, Jordan (Miller, 2007a). Based on the census data analyzed, Daoud & Partners is the tenth largest employer of PMC personnel in Iraq. However, clarification is needed as Daoud & Partner is actually a subcontractor to KBR for supporting operations in Iraq. In general, some examples of the support areas awarded to Daoud & Partners in Iraq include: labor, construction, logistics, food services, dining facility support, and Theater Transportation Mission

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(TTM). Of the 2,092 Daoud & Partners employees, the top three mission areas supported in Iraq are temporary labor, dining facility support, and food services, as displayed in Figure 27.
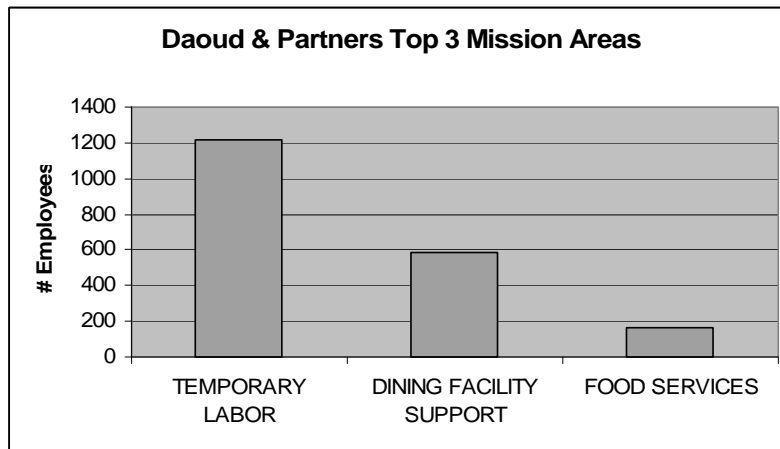
Figure 27. Daoud & Partner's Mission Areas

Research Question #4.

After analyzing the census data to identify the companies that were the ten largest employers of PMCs in Iraq, the research proceeded to answer the fourth research question: *"Who are the top ten corporate entities using armed PMCs personnel?"*

To answer this question, the census data was filtered, sorted, and consolidated by individual contractors. As mentioned above, a total of 534 companies employing personnel were identified during this research effort. Within these 534 corporate entities, the census data was configured to extract the top ten companies with the largest

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concentration of employees possessing weapons (Table 8). To clarify, analysis of the data did not result in identification of an instance where every single employee of any single company possessed weapons.

Table 8. Top Ten Companies With Armed Personnel

Company Name	Total of Employees Having
Erinys International	1,526
EOD Technologies	1,469
Tetra Tech Inc	913
SOC-SMG Inc	673
Blackwater	670
Triple Canopy	375
DAI	328
Falcon Security	259
Mabey Johnson	244
Al-Murtaja	222

Of the ten companies identified in Table 10, it was apparent the largest employer of personnel possessing weapons was Erinys International. However, EOD Technologies had a reasonably comparable amount of personnel possessing weapons. From the data presented in Table 10, it was noted that EOD Technologies had only 57 less personnel

possessing weapons than Erinys International. A visual comparison of the top ten companies possessing armed personal is displayed in Figure 28.

Top 10 Companies (# of Weapons)
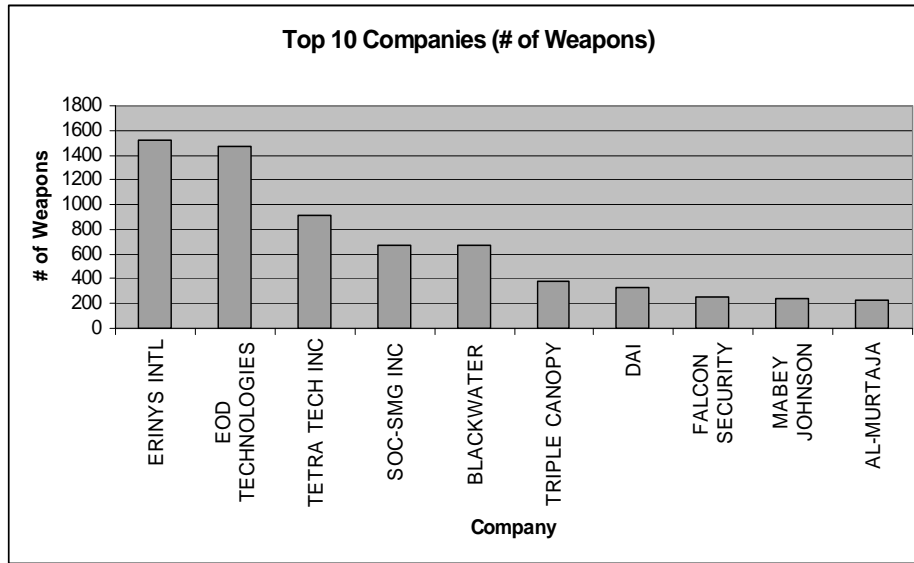
Figure 28. Top Ten Employers of Armed PMC Employees

The analysis of the census data for this research question was then taken one step further to gain a perspective on what portion of the market share these ten companies constitute. When the analysis was complete, a total 8,446 personnel were listed in the census data as possessing weapons of the total 129,805 employees in the data. From this,

it was calculated that these employees represent approximately 6.5% of the total 129,805

employees. A visual comparison of the number of armed and unarmed personnel is

presented in Figure 29.

Comparison of Armed and Unarmed Personnel

☐ Total # of Personnel Armed
■ Total # of Unarmed Personnel
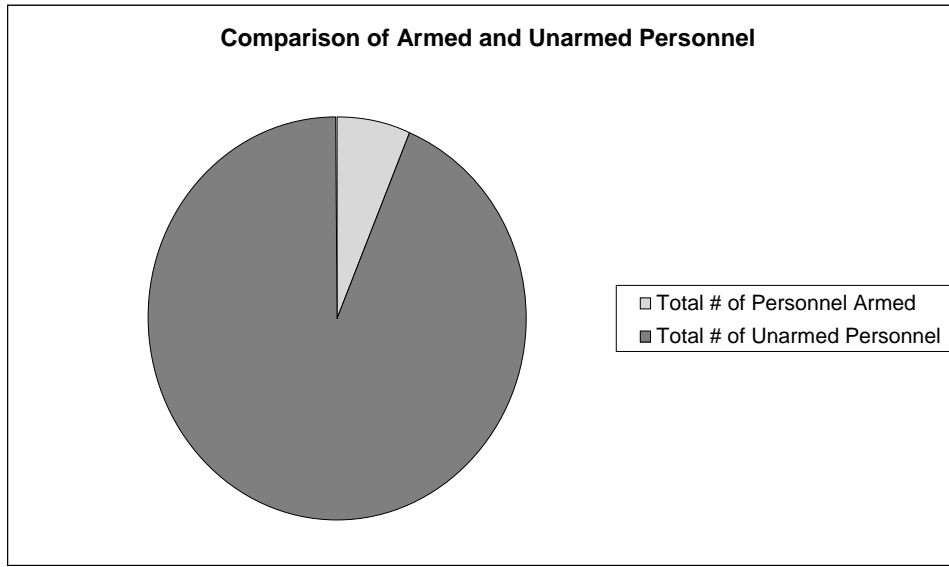
Figure 29. Comparison of Armed and Unarmed Employees

With respect to the 534 total companies reported in Research Question #1, it was

also calculated that a total of 60 of these companies were reported as having employees

possessing weapons. From this determination, it was concluded that these 60 companies

represent approximately 11.23% of the total PMC market share in Iraq (Figure 30).

Comparison of Companies with Armed & Unarmed Personnel

□ # of Companies With Armed Personnel
■ # of Companies With Unarmed Personnel
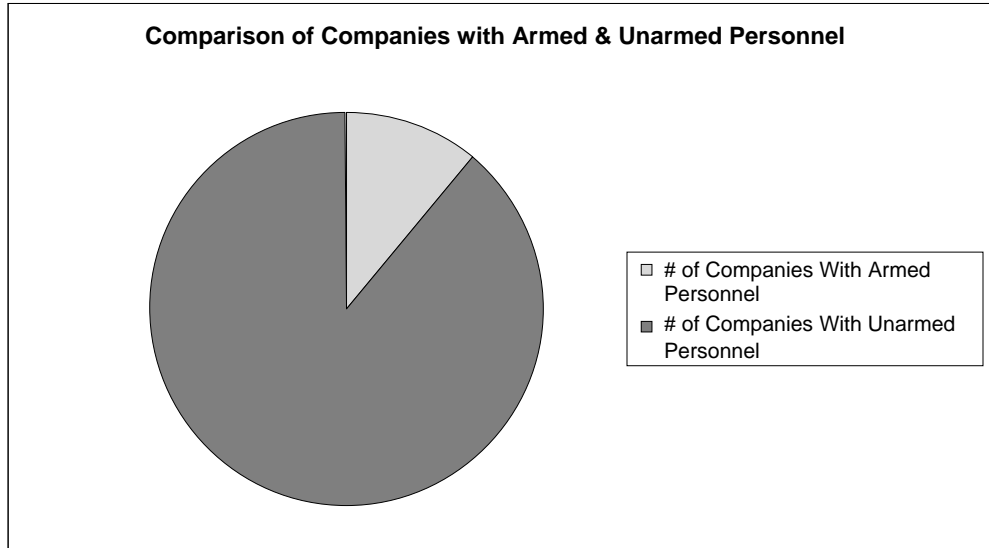
Figure 30. Market Share of Top Ten Armed Companies vs. Total Companies

Research Question #5.

After analyzing the census data, a description of the level of PMC use in Iraq was

successfully obtained to answer the first four research questions. With the understanding

of the magnitude of the use of civilian contractors to support military operations on the

battlefield established, this research effort progressed to the final research question:

"What are the recurring themes regarding the challenges that arise when PMCs are used

to support battlefield operations?" As discussed in Chapter III, the qualitative approach

of content and thematic analysis was applied. A subjective and interactive analysis of fifty-seven archival data sources resulted in the identification of fourteen themes in the Thematic Analysis Matrix, as summarized in Table 9.

Table 9. Fourteen Emerging Themes

Theme #	Theme Name
Theme #1:	Inadequate Oversight
Theme #2:	Insufficient Regulatory/Legal Framework
Theme #3:	Lack of Accountability
Theme #4:	Allegations of Human Rights Violations
Theme #5:	Transition to Combat-Related Roles
Theme #6:	Unclear International Status
Theme #7:	Interoperability Issues
Theme #8:	Increased Tension with Military
Theme #9:	No Tracking of Casualties/Injuries
Theme #10:	Lack of Post-Deployment Support
Theme #11:	Ensuring Reliable/Uninterrupted Support
Theme #12:	Lack of Contractual Transparency
Theme #13:	Insufficient Protection of Personnel
Theme #14:	Erosion of Military Infrastructure

As mentioned at the beginning of this chapter, the results for this research question are presented using frequency tables to display the number of times a specific theme occurred within the textual analysis of the 57 data sources.

Theme #1: Inadequate Oversight.

The most recurring theme, based on the highest calculated Frequency Effect Size (FES) of 47.3%, was inadequate oversight of PMC personnel and operations. As displayed in Table 10, a total of 27 of the 57 sources analyzed discussed this challenge.

Table 10. Frequency Effect Size for Theme #1

THEME #1: Inadequate Oversight		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
27	57	47.30%

A majority of the data sources analyzed described the immediate need to institute processes to track, monitor, and control PMCs. Projections were made that there is not an acceptable standard to facilitate accurate reporting of how many PMCs are supporting operations in Iraq. In addition to tracking PMC operations, several data sources specifically highlighted the lack of tracking and reporting of contractor fatalities.

Theme #2: Insufficient Regulatory/Legal Framework.

Identification of the next most recurring theme resulted in a tie between two challenges. Of these two challenges, the next recurring theme, based on the calculated Frequency Effect Size (FES) of 31.58%, was an insufficient regulatory and legal framework to govern PMCs. As displayed in Table 11, total of 18 of the 57 sources analyzed discussed this challenge.

Table 11. Frequency Effect Size for Theme #2

THEME #2: Insufficient Regulatory/Legal Framework		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
18	57	31.58%

The primary discussion points in this theme indicate the existing legal framework needs updated to control this largely unregulated industry. Examples included contractors not being subject to the Uniform Code of Military Justice (UCMJ) or Military Extra Territorial Jurisdiction Act (MEJA). In addition, the Coalition Provisional Authority (CPA) Order 17 established that PMC personnel would not be subject to Iraqi law. In essence, the PMC industry appears to operate in a void of legal framework and regulation.

Theme #3: Lack of Accountability.

The lack of accountability for PMC actions was reported at the same Frequency Effect Size as Theme #2, insufficient regulatory and legal framework. This identification was based on the calculated Frequency Effect Size (FES) of 31.58%. As displayed in Table 12, a total of 18 of the 57 sources analyzed discussed this challenge.

Table 12. Frequency Effect Size for Theme #3

THEME #3: Lack of Accountability		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
18	57	31.58%

A majority of the data sources reviewed focused on the lack of repercussions for rogue actions taken by PMC personnel. Within the data sources analyzed, two specific incidents are mentioned. First, the use of force by Blackwater, specifically related to the September 2007 shooting of 17 Iraqi civilians, is presented. Secondly, the involvement of PMC personnel as translators and interrogators with respect to the detainee abuses at Abu Ghraib, is discussed.

Theme #4: Allegations of Human Rights Violations.

The next most recurring theme, based on the calculated Frequency Effect Size (FES) of 26.32%, was allegations of human rights violations by PMC personnel. As displayed in Table 13, a total of 15 of the 57 sources analyzed discussed this challenge.

Table 13. Frequency Effect Size for Theme #4

THEME #4: Allegations of Human Rights Violations		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
15	57	26.32%

Many of the data sources focused on allegations of PMC personnel shooting civilians as well as activities related to torture, humiliation and rape. The Blackwater shooting incident in September 2007 and Abu Ghraib abuses are also mentioned.

Theme #5: Transition to Combat Related Roles.

The subsequent recurring theme, based on the calculated Frequency Effect Size (FES) of 24.56%, was the transition of PMC tasks from support to more combat-related roles and responsibilities. As displayed in Table 14, a total of 14 of the 57 sources analyzed discussed this challenge.

Table 14. Frequency Effect Size for Theme #5

THEME #5: Transition to Combat-Related Roles		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
14	57	24.56%

The primary areas of concern within this theme focused on the transition of tasks once assumed to be traditional military roles were now being outsourced to the private sector. In particular, PMC personnel are providing airport security, manning checkpoints, and escorting convoys. Furthermore, the data suggests PMC personnel are

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fully integrated in the maintenance and support of key weapon systems such as the B-2, F-177, Predator, and Global Hawk. Another large area of contention is the trend in allowing PMC personnel to possess weapons, even for defensive purposes.

Theme #6: Unclear International Status.

Another recurring theme, based on the calculated Frequency Effect Size (FES) of 17.54%, was the unclear international status of PMC personnel. As displayed in Table 15, ten of the 57 sources analyzed discussed this challenge.

Table 15. Frequency Effect Size for Theme #6

THEME #6: Unclear International Status		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
10	57	17.54%

This theme focused on the confusion in placing a definitive status on PMC personnel with respect to International and Humanitarian Laws. The ongoing debate as to whether PMCs are or are not considered mercenaries, combatants, or non-combatants was evident in the analysis of the data sources.

Theme #7: Interoperability Issues.

Identification of the next most recurring theme resulted in a tie between two challenges. Of these two challenges, the next recurring theme, based on the calculated

Frequency Effect Size (FES) of 14.04%, was interoperability issues between the military troops and PMC personnel. As displayed in Table 16, eight of the 57 sources analyzed discussed this challenge.

Table 16. Frequency Effect Size for Theme #7

THEME #7: Interoperability Issues		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
8	57	14.04%

This challenge area included the lack of interoperability between military and contractor equipment as the resulting communication and coordination issues. In addition, the data indicated issues with sharing intelligence information between the military and contractors. As a result of this lack of communication and coordination, several friendly fire incidents occurred.

Theme #8: Increased Tension With Military.

The increased tension between military troops and PMC personnel was reported at the same Frequency Effect Size as Theme #7, interoperability issues. This identification was based on the based on the calculated Frequency Effect Size (FES) of 14.04%. As displayed in Table 17, eight of the 57 sources analyzed discussed this challenge.

Table 17. Frequency Effect Size for Theme #8

THEME #8: Increased Tension With Military		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
8	57	14.04%

In addition to the communication and coordination problems addressed in Theme #7, friction areas exist between military and civilian counterparts. The data suggests

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some reasons for this tension include disparate pay between soldiers and contractors, resulting recruitment and retention impacts, and concerns insurgents will infiltrate PMC companies.

Theme #9: No Tracking of Casualties/Injuries.

The ninth most recurring theme, based on the calculated Frequency Effect Size (FES) of 12.284%, was the lack of tracking and reporting of casualties as well as injuries of PMC personnel. As displayed in Table 18, seven of the 57 sources analyzed discussed this challenge.

Table 18. Frequency Effect Size for Theme #9

THEME #9: No Tracking of Casualties/Reporting		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
7	57	12.28%

While the tracking of casualties and injuries for military troops is routinely tracked and reported, the data suggests there is little to no formal tracking of these incidents for PMC personnel. Some of the data sources suggest there is somewhat of a public indifference to those contractors that die as it is assumed they were well compensated for their daily activities.

Theme #10: Lack of Post-Deployment Support.

Identification of the next most recurring theme resulted in a tie between two challenges. Of these two challenges, the next recurring theme, based on the calculated

Frequency Effect Size (FES) of 12.28%, was the lack of post-deployment support for military personnel. As displayed in Table 19, six of the 57 sources analyzed discussed this challenge.

Table 19. Frequency Effect Size for Theme #10

THEME #10: Lack of Post-Deployment Support		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
6	57	10.53%

The data reviewed indicates a framework for post-deployment support for PMC personnel is lacking. With the increasingly hostile environment faced by PMC personnel and the transition to more combat related roles, contractor personnel are returning from deployments with health issues similarly to active duty troops. In particular, the data focuses on the increased amount of PMC employees are suffering from Post traumatic Stress Disorder (PSTD). In addition, it is noted there is inadequate disability and life insurance coverage for many of these personnel.

Theme #11: Ensuring Reliable/Uninterrupted Support.

The issue of ensuring reliable and uninterrupted support by PMCs was reported at the same Frequency Effect Size as Theme #10, lack of post-deployment support. This identification was based on the based on the calculated Frequency Effect Size (FES) of 10.53%. As displayed in Table 20, six of the 57 sources analyzed discussed this challenge.

Table 20. Frequency Effect Size for Theme #11

THEME #11: Ensuring Reliable/Uninterrupted Support		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
6	57	10.53%

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The main focus of this theme was on the concern that contractors could just abandon or "walk away" from a mission at any time. For example, the employees could refuse to provide necessary support or services for the troops. This issue essentially magnifies in importance as reliance on PMC personnel to support operations increases.

Theme #12: Lack of Contractual Transparency

The next most recurring theme, based on the calculated Frequency Effect Size (FES) of 8.77%, was the lack of transparency in PMC contracts. As displayed in Table 21, five of the 57 sources analyzed discussed this challenge.

Table 21. Frequency Effect Size for Theme #12

THEME #12: Lack of Contractual Transparency		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
5	57	8.77%

The data suggests that may aspect of PMC contracts are not subject to FOIA requests. In turn, these companies are largely afforded the opportunity to "self-regulate" their actions. Furthermore, the corporate hiring practices and budgetary considerations are reported to be shielded from inspection.

Theme #13: Insufficient Protection of Personnel

The next recurring theme, based on the calculated Frequency Effect Size (FES) of 8.77%, was the lack of transparency in PMC contracts. As displayed in Table 22, five of the 57 sources analyzed discussed this challenge.

Table 22. Frequency Effect Size for Theme #13

THEME #13: Insufficient Protection of Personnel		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
4	57	7.02%

Several concerns were expressed about whom should be responsible for protecting civilian contractors. For the most part, only a very small percentage of the 129,805 PMC personnel in Iraq possess weapons. Nonetheless, the environment these contractors operate in is increasingly hostile.

Theme #14: Erosion of Military Infrastructure

As a result of thematic saturation of the 57 data sources, the fourteenth and final theme identified as part of this research effort, was the erosion of military infrastructure as a result of increased use of PMCs. This was based on the calculated Frequency Effect Size (FES) of 1.75%, as displayed in Table 23, where only one of the 57 sources analyzed discussed this challenge.

Table 23. Frequency Effect Size for Theme #14

THEME #14: Erosion of Military Infrastructure		
# Sources Containing Theme	Total # Sources	Frequency Effect Size
1	57	1.75%

The data suggest the use of PMCs is eroding the existing military infrastructure. As more and more tasks are outsourced to the private sector, the military permanently loses skills and core competencies. In the worst case, concern was expressed the military may face competition from the private sector for its very existence.

Chapter Summary

This chapter summarized the results of the analysis of the military census and textual data. A description of the level of PMCs used to support operations in Iraq included information on the number of employees, primary corporate employers, key

mission areas, and the number of armed personnel. In addition, fourteen themes on the challenges of using PMCs on the battlefield were identified in the textual data.

The next thesis chapter presents conclusions of the results presented in Chapter IV and outlines a consolidation of recommendations for action. The chapter also addresses the significance of results as well as the strengths and limitations inherent to this study. The chapter concludes with recommendations for potential points of departure for future research streams, both internal and external to this research effort.

V. Conclusions and Recommendations

Chapter Overview

The main purpose of this chapter is to present top-level conclusions and recommendations for action based on an inductive interpretation of the data analysis of this research effort contained in Chapter IV. Furthermore, this chapter includes an assessment of the strengths and limitations of the research. As additional research areas on this emerging topic is necessary, numerous recommendations for future research are provided. The chapter then concludes with a brief summary assessment of the success of this effort in achieving the purpose of this research, as stated in Chapter I.

Research Summary

As previously mentioned in Chapter I, the primary purpose of this research effort was to explore and describe the extent to which PMCs are currently being used on the battlefield and highlight the existing challenges. The premise was that an understanding of the level of PMC use and the inherent challenges of blending the battlefield would establish a framework to facilitate improvements. To establish a boundary on the scope of this research, the study was purposely limited to exploring PMC operations in the ongoing war in Iraq.

To structure the research effort, five research questions were defined. A summary of these questions is presented in Table 24.

Table 24. Summary of Research Purpose, Scope, and Questions

Research Summary			
Purpose: To explore and describe the use of PMCs supporting military operations **Scope:** War in Iraq			
Research Question #	**Research Question**	**Data Analyzed**	**Successfully Answered?**
RQ #1:	*"How many PMC personnel are being used to support battlefield operations?"*	Census Data	Yes
RQ #2:	*"Who are the top ten companies responsible for employing the largest number of PMCs personnel?"*	Census Data	Yes
RQ #3:	*"Of the top ten companies identified in Research Question #2, what primary mission areas are being outsourced?"*	Census Data	Yes
RQ #4:	*"Who are the top ten corporate entities using armed PMCs personnel?"*	Census Data	Yes
RQ #5:	*"What are the recurring themes regarding the challenges that arise when PMCs are used to support battlefield operations?"*	Archival Textual Data	Yes

Conclusions

Based on the results presented in Chapter IV, it is evident that the reliance on PMCs to support operations in Iraq is significant. In 2007, the number of PMC personnel in Iraq was reported to exceed the level of the number of military troops (Miller, 2007a). As previously discussed, an analysis of the census data indicates PMC personnel in Iraq

continue to fulfill traditional support roles. However, the data also suggests PMCs are also transitioning to more combat related roles. Of significance, the census data analysis estimates 8,446 of the total PMC personnel reported possessing weapons. In addition to the transition of support roles and armed personnel, the sheer magnitude of the 129,805 PMC personnel supporting operations is not without challenges.

To identify these challenges, an interactive data analysis of 57 secondary archival and textual data was conducted using content analysis and thematic coding. A summary of the results, in descending order by frequency of the theme, are presented in Table 25:

Table 25. Summary of Emerging Themes

THEME	FREQUENCY (%)
Inadequate Oversight	47.30%
Insufficient Regulatory/Legal Framework	31.58%
Lack of Accountability	31.58%
Allegations of Human Rights Violations	26.32%
Transition to Combat-Related Roles	24.56%
Unclear International Status	17.54%
Interoperability Issues	14.04%
Increased Tension With Military	14.04%
No Tracking of Casualties/Injuries	12.28%
Lack of Post-Deployment Support	10.53%
Ensuring Reliable/Uninterrupted Support	10.53%
Lack of Contractual Transparency	8.77%
Insufficient Protection of Personnel	7.02%
Erosion of Military Infrastructure	1.75%

Recommendations for Action

These fourteen themes identified during the content analysis highlight many of the documented challenges involved in using civilian contractors to support military operations. However, during the course of conducting the content analysis on the fifty-

seven archival data sources, several of the texts provided recommendations for action. While additional actions will likely be required as the expanded use of PMCs on the battlefield continues to evolve, a summary of the more frequently mentioned recommendations for action within the literature analyzed includes:

- Conduct a formal review of which core functions are inherently military vs. those appropriate for outsourcing (Hartung, 2004; Singer, 2005; Andahazy and others, 2006:9; Becker and others, 2007:9; Gropman, 2008)

- Improve competition, avoid use of cost-plus type structures, and establish transparency in PMC contracts (Hartung, 2004)

- Incorporate contractual language to address PMC discipline and coordination processes (Carter, 2004)

- Incorporate a fine and incentive structure in the contract until an adequate legal framework is developed and approved (Crofford, 2006:15)

- Increase the size of the acquisition and contracting force to enable improved oversight of PMC contract execution (Andahazy and others, 2006:9; Becker and others, 2007:10)

- Establish an office specifically focused on monitoring PMC activity (Andahazy and others, 2006:9)

- Designate a single point of contact in-theater to monitor PMC contracts (Becker and others, 2007:10)

- Commission a study to assess the post-deployment health issues of PMC personnel (Risen, 2007)

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- Establish a venue for international cooperation to improve regulatory and accountability measures (Singer, 2005; Becker and others, 2007:9)

- Initiate a conference to update the Geneva Convention to address the existence of PMCs on the battlefield (Andahazy and others, 2006:10)

- Fortify the wording of the Military Extra Territorial Jurisdiction Act (MEJA) (Witte, 2007)

Significance of Results

As discussed in Chapter II, Literature Review, the increasing trend of using PMCs on the battlefield during future conflicts is likely to continue. Contract awards were reported in excess of $100B in 2003 (Singer, 2004b) with projections, according to Avant and reported by Andahazy, of exceeding $200B by 2010 (Andahazy and others, 2006:3). However, the harsh reality of persistent budget and manpower reductions limit the resources the DoD can dedicate to addressing the challenges of using PMCs on the battlefield. As such, it is imperative to identify the principal challenges of using PMC in order to institute corrective actions and infrastructure, while maximizing resource utilization in terms of time, manpower, and funding. This rationale is supported by Singer. In his book, *Corporate Warriors*, he articulates "no policy….military privatization can be effective without an understanding of the industry, its dynamics, and its range of possibilities and challenges." (Singer, 2003:242).

To aid in the understanding of the use of PMCs in Iraq, this descriptive and exploratory research provides a framework to understand the level of PMC support being used to support war operations in Iraq. In addition, the results provide a "road map" to

prioritize the more critical challenges of using PMCs based on the Frequency Effect Size calculation. The identification of the top challenges directly translates into identification of the key focus areas to formulate improved management strategies to handle the complexities of using civilian contractors on the battlefield.

Strengths and Limitations

Dane contends it is important to document the "good, bad, or indifferent" aspects of a research effort (Dane, 1990:5). Understandably, every research effort has strengths and limitations that are unique to the study. However, it is important to document these aspects to establish a foundation upon which to interpret the research results.

Strengths.

Some of the key strengths of this research effort include flexibility, triangulation, manifest coding, and theoretical sensitivity. In particular, the use of a systematic and interactive data analysis approach allowed the research stream to be unconstrained by a preconceived hypothesis. This flexibility resulted in the identification of multiple themes and challenges.

In addition, Yin recognizes the use of triangulation as a strength. For this effort, triangulation was achieved through the use of multiple categories of data sources during data collection and analysis (Yin, 2003:98). The use of multiples sources allowed a broader perspective on the challenges of using PMCs upon which to identify the emerging themes.

The decision to code the data by manifest content instead of latent content during content analysis improved the reliability and repeatability of the coding scheme (Dane,

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1990:177). This was due to the straightforward delineation that the theme either was or wasn't specifically mentioned in the data source. As a result, this decreased the opportunity for coding error based on an inferred interpretation of the data.

Theoretical sensitivity involves the ability of the researcher to identify and extract the key aspects of the data (Strauss and Corbin, 1990:46). During this research effort, two processes contributed to an amplified familiarity with the data to increase theoretical sensitivity: the literature review and recurring interaction with the data collection and analysis. For the census and textual data, improvements in theoretical sensitivity were realized as the data was collected, examined, and compared to the other data. Over the course of data analysis, the level of understanding of the themes in the data increased.

Limitations.

However, in addition to the strengths of an effort, it is also important to acknowledge the limitations of a particular study. With respect to this research effort, multiple limitations exist in terms of three categories: bias, data, and time.

In actuality, bias is prevalent in multiple facets of every research effort. With respect to this effort, the primary concern was bias of both the researcher and original authors of the archival data. A researcher's experience and prior knowledge may result in a bias when subjectively assessing the textual data for codes and themes. In addition, this researched purposely relied upon secondary archival data. As a result, the embedded bias of the source authors on this politically charged topic may have influenced what and how they reported events.

The next category of research limitations were related to the data. Limitations of the data are related to availability, type, and accuracy. As this was an emerging area of

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study, limited quantitative data was available. For this effort, the two distinct types of data collected and analyzed were military census data and archival textual data. As previously discussed, these types were both secondary data. In general, issues with secondary data include only having "as is" data for analysis as well as potentially having to convert raw data in to another format prior to analysis (Dane, 1990:183). Both of these issues existed in the data used for this research.

Within the census data, there were occasions when fields of data were left blank or were not computed correctly. In addition, there were instances of inconsistency in the naming conventions of the companies and mission areas that resulted in subjective assessments being made. Furthermore, some of the acronyms used to describe the mission areas of each company's contracts were not always defined in the spreadsheet. To mitigate the impact of this, additional research on each of the top ten companies was required. In reality, the census data analyzed as part of this study was only a preliminary attempt at capturing the level of PMC use in Iraq. It is anticipated that more robust census data will be made available in the future. Nonetheless, an initial analysis of the data is helpful to describe the reported use of PMCs in Iraq.

In addition to the census data, the textual data had limitations. Dane suggests that it is unreasonable, if not impossible, for a researcher to expect to conduct a study that considers and answers every possible question on a given topic (Dane, 1990:5). Without a doubt, this observation was true for this research effort. With respect to the textual data, a distinct limitation was that it was not possible to identify, collect, and analyze all existing media content for the thematic analysis. To assist in managing the effort, the scope of the study was the use of PMCs in the war in Iraq. To assist in bounding the

analysis, inclusion and exclusion criterion were applied. As a result, fifty-seven textual sources were selected to be analyzed as part of this effort.

A second limitation of the textual data was that the primary source for the archival secondary data was primarily media articles. Nonetheless, Yin contends that archival data obtained through mass media communications, to include newspaper articles, are still useful, even if there is concern about accuracy and bias (Yin, 2003:87).

Another limitation of this effort was the lack of using other qualitative methodology approaches such as interviews, surveys, or case study to determine the emerging themes on the challenges of using PMC. However, a determination was made early on that a large pool of subject matter experts did not exist and those few experts identified were not accessible to conduct queries using surveys and interviews.

This effort was further compounded by the dynamic nature of the topic as the war in Iraq in ongoing. As a result, a case study approach was not selected. Nonetheless, the use of archival and content analysis achieved the research objectives stated in Chapter I.

Another limitation of this study was the amount of time available to conduct this research effort. The use of PMCs extends beyond supporting military operations on the battlefield. Recently, PMCs such as Blackwater were used to assist in Hurricane Katrina relief efforts. In addition, PMCs are being used across the world in conflicts beyond the war in Iraq and by countries other than the U.S. To mitigate these limitations, this research focused specifically on the use of PMCs by the U.S. to support military operations in the War in Iraq. In addition, time precluded a deployment of the researcher to study this topic in the theater of operations. With respect to evaluating the quality of the research, the time constraint also precluded the application of inter-rater reliability

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tests. A final consideration for limitations to this study was that this topic involved

researching events that change with each passing day in the war in Iraq.

Recommendations for Future Research

The challenges involved with the widespread use of PMCs in Iraq, as well as

future conflicts, is an emerging and dynamic topic. As such, recommendations for future

research are plentiful. The potential approaches to future research are twofold: to expand

upon the data and results of this study or to research new but related areas of study

identified through the course of this effort.

The purpose of this research was to establish an overarching data analysis

framework to describe the general utilization level and challenges of PMC supporting

battlefield operations in Iraq. However, research analysis opportunities exist on the

census and textual data used in this study.

Expansion of This Study.

With respect to the census data, the analysis for the existing census data used as

part of this study can be further analyzed to answer additional research questions. For

example, there were forty-one columns of data reported for each of the 1,901 contract

summaries. As such, as part of this study, only a portion of the total census data was

analyzed. In addition, an important caveat is that not all of the columns in the census

data were completely populated with data. Nonetheless, opportunities exist to conduct

additional research. While other researchers may identify additional research questions,

initial examples of additional areas that should be explored in the census data include:

- Describing the number and different types of agencies/services awarding PMC contracts

- Describing the level and type of infrastructure support provided to PMC personnel

In addition to expanding on the results of the census data analysis, there is an opportunity to expand upon the textual data. The results of the content analysis of textual data in this study resulted in the identification of fourteen themes, as presented in Table 27. However, additional research is needed on each of these fourteen themes. By exploring each theme in greater detail, a more detailed understanding of the challenges, mitigations, and potential solutions can be achieved.

Additional Research Areas.

Expanding on the results of this research effort is not the only opportunity for future research. In reality, research results are not static and change over time (Dane, 1990:19). This is especially true with the emerging nature of this exploratory topic. Additional research on the use of PMCs in Iraq and future conflicts would facilitate the comparison of the data and results from this study with updated census and textual data. As such, as new census and textual data on this topic will become available as the war in Iraq continues. These new data sources can be analyzed using the same methodology and coding to see if the resulting themes change. Furthermore, many points of departure for new but related research streams emerged during the course of this research. Accordingly, a preliminary list of topic areas for future research includes:

- Characterizing the number of PMCs being used by other countries to support the war in Iraq; Compare and contrast with the results of this study

- Investigating the challenges other countries experience when using PMCs then compare/contract with the results of this study

- Exploring the pros and cons of who should control PMCs, such as the State Department or DoD

- Developing a model to track the level and mission areas PMCs are fulfilling

- Analyzing existing PMC contracts for strengths and deficiencies to establish a framework of common contract wording or clauses

- Conducting a survey to assess how the use of PMCs impacts military troop morale and retention

- Comparing post-deployment care for military troops and PMC personnel

- Conducting a survey to assess how the use of PMCs impacts military troop morale and retention

- Assessing whether the use of PMCs of military troops are more cost effective

- Investigating other operations where PMC support is used, such as Hurricane Katrina and Homeland Defense

- Evaluating how technological advancements are changing role of the combatant vs. non-combatant

Summary

Dane advises that the primary objective of research is to "formulate questions and to find answers to those questions (Dane, 1990:5). In turn, five research questions were devised to investigate and describe the emerging topic of the use of PMCs on the battlefield in Iraq. Due to the novelty of the topic being studied, this research effort was purposely exploratory and descriptive in nature.

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Throughout this study, a practical and systematic methodology was applied to satisfy the research objectives. In addition, an evaluation of the analysis of military census data and secondary archival data determined the research purpose and questions were satisfactorily answered within the scope and time allocated for this effort. Most importantly, the results of this research effort accomplished the objective to contribute to the existing body of knowledge. Nonetheless, the research indicates the complex and diverse challenges of using PMCs on the battlefield will not be resolved any time in the near future. At a minimum, changes to training, policy, doctrine, and regulatory measures will be required. As such, there are many points of departure for additional research opportunities on the use of PMCs to support military operations on the battlefield.

Appendix A. Glossary

ALAT	Automation Logistics Assistance Team
AOAP	Army Oil Analysis Program
CENTCOM	Central Command
CLSS	Contractor Logistics Support Service
CPA	Coalition Provisional Authority
CRS	Congressional Research Service
DoD	Department of Defense
ECC	Environmental Chemical Company
ECU	Environmental Control Unit
FES	Frequency Effect Size
FOIA	Freedom of Information Act
FY	Fiscal Year
GAO	Government Accountability Office
GDP	Gross Domestic Product
GWOT	Global War on Terrorism
JMMT	Joint Military Mail Terminal
KBR	Kellogg, Brown, and Root
NGO	Non-Governmental Organization
O&M	Operations and Maintenance
MEJA	Military Extra Territorial Jurisdiction Act
PMC	Private Military Company

PMF	Private Military Firms
PPI	Prime Projects International
PSF	Private Security Firms
PTSD	Post Traumatic Stress Disorder
RQ	Research Question
SIAD	Statistical Information Analysis Division
SLOC	Source Lines of Code
TTM	Theater Transportation Mission
TWV	Tactical Wheeled Vehicles

Appendix B. Content Analysis Data Source Categories

Journals/Periodicals	Year Published
Air Force Journal of Logistics	2004
Capital & Class	2007
Foreign Affairs	2005
International Review of the Red Cross	2006

Professional Papers	Year Published
Army War College	2006
Industrial College of the Armed Forces	2006, 2007

Organizations	Year Published
AntiWar	2007
British American Security Information Council	2006
Brookings Institution	2004
CorpWatch	2005
Council on Foreign Relations	2004
Findlaw	2004
Party for Socialism and Liberation	2007
Radio Netherlands	2007
World Policy Institute	2004

Newspapers/Magazines	Year Published
Associated Press	2007
Business Week	2004
CBS News	2006
DCMA Communicator	2004
Government Executive	2006
Harper's Magazine	2007
Independent Weekly	2003
MSNBC	2007
National Defense Magazine	2008
San Francisco Gate/Chronicle	2006
Statesman	2004
Slate	2004
The American Spark	2006
The Associated Press	2007
The Boston Globe	2006
The Christian Science Monitor	2007
The Huffington Post	2007
The Indypendent	2007
The Los Angeles Times	2007
The New York Times	2004, 2007, 2008
The Plain Dealer	2007
The Washington Post	2004, 2005, 2006, 2007
Time	2004
United Press International	2004
USA Today	2005
Yahoo News	2007

Appendix C. Thematic Coding and Analysis Matrix

In support of Research Question #5, a Thematic Coding and Analysis Matrix was used to record the results from the content analysis of the 57 data sources. To track each data source, an identification number was assigned in the first column of the spreadsheet. In addition, additional columns containing the title, source, and author of each data source were recorded.

ID #	Date	Title	Source	Author	Insufficient Regulation/Laws/Legal Framework	Lack of Oversight & Command/Control (track, monitor, control)	Lack of Accountability for Their Actions	Human Right Concerns/Allegations (Shooting, Torture, etc)	Lack of Protection for PMCs	Lack of Post Deploy Spt (care, injuries/PTSD, disability, insurance)	Concern on Transition to Military or Combat-related Roles	Interoperability Issues with US Forces (Comm/Coordination)	Unclear International Status (Civ, combatant, etc)	Reliability Concerns (Refusal to Perform, Withdraw)	Erosion of Military Infrastructure (core capabilities/skills; mil existence)	Tension with Military (better pay, recruiting, retention, etc)	Lack of Tracking/ Reporting Contractor Deaths/Injuries (Indifference)	Lack of Transparency (Hiring/budgets, contracts not subject to FOIA)
1	2003	Soldiers of Good Fortune	Independent Weekly	Yeoman	X	X								X				
2	2004	Iraq: Military Outsourcing	Council of Foreign Relations	Pan		X		X				X						
3	2004	The Nation; 'Outsources' or 'Mercenary,' He's No Soldier	The New York Times	Dao	X		X						X					
4	2004	Private Military Contractors in Iraq and Beyond: A Question of Balance	World Policy Institute	Hartung	X	X	X	X				X		X				X
5	2004	Beyond the Law	Brookings Institution	Singer	X		X	X					X					
6	2004	Soldiers on Hire	Statesman	Gutman					X									
7	2004	Privatizing War	United Press International	Guma		X		X										
8	2004	Hired Guns	Slate	Carter	X						X	X	X					
9	2004	Mayhem in Fallujah	Findlaw	Carter									X					
10	2004	Warrior for Hire in Iraq	Brookings Institution	Singer		X	X					X					X	
11	2004	Is Force Protection for Contractor Personnel on the Battlefield Adequate?	DCMA Communicator	Dudley					X									
12	2004	When Private Armies Take to the Front Lines	Time	Duffy		X											X	
13	2004	More Limits Sought for Private Security Teams	The Washington Post	Flaherty & Priest		X			X			X	X					X
14	2004	Increasing Reliance on Contractors on the Battlefield	Air Force Journal of Logistics	Blizzard		X						X	X	X				
15	2004	The Other U.S. Military	Business Week	Ante and Crock		X		X				X						
16	2005	Outsourcing War	Foreign Affairs	Singer	X	X								X		X		X
17	2005	Contractors, Military in 'Bidding War'	USA Today	Kelley												X		
18	2005	Tension, Confusion Between Troops, Contractors in Iraq	The Washington Post	White & Witte	X							X				X		
19	2005	Tension and Confusion Grow Amid The 'Fog of War'	CorpWatch	Phinney									X			X		
20	2006	Private Security Contractors on the Battlefield	Army War College	Crofford	X	X							X			X		

ID #	Date	Title	Source	Author	Insufficient Regulation/Laws/Legal Framework	Lack of Oversight & Command/Control (track, monitor, control)	Lack of Accountability for Their Actions	Human Right Concerns/Allegations (Shooting, Torture, etc)	Lack of Protection for PMCs	Lack of Post Deploy Spt (care, injuries/PTSD, disability, insurance)	Concern on Transition to Military or Combat-related Roles	Interoperability Issues with US Forces (Comm/Coordination)	Unclear International Status (Civ, combatant, etc)	Reliability Concerns (Refusal to Perform, Withdraw)	Erosion of Military Infrastructure (core capabilities/skills; mil existence)	Tension with Military (better pay, recruiting, retention, etc)	Lack of Tracking/ Reporting Contractor Deaths/Injuries (Indifference)	Lack of Transparency (Hiring/budgets, contracts not subject to FOIA)
21	2006	Corporate Actors: The Legal Status of Mercenaries in Armed Conflict	Int'l Review of The Red Cross	Fallah	X		X				X							
22	2006	A Government in Search of Cover: PMCs in Iraq	British American Security Information Council Paper	Isenberg		X	X						X					
23	2006	Privatized Military Operations	Industrial College of the Armed Forces	Andahazy and others	X	X						X	X	X		X		
24	2006	Billions Wasted in Iraq?	CBS News	Macdonald & Rosen														
25	2006	Pentagon Cited Again for Weak Oversight of Iraq Contractors	Government Executive	Grant		X												
26	2006	US Contractors in Iraq face peril, neglect	The Boston Globe	Stockman					X	X							X	
27	2006	Census Counts 1000,000 Contractors in Iraq	The Washington Post	Merle		X						X						
28	2006	Getting Private Military and Security Companies to Respect the Law	International Committee of The Red Cross	Gillard Interview	X						X							
29	2006	Army for Hire	Slate	Hodge	X		X										X	X
30	2006	Army Fails to Provide Iraq Contractor Census	The American Spark	Montgomery		X												
31	2006	Contractors in Iraq Are Targets for Attack	CBS News	Keteyian						X								
32	2006	Civilian Workers In Iraq Suffering Combat Trauma	San Francisco Gate/Chronicle	Badkhen		X				X							X	
33	2007	Privatized Military Operations	Industrial College of the Armed Forces	Becker and others	X	X	X											
34	2007	Military May Get Control of Contractors	Yahoo News	Flaherty		X							X					
35	2007	State Department May Phase Out Blackwater	The Huffington Post	Lee				X										
36	2007	State Seeks to Boost Iraq Security	MSNBC	Associated Press				X										
37	2007	State Department Use of Contractors Leaps in 4 Years	The New York Times	Broder & Rohde		X												
38	2007	Contractors Back From Iraq Suffer Trauma From Battle	The New York Times	Risen						X								
39	2007	Silent Surge in Contractor 'Armies'	The Christian Science Monitor	Kickerbocker			X			X								

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ID #	Date	Title	Source	Author	Insufficient Regulation/Laws/Legal Framework	Lack of Oversight & Command/Control (track, monitor, control)	Lack of Accountability for Their Actions	Human Right Concerns/Allegations (Shooting, Torture, etc)	Lack of Protection for PMCs	Lack of Post Deploy Spt (care, injuries/PTSD, disability, insurance)	Concern on Transition to Military or Combat-related Roles	Interoperability Issues with US Forces (Comm/Coordination)	Unclear International Status (Civ, combatant, etc)	Reliability Concerns (Refusal to Perform, Withdraw)	Erosion of Military Infrastructure (core capabilities/skills; mil existence)	Tension with Military (better pay, recruiting, retention, etc)	Lack of Tracking/ Reporting Contractor Deaths/Injuries (Indifference)	Lack of Transparency (Hiring/budgets, contracts not subject to FOIA)
40	2007	New Law Could Subject Civilians to Military Trial	The Washington Post	Witte			X	X								X		
41	2007	Private Military Companies: 'Shadow soldiers' of Neo-colonialism	Capital & Class	Zabci				X			X						X	
42	2007	Mercenaries Protect Western Interests in Iraq	Radio Netherlands	Brouwer & Gamez				X										
43	2007	Iraq Contractors a Reckless Force?	MSNBC	Associated Press	X	X	X	X			X		X					
44	2007	Venture Capitalists with Guns: Private Contractors in Iraq	Party for Socialism and Liberation	Curtiss	X						X							
45	2007	IRAQ: Private Contractors Outnumber U.S. Troops in Iraq	The Los Angeles Times	Miller		X	X							X				
46	2007	Blackwater's Loopholes	The Los Angeles Times	Scahill		X	X	X										
47	2007	Officials: Contractor Slays Iraqi Driver	MSNBC	Associated Press														
48	2007	State to Blackwater: Nothing You Say Can and Will Be Used Against…	The Huffington Post	Scahill	X	X												
49	2007	Providing Accountability for Private Contractors	Harper's Magazine	Horton			X	X			X							X
50	2007	The Wars Will Be Outsourced	AntiWar	Bock	X	X	X											
51	2007	The Mercenary Revolution: Flush With Profits from Contractors See A World…	The Indypendent	Scahill		X	X											
52	2007	How Blackwater Sniper Fire Felled 3 Iraqi Guards	The Washington Post	Fainaru	X			X										
53	2007	US Is Fighting A Contractor war	The Plain Dealer	Sullivan		X							X	X				
54	2007	Nearly 800 Iraq Contractors Killed	Yahoo News	Roberts							X					X	X	
55	2007	The Battle Scars of a Private War	The Los Angeles Times	Miller						X								
56	2008	Government Needs to Reexamine Rules for Battlefield Contractors	National Defense Magazine	Gropman			X	X										
57	2008	2005 Use of Gas by Blackwater Leaves Questions	The New York Times	Risen				X								X		
			Total # Themes:	14														
			Total # Sources:	57														
			# Sources Citing Theme		18	27	18	15	4	6	14	8	10	6	1	8	7	5
			Frequency Effect (%)		31.58%	47.37%	31.58%	26.32%	7.02%	10.53%	24.56%	14.04%	17.54%	10.53%	1.75%	14.04%	12.28%	8.77%
			Theme Ranking		2&3 (tie)	1	2&3 (tie)	4	13	10&11 (tie)	5	7&8 (tie)	6	10&11 (tie)	14	7&8 (tie)	9	12

Bibliography

77 Construction. "About Us." Company Website. http://www.77construction.com/
      index.php?page=aboutus, 28 January 2008.

Abdul-Zahra, Qassim. "32 Killed in Cargo Plane Crash in Iraq." *CBS News*, 9 January
      2007. http://www.cbsnews.com/stories/2007/01/09/ap/world/
      mainD8MHSIGG8.shtml, 30 January 2008.

Andahazy, Sheila K. and others. *Privatized Military Operations.* Industry Study Final
      Report. The Industrial College of the Armed Forces, National Defense
      University, Fort McNair VA, Spring 2006.

* Ante, Spencer E. and Crock, Spencer. "The Other U.S. Military." *Business Week,* 31
      May 2004. http://www.businessweek.com/magazine/content/04_22/
      b3885116.htm, 8 February 2008.

* Associated Press. "4 American Security Contractors Kidnapped in Iraq." *USA Today*, 17
      November, 2006. http://www.usatoday.com/news/world/iraq/2006-11-16-
      convoy-hijacked_x.htm, 28 January 2008.

* ---- (2007a). "Iraq Contractors A Reckless Force?" *MSNBC*, 12 August
      2007.   http://www.msnbc.msn.com/id/20231579/, 12 August 2007.

* ---- (2007b). "Officials: Contractor Slays Iraqi Driver." *MSNBC*, 13 November 2007.
      http://www.msnbc.msn.com/id/21765972/, 13 November 2007.

* ---- (2007c). "State Seeks to Boost Iraq Security." *MSNBC*, 7 November 2007,
      http://www.msnbc.msn.com/id/21676961/, 13 November 2007.

* Badkhen, Anna. "Civilian Workers in Iraq Suffering Combat Trauma." *San Francisco
      Gate*, 19 November 2006. http://www.sfgate.com/cgibin/article.cgi?file=/c/a/
      2006/11/19/MNG62MF4QB1.DTL, 30 January 2008.

* Becker, James C. and others. *Privatized Military Operations.* Industry Study Final
      Report. The Industrial College of the Armed Forces, National Defense
      University, Fort McNair VA, Spring 2007.

* Blizzard, Stephen M. "Increasing Reliance on Contractors on the Battlefield; How Do
      We Keep From Crossing The Line?" *Air Force Journal of Logistics*, 28.1: 4-15,
      (Spring 2004).

* Bock, Alan. "The Wars Will Be Outsourced." *AntiWar*, 3 November 2007.
      http://www.antiwar.com/bock/?articleid=11850, 24 January 2008.

* Broder, John M. and Rohde, David. "State Department Use of Contractors Leaps in 4 Years." *The New York Times*, 24 October 2007. http://www.nytimes.com/2007/ 10/24/washington/24contractor.html, 28 January 2008.

* Brouwer, Marina and Gamez, Pablo. "Mercenaries Protect Western Interest in Iraq." *Radio Netherlands*, 14 February 2007. http://www.radionetherlands.nl/ currentaffairs/irq070214mc, 26 January 2008.

Bryne, Michelle. "Data Analysis Strategies for Qualitative Research." *AORN Journal*, http://www.encyclopedia.com/doc/1G1-81218986.html, 11 December 2007.

* Carter, Phillip. "Mayhem in Fallujah." *FindLaw*, 5 April 2004. http://writ.news.findlaw.com/student/20040405_carter.html, 24 January 2008.

* Carter, Phillip. "Hired Guns." *Slate*, 9 April 2004. http://www.slate.com/id/2098571, 29 May 2007.

Castillo, Lourdes A. "Waging War with Civilians: Asking the Unanswered Questions." *Air Force Journal of Logistics*, 14.3: 26-31, (Fall 2000).

Chatterjee. Pratap. "Ports of Profit: Dubai Does Brisk War Business." *Political Affairs Magazine*, Jan-Feb 06. http://www.politicalaffairs.net/article/view/2862/1/151/, 8 February 2008.

"Civilian." *The American Heritage Dictionary of the English Language: Fourth Edition 2000.* http://www.bartleby.com/61/76/C0377600.html, 18 January 2008.

"Civilian." *Webster's Third New International Dictionary.* Springfield MA: G & C Merriam Company, 1976.

"Civilian." *Webster's New World Dictionary*. New York NY: Simon and Schuster, 1982.

Committee on Oversight and Government Reform (2007a). *Additional Information about Blackwater USA.* Memorandum, 1 October 2007. http://oversight.house.gov/documents/20071001121609.pdf, 1 November 2007.

---- (2007b). *Private Military Contractors in Iraq: An Examination of Blackwater's Actions in Fallujah.* Report Prepared for Chairman Henry A. Waxman, September 2007. http://oversight.house.gov/documents/ 20070927104643.pdf, 25 October 2007.

Congressional Research Service. *Instances of Use of United States Armed Forces Abroad, 1798-2007.* Congressional Report, 12 September 2007 (ADA473983). http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=ADA473983&Location=U2 &doc=GetTRDoc.pdf, 15 January 2008.

"Contractor." *Webster's Third New International Dictionary.* Springfield MA: G & C Merriam Company, 1976.

Corn, Geoffrey S. "Murky 'Blackwater' and the Direct Participation Dilemma." 2 October 2007. *Jurist Legal News & Research Forum*, http://jurist.law.pitt.edu/ forumy/2007/10/murky-blackwater-and-direct.php, 3 March 2008

* Crofford, Cliff D. *Private Security Contractors on the Battlefield.* Research Paper. Army War College, Carlisle Barracks PA, 15 March 2006 (ADA449091).

* Curtiss, Susie. "Venture Capitalists With Guns: Private Contractors in Iraq." *Party for Socialism and Liberation*, 25 July 2007. http://www.pslweb.org/site/News2?news _iv_ctrl=-1&page=NewsArticle&id=7089, 25 July 2007.

Daley, Barbara J. "Using Concept Maps in Qualitative Research." *First International Conference on Concept Mapping*, September 2004. http://cmc.ihmc.us/papers/ cmc2004-060.pdf, 6 January 2008.

Dane, Francis C. *Research Methods.* Pacific Grove CA: Brooks/Cole Publishing, 1990.

* Dao, James. "The Nation; 'Outsourced' or 'Mercenary,' He's No Soldier." *The New York Times.* 25 April 2004. http://query.nytimes.com/gst/ fullpage.html?res= 9F07E7D7123AF936A15757C0A9629C8B63, 26 January 2008.

Department of Defense Manpower Data Center. *Selected Manpower Statistics, Fiscal Year 2005*. http://siadapp.dmdc.osd.mil, 18 August 2007.

Dow, Susie. "Iraq Contractors: Raw Data from CENTCOM." *ePluribus Media*, 8 July 2007. http://www.epluribusmedia.org/features/2007/20070708_contracting_ numbers.html, 23 July 2007.

* Dudley, Michael J. "Is Force Protection For Contractor Personnel on the Battlefield Adequate?" *DCMA Communicator*, Spring-Summer 2004. http://www.dcma.mil/communicator/archives/spring%20summer%202004/in_the _news.htm, 23 July 2007.

* Duffy, Michael. "When Private Armies Take to the Front Lines." *Time*, 12 April 2004. http://www.time.com/time/magazine/article/0,9171,607775,00.html, 28 Jan 2008.

Environmental Chemical Company website. "A Corporate Overview of ECC." http://ecc.net/Content.asp?Page=CorporateOverview, 28 January 2008.

* Fainaru, Steve. "How Blackwater Sniper Fire Felled 3 Iraqi Guards." *The Washington Post*, 8 November 2007. http://www.washingtonpost.com/wp-dyn/content/ story/2007/11/07/ST2007110702820.html, 30 January 2008.

106

* Fallah, Katherine. "Corporate Actors: The Legal Status of Mercenaries in Armed
    Conflict." *International Review of the Red Cross*, September 2006.
    http://icrc.org/Web/eng/siteeng0.nsf/html/review-863-p599, 30 January 2008.

* Flaherty, Anne. "Military May Get Control of Contractors." *The Huffington Post*, 25
    October 2007. http://www.huffingtonpost.com/tag/private-security-contractors,
    25 October 2007.

* Flaherty, Mary Pat and Priest, Dana. "More Limits Sought for Private Security
    Teams." *The Washington Post*, 13 April 2004. http://www.corpwatch.org/
    article.php?list=type&type=23&all=1, 28 January 2008.

Follman and Clark-Flory, 2006 "Prosecutions and Convictions – Accountability for Abu
    Ghraib." *Salon*, 14 March 2006. http://www.salon.com/news/abu_ghraib/2006/
    03/14/prosecutions_convictions/, 10 February 2008.

Fraser, Alison A. and others. "2008 Federal Review and Spending: A Book of Charts."
    The Heritage Foundation. http://www.heritage.org/research/features/
    budgetchartbook/charts_s/s7.cfm, 3 February, 2008.

Friedman, Robert M. *Civilian Contractors on the Battlefield: A Partnership with
    Commercial Industry or Recipe for Failure?* Strategy Research Project. Army
    War College, Carlisle Barracks PA, April 2002 (ADA404511).

* Gillard, Emanuela-Chiara. "Getting Private Military and Security Companies to
    Respect the Law." *International Review of the Red Cross*, Interview, 19 October
    2006. http://www.icrc.org/Web/Eng/siteeng0.nsf/html/privatisation-war-
    interview-191006, 14 August 2007.

Glanz, James. "They Just Killed A Man and Drove Away." *The New York Times*, 11
    November 2007. http://www.nytimes.com/2007/11/12/world/middleeast/
    12contractor.html?hp, 3 March 2008.

Goddard, Scott C. *The Private Military Company: A Legitimate International Entity
    Within Modern Conflict.* MS thesis. Army Command and General Staff
    College, Fort Leavenworth KS, June 2001 (ADA396480).

* Grant, Greg. "Pentagon Cited Again for Weak Oversight of Iraq Contractors."
    Government Executive, 20 December 2006. http://www.govexec.com/
    story_page.cfm?articleid=35739&ref=rellink, 24 January 2008.

Greaver, Maurice F. *Strategic Outsourcing: A Structured Approach to Outsourcing
    Decisions and Initiative.* New York NY: AMACOM, 1999.

Greenwald, Robert. *Iraq for Sale: The War Profiteers.* Video Documentary, A Robert
    Greenwald Film, September 2006. www.iragforsale.org, 11 January 2008.

* Gropman, Alan L. "Government Needs To Reexamine Rules for Battlefield Contractors." *National Defense Magazine*, January 2008. http://www.nationaldefensemagazine.org/issues/2008/January/GovNeeds.htm, 24 January 2008.

* Guma, Greg. "Privatizing War." *Common Dreams,* 7 July 2004. http://www.commondreams.org/views04/0707-14.htm, 29 May 2007.

* Gutman, Huck. "Soldiers On Hire." *Common Dreams,* 27 April 2004. http://www.commondreams.org/views04/0427-03.htm. 26 January 2008.

Halliburton. "Tribute to Employees From The Attack in Mosul." Press Statement on company website, 22 December 2004. http://www.halliburton.com/news/ archive/2004/kbrnws_122204a.jsp, 8 February 2008

* Hartung, William D. "Bush Military Budget Highest Since WWII." *Common Dreams*, 10 February 2007. http://www.commondreams.org/views07/0210-26.htm, 8 February 2008.

* ----. "Private Military Contractors in Iraq and Beyond: A Question of Balance." Prepared Statement for American News Women's Club Briefing, 22 June 2004. http://www.worldpolicy.org/projects/arms/updates/FPIFJune2004.html, 24 January 2008.

* Hodge, Nathan. "Army for Hire." *Slate Magazine*, 31 August 2006. http://www.slate.com/ id/2148608/, 29 May 2007.

* Horton, Scott. "Providing Accountability for Private Military Contractors: Testimony Before the House Judiciary Committee on June 19, 2007." *Harper's Magazine*, 19 June 2007. http://www.harpers.org/archive/2007/06/hbc-90000309, 19 July 2007.

* Isenberg, David. *A Government in Search of Cover: PMCs in Iraq.* British American Security Information Council Conference Paper, March 23, 2006. http://www.basicint.org/pubs/Papers/pmcs0603.pdf, 30 January 2008.

Jackman, Tom. "U.S. Contractor Fired On Iraqi Vehicles for Sport, Suit Alleges." *The Washington Post*, 17 November 2006. http://www.washingtonpost.com/wp-dyn/content/article/2006/11/16/AR2006111601615_pf.html, 26 January 2008.

KBR. "KBR History." http://www.kbr.com/corporate/kbr_history/index.aspx, 8 February 2008.

* Kelley, Matt. "Contractors, Military in Bidding War." *USA Today*, 31 July 2005. http://www.usatoday.com/news/world/iraq/2005-07-31-contractors-private_x.htm, 30 January 2008.

* Keteyian, Armen. "Contractors in Iraq Are targets For Attack." *CBS News*, 17 November 2006. http://www.cbsnews.com/stories/2006/11/17/ cbsnews_investigates/main2197218.shtml, 30 January 2008.

Kidwell, Deborah C. *Public War, Private Fight? The United States and Private Military Companies*. Global War on Terrorism Occasional Paper 12. Army Combined Arms Center, Combat Studies Institute, Fort Leavenworth KS, 2005 (ADA446127).

* Knickerbocker, Brad. "Silent Surge in Contractor Armies." *The Christian Science Monitor*, 18 July 2007. http://www.csmonitor.com/2007/0718/p01s02-usmi.html, 16 August 2007.

Krippendorff, Klaus. *Content Analysis: An Introduction to Its Methodology.* Thousand Oaks CA: Sage Publishing, 2004.

L-3. "Locations." http://www.l-3com.com/about-l3/locations.aspx, 28 January 2008.

* Lee, Matthew. "State Department May Phase Out Blackwater." *The Huffington Post*, 10 October 2007. http://www.huffingtonpost.com/huff-wires/20071010/us-iraq-blackwater/, 13 November 2007.

Libarkin, Julie C. and Kurdziel, Josepha P. "Research Methodologies in Science Education: Qualitative data." *Journal of Geoscience Education*, March 2002. http://nagt.org/files/nagt/jge/columns/ResMeth-v50n2p195.pdf, 16 November 2007.

* Macdonald, Jennifer and Rosen, Ira. "Billions Wasted in Iraq?" *CBS News*, 9 July 2006. http://www.cbsnews.com/stories/2006/02/09/60minutes/ main1302378.shtml, 25 July 2007.

Macnamara, Jim. *Media Content Analysis: Uses, Benefits, and Best Practices.* Research Paper, 2006. http://www.mediamonitors.com.au/documents/ Media%20Content%20Analysis%20Research%20Paper.pdf, 7 December 2007.

Martinez, Hilda and Tepas, Lisa. "Army Reserve Role in Force Projection." *Army Logistician*, March-April 1999. http://www.almc.army.mil/alog/issues/ MARAPR99/MS386.htm, 3 January 2008.

McCallum, Sean F. *From Gun to Briefcase: The Rise of the Private Military Firm, 1990-2007*. MS thesis, Drexel University, Philadelphia PA, December 2007.

* Merle, Renae. "Census Counts 100,000 Contractors in Iraq." *The Washington Post,* 5 December 2006. http://www.washingtonpost.com/wp-dyn/content/article/ 2006/12/04/AR2006120401311.html, 2 August 2007.

* Miller, T. Christian (2007a). "Iraq: Private Contractors Outnumber U.S. Troops in
       Iraq." *The Los Angeles Times*, 4 July 2007. http://www.latimes.com/news/
       nationworld/world/la-na-rivate4jul04,0,5419234,full.story?coll=la-home-center,
       23 July 2007.

*---- (2007b). "The Battle Scars of a Private War." *The Los Angeles Times*, 21 February
       2007. http://www.latimes.com/news/nationworld/ washingtondc/la-na-
       contractors12feb12,1,6522872.story, 30 January 2008.

* Montgomery, Cliff. "Army Fails to Provide Iraq Contractor Census." *The American
       Spark*, 17 November 2006. http://www.americanspark.com/bytes_11-17-06.html,
       19 January 2008.

Nelson, Mike and others. "Curing the Software Requirements and Cost Estimating
       Blues." *Program Manager*, November-December 1999. http://www.dau.mil/
       pubs/pm/pmpdf99/nelsonnd.pdf, 3 February 2008.

Neuman, William L. *Social Research Methods: Qualitative and Quantitative
       Approaches* (6th Edition). Boston MA: Allyn & Bacon, 2006.

Novak, Ryan M. *Going to War With Defense Contractors: A Case Study Analysis of
       Battlefield Acquisition*. MS thesis, AFIT/GAQ/ENV/04M-08. Graduate School
       of Engineering and Management, Air Force Institute of Technology (AU),
       Wright-Patterson AFB OH, March 2004 (ADA422926).

Office of Management and Budget. *Budget of the United States Government, Fiscal Year
       2008*. http://www.whitehouse.gov/omb/budget/fy2008/pdf/hist.pdf, 28 January
       2008.

"Outsourcing." *Encyclopedia of Business, 2nd Edition.*
       http://www.referenceforbusiness.com/encyclopedia/Oli-Per/Outsourcing.html, 3
       January 2008.

* Pan, Esther. "Iraq: Military Outsourcing." *Council of Foreign Relations,* 20 May
       2004. http://www.cfr.org/publication/7667, 19 July 2007.

Patten, Mildred L. *Understanding Research Methods: An Overview of the Essentials* (5th
       Edition. Glendale CA: Pyrczak Publishing, 2005.

Pelton, Robert Y. *Licensed to Kill: Hired Guns in the War on Terror.* New York NY:
       Three Rivers Press, 2006.

Peters, Katherine M. "Civilians at War." *Government Executive*, 28.7 (July 1996).
       http://www.govexec.com/archdoc/0796/0796S2.htm, 1 August 2007.

110

* Phinney, David. "Tension and Confusion Grow Amid the Fog of War." *CorpWatch*, 7 June 2005. http://www.corpwatch.org/article.php?id=12349, 30 January 2008.

Rayment, Sean. "Trophy Video Exposes Private Security Contractors Shooting Up Iraqi Drivers." *The Telegraph*, 26 November 2005. http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2005/11/27/wirq27.xml, 3 March 2008.

"Research." *Webster's New World Dictionary*. New York NY: Simon and Schuster, 1982.

* Risen James. "2005 Use of Gas by Blackwater Leaves Questions." *The New York Times*, 10 January 2008. http://www.nytimes.com/2008/01/10/world/middleeast/10blackwater.html, 8 February 2008.

* ----. "Contractors Back From Iraq Suffer Trauma From Battle." *The New York Times*, 5 July 2007. http://www.nytimes.com/2007/07/05/us/05contractors.html, 24 January 2008.

* Roberts, Michelle. "AP: Nearly 800 Iraq Contractors Killed." *Yahoo News*, 23 February 2007. http://brentbrashear.com/articleoftheweek/pages/Print%20Story%20Nearly%20800%20contractors%20killed%20in%20Iraq%20on%20Yahoo!%20News.htm, 30 January 2008.

Rochester, Janet H. and Rochester, Haydon, Jr., "Advantages and Disadvantages of Outsourcing." Professional Communication Conference Paper, September 1995. http://ieeexplore.ieee.org/iel3/4241/12042/00554865.pdf?arnumber=554865, 28 January 2008.

Ryan, Gery W. and Bernard, H. Russell. "Techniques to Identify Themes in Qualitative Data." *Field Methods*, February 2003. http://www.analytictech.com/mb870/Readings/ryan-bernard_techniques_to_identify_themes_in.htm, 6 January 2008.

* Scahill, Jeremy (2007a). "Blackwater's Loopholes." *The Los Angeles Times*, 15 November 2007. http://www.latimes.com/news/opinion/la-oe-scahill15nov15,0,5359110.story?coll=la-opinion-rightrail, 16 November 2007.

* ---- (2007b). "State to Blackwater: Nothing You Say Can and Will Be Used Against You in a Court of Law." *The Huffington Post*, 31 October 2007. http://www.huffingtonpost.com/jeremy-scahill/state-to-blackwater-noth_b_70479.html, 28 January 2008.

* ---- (2007c). "The Mercenary Revolution: Flush with Profits from the Iraq War, Contractors See A World of Business Opportunities." *The Indypendent*, 15 August 2007. http://www.indypendent.org/2007/08/10/the-mercenary-revolution-flush-with-profits-from-the-iraq-war-military-contractors-see-a-world-of-business-opportunities/, 15 August 2007.

111

Schreier, Fred and Caparini, Marina. *Privatising Security: Law, Practice and Governance of Private Military and Security Companies.* Geneva Centre for the Democratic Control of Armed Forces (DCAF) Occasional Paper No. 6, March 2005.

Schumacher, Gerald. *A Bloody Business: America's War Zone Contractors and the Occupation of Iraq.* St. Paul MN: Zenith Press, 2006.

Shanker, Thom. "Proposed Military Spending Is Highest Since WWII." *The New York Times*, 4 Feb 2008. http://www.nytimes.com/2008/02/04/washington/ 04military.html?ex=1359781200&en=ae331426f1115f28&ei=5088&partner=rssn yt&emc=rss, 8 February 2008.

Singer, Peter W. *Corporate Warriors: The Rise of the Privatized Military Industry.* Ithaca NY: Cornell University Press, 2003.

* ---- (2004a). "Beyond the Law." *Brookings Institution.* 3 May 2004. http://www.brookings.edu/opinions/2004/0503defenseindustry_singer.aspx, 15 January 2008.

* ----. "Outsourcing War." *Foreign Affairs,* March/April 2005. http://www.brookings.edu/views/articles/fellows/singer20050301.htm, 7 August 2007.

* ---- (2004b). "Warriors for Hire in Iraq." *Brookings Institution,* 15 April 2004. http://www.brookings.edu/articles/2004/0415defenseindustry_singer.aspx, 7 August 2007.

"Soldier." *Merriam-Webster's Online Dictionary, 2*007. http://www.merriam-webster.com/dictionary/soldier, 18 January 2008.

"Soldier." *Webster's Third New International Dictionary.* Springfield MA: G & C Merriam Company, 1976.

Spring, Baker. "Four Percent For Freedom: Spend More on National Defense." *The Heritage Foundation*, Executive Memorandum #1027, 29 May 2007. http://www.heritage.org/Research/nationalsecurity/em1027.cfm, 3 February 2008.

* Stockman, Farah. "US Contractors in Iraq Face Peril, Neglect." *The Boston Globe*, 16 October 2006. http://www.boston.com/news/world/articles/2006/10/16/ us_contractors_in_iraq_face_peril_neglect/, 30 January 2008.

Strauss, A. and Corbin, J. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques.* Newbury Park CA: Sage Publications, 1990.

* Sullivan, Elizabeth. "US Is Fighting A Contractor War." *The Plain Dealer*, 21 June 2007. http://www.cleveland.com/news/esullivan/index.ssf?/base/opinion/ 118241475736950.xml&coll=2, 8 February 2008.

Thomas, Robert M. *Blending Qualitative & Quantitative Research Methods in Theses and Dissertations.* Thousand Oaks CA: Corwin Press, 2003.

Turner, Lisa L. and Norton, Lynn G. "Civilians At The Tip of The Spear – Department of Defense Total Force Team." *Air Force Law Review*, Spring 2001. http://findarticles.com/p/articles/mi_m6007/is_/ai_92044660, 5 November 2007.

United States Central Command (CENTCOM). *Contracting Information on Contractors Operating in Iraq,* 4 February 2007. CENTCOM Response to *ePluribus Media's* Freedom of Information Act Request, FOIA 07-0163. http://www.epluribusmedia.org/features/ 2007/documents/centcom_numbers.htm, 23 July 2007.

United States Government Accountability Office (GAO). *DoD Force Mix Issues – Greater Reliance on Civilians in Support Roles Could Provide Significant Benefits.* Report to the Chairman, Subcommittee on Readiness, Committee on Armed Services, House of Representatives, GAO/NSIAD Report 95-5, October 1994 (ADA 285824). http://www.gao.gov/archive/1995/ns95005.pdf, 15 July 2007.

* ----. *Military Operations - High-Level DOD Action Needed to Address Long-standing Problems with Management and Oversight of Contractors Supporting Deployed Forces.* Report to Congressional Committees, GAO Report 07-145, December 2006 (ADA460010). http://www.gao.gov/new.items/ d07145.pdf, 15 October 2007. http://www.gao.gov/new.items/d07145.pdf, 15 July 2007.

* White, Josh and Witte, Griff. "Tension, Confusion Between Troops, Contractors in Iraq." *The Washington Post*, 10 July 2005. http://www.washingtonpost.com/wp-dyn/content/article/2005/07/09/AR2005070901175.html, 30 January 2008.

* Witte, Griff. "New Law Could Subject Civilians to Military Trial." *The Washington Post*, 15 January 2007. http://www.washingtonpost.com/wp-dyn/ content/article/ 2007/01/14/AR2007011400906.html, 15 August 2007.

Wong, Edward. "Iraqi Video Shows Beheading of Man Said to Be American." *The New York Times*, 21 September 2004. http://www.nytimes.com/2004/09/21/ international/middleeast/21iraq.html?pagewanted=print&position=, 26 January 2008.

* Yeoman, Barry. "Soldiers of Good Fortune." *Independent Weekly,* 23 July 2003. http://www.indyweek.com/gyrobase/Content?oid=oid%3A19877, 24 January 2008.

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Yin, Robert K. *Case Study Research: Design and Methods* (3rd Edition.). Thousand Oaks CA: Sage Publications, 2003.

* Zabci, Filiz. "Private Military Companies: 'Shadow Soldiers of Neo-colonialism."
    Capital & Class, Summer 2007. http://findarticles.com/p/articles/ mi_qa3780/ is_200707/ ai_n19433636/print, 26 January 2008.

Zamparelli, Steven J. "Contractors on the Battlefield: What Have We Signed Up For?" *Air Force Journal of Logistics*, 23.3: 11-19 (Fall 1999).

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Vita

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The majority of her service time has been served as an acquisition program manager at Wright-Patterson AFB, Ohio and Hill AFB, Utah. However, she also has had several years of with several years of experience as a developmental flight test engineer at Eglin AFB, Florida. In addition, she was selected for the Education With Industry (EWI) program at the Boeing Defense and Space group in Seattle, Washington. In August 2006, she entered the Graduate School of Engineering and Management, Air Force Institute of Technology.

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13. SUPPLEMENTARY NOTES

Over the past fifteen years, the Department of Defense has experienced an increasing trend in the outsourcing and privatization of military operations. Key factors contributing to the growth include declines in military budgets, reductions in active duty end-strength, increases in operational deployments, advancements in weapon system technology, and evolutions in the nature of warfare. However, the continued escalation of incorporating Private Military Companies (PMCs) on the battlefield creates unique challenges. The purpose of this exploratory and descriptive research is to identify utilization rates, describe the types of roles being fulfilled, and synthesize the challenges of augmenting military manpower with civilian contractors. For this effort, the research scope is primarily focused on exploring the use of PMCs to support battlefield operations in Iraq. The research strategy involves the collection, reduction, and analysis of existing census data and secondary archival data from multiple sources. To add flexibility to the study, interactive data analysis techniques are employed using a combination of several qualitative methodologies. The conclusions drawn from the resulting data analysis framework are intended to facilitate a better understanding of the complexities of using civilian contractors in a war zone as well as outline key focus areas for improving the planning, management, and oversight of PMC operations. In addition, this research expands the existing body of knowledge on this dynamic topic.

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