Walden University

College of Management and Technology

This is to certify that the doctoral study by

Ashley Moye

has been found to be complete and satisfactory in all respects,
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Walden University
2016

Abstract

Market Orientation in Government Markets and Veteran-Owned Small Businesses

by

Ashley Moye

MBA, Grantham University, 2012

BBA, Strayer University, 2010

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

June 2016

Abstract

Inadequate resources, poor market strategy, competition, contract regulation, and disparate performance outcomes are issues small business owners face while competing for government contracts. The purpose of this correlational study was to examine the market orientation-business performance relationship and the influence of market factors among veteran-owned small businesses competing for government contracts in the United States. A survey with adapted MARKOR and Government Regulation Lassez-Faire scales was administered to 203 veteran-owned small business owners. Resource-advantage theory served as the theoretical foundation for this study. The results of the multiple linear regression were significant, suggesting that market orientation relates to firm performance and total contract revenue. However, the regression models had a poor fit, with R^2 values ranging from .019 to .094, suggesting that significant results of this study lacked the power to conclude predictive accuracy. Market orientation did not significantly relate to contract bid to win rate and number of years in the government market. The PROCESS moderation analysis provided mixed results for market factors' influence on the market orientation relationship with business performance outcomes. Study participants were market-oriented, with few seeing corresponding success. The introduction of new variables is necessary to make future models useful. Implications for positive social change include guidance for better-fitting models, ones that will inform the efforts to improve the survivability of small businesses in the B2G market. Veteran-owned small business owners should not waste resources on market orientation as a sole strategic focus for capturing and winning government contracts.

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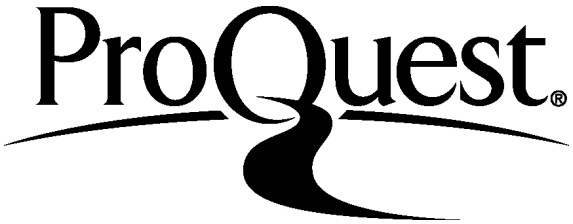

Dedication

I dedicate my efforts to my family and friends for your encouraging words and support. To man's ultimate role model, my grandfather, the late Tom Farrish Moye. Who with a third-grade education, rated as a master mechanic at age 17. The real mechanics were in his service to God and humankind. If a man needed help, going to my grandfather was a good place to start. I miss you every day and will spend the rest of my life building the courage to walk a mile in your shoes. To the late Larry Routsaw, a hilarious, dedicated and compassionate educator who saw value in everyone.

To the extraordinary women in my life: my mother Lynda Spears and grandmother Eddie Moye for your unwavering devotion and countless words of encouragement. To my sisters, Espanita, Linda, Cheryl, and Yakira; and my children Ashley, Sonjoinyah, and Madison for your sacrifices and keeping me grounded. I hope my effort serve as a source of inspiration.

Also to my extended family, the men and women of the United States Armed Forces who share my spirit. To my uncle, the second Arthur Moye, whose shadow I occupied most of my life, thanks for the coaching and mentorship, and always making yourself available when I need help. To the late George Shamberger, a Soldier who could make the world laugh about being in trouble.

Acknowledgments

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So many people contributed to my development and successes throughout my life. To my great-grand and grandparents, you taught me service to God and assistance to humankind. I understand that I am required to do more. To my mother, you always stand by me, and I live to make you proud. To my primary and secondary education cast, Mrs. Sarah Smiley, Mrs. Lola Wheeler, Mrs. Inez Jackson, Dr. Andre Saulsberry, Mr. Stanley Champion, and Mrs. Evelyn Hudson, who reminded me of my abilities and challenged me to fulfill my potential. To Mrs. Debra Kellum, Mr. Will Murray, and Mr. Vertis Richardson III, you taught me to be the best, to be an example, to know my job, and to take care of people first. To Colonels Tonie Jackson and John Valledor, thank you for calling out my abilities as a leader and potential as a scholar. To Ms. Deborah Ortiz-Young, you started it.

Special appreciation to Dr. Candice Hebert and Dr. Carolyn Caldwell for your many hours of listening and valuable advice. Thanks for introducing me to the works Andy Fields. Your interest in my doctoral progress meant a lot to me.

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Section 1: Foundation of the Study

During the 21st century in the United States, slow economic growth affected employment, capital investment, and bankruptcy in small businesses (Cook, Campbell, & Kelly, 2012). Small businesses accounted for more than half the gross domestic product in the United States (Kobe, 2012). The Small Business Administration Office of Advocacy ([SBAOA], 2014) defined a small business as a firm with less than 500 employees. Small businesses represented 99.7% of all employee companies in the United States, accounted for more than 60% share of net new jobs, and often employed fewer than 20 people (SBAOA, 2012b).

In 2014, there were 28.2 million small businesses in the United States and its outlying territories (SBAOA, 2014). By 2011, small business closures increased to 470,736, and 9.8% of small business closures were bankruptcies (SBAOA, 2012b; SBAOA, 2014). The U.S. Department of Labor's Bureau of Labor Statistics showed 49% of small businesses survived 5 years or more; 34% survived 10 years or more, and 26% survived 15 years or more (SBAOA, 2014). Problems retaining a quality workforce, lack of expertise, lack of strategic leadership, inadequate resources, competition, and regulations were reasons small businesses failed (Cronin-Gilmore, 2012; Miles, 2014). Another challenge for small business owners was the inability to keep up a sufficient volume of revenue to sustain growth and employment (Cook et al., 2012).

Out of the Small Business Act of July 30, 1953, Congress created the Small Business Administration (SBA) to protect the interests of small business (SBA, n.d.). Before its official designation in 1953, under the predecessor Reconstruction Finance

Corporation, the SBA has been a leading advocate for small businesses since the Great Depression (SBA, n.d.). The charter of the SBA also stipulated that the SBA would ensure small businesses received a fair proportion of government contracts (Middleton, 2013). A $400 billion dollar market (SBA, 2011-2014); in 2009, government contracts represented 3.8% of the United States' economy (Midland & Walter, 2010).

The SBA categorized small businesses into five socioeconomic groups, and each category drove rules and preferences for the distribution of government contracts (SBAOA, 2012a). The socioeconomic classifications were: (a) woman-owned small business (WOSB), (b) small disadvantaged business (SDB), (c) service-disabled veteran-owned small business (SDVOSB), (d) historically underutilized business zones (HUBZones), and (e) general small business (SBAOA, 2012a; Snider, Kidalov, & Rendon, 2013). The Government Accountability Office ([GAO], 2013) cited the SBA certification for a SDVOSB as one which, a service-disabled veteran unconditionally owns 51% of the firm, and holds the highest principal position in the company. A provision associated with these socioeconomic designations was that each small business group received a mandated proportion of government contracts (Middleton, 2013; Snider et al., 2013). Veteran-owned small businesses (VOSB) competing for, and winning, a fair amount of government contracts was the underpinning of my study.

Veteran-owned small businesses included SDVOSBs and represented a significant portion of the overall small business population (SBAOA, 2013). Veteran-owned small businesses increased by 35% from 2.4 million in 2007 to 3.7 million in 2012 and represented 13% of the 28.2 million small business population in the United States

(SBAOA, 2013; SBAOA, 2014). In an economic context, VOSBs accounted for $1.2 trillion in receipts and 4% of all revenues in the United States (Census Bureau, 2013). Based on data from the Census Bureau's 2007 Survey of Business Owners, 20% of VOSBs were employer firms, employed 5.8 million people, and generated $210 billion in payroll (Census Bureau, 2013). The VOSB employer group accounted for 92% of the $1.2 trillion receipts while nonemployee and self-employed firms accounted 8% of VOSB receipts (Census Bureau, 2013).

Background of the Problem

Veteran-owned and service-disabled veteran-owned small businesses won an annual average of 4.6% and 2.9% respectfully, of the annual $400 billion in contract dollars eligible for small businesses since 2010 (Federal Procurement Data System-Next Generation [FPDS-NG], 2013; SBA, 2011-2014). Smith (2009) attributed disproportionate contract awards, and a lack of strategic knowledge and planning as factors of failure among SDVOSBs. Middleton (2013) suggested a lack of business development, technical skills, and access to capital contributed to SDVOSB failure in the government contracting market (also known as the business-to-government market [B2G]).

Dong, Zhang, Hinsch, and Zou (2015) and Hunt (2012a) presented market orientation as a strategic enabler to improve business performance in business-to-business (B2B) and business-to-customer (B2C) markets. Boohene, Agyapong, and Asomaning (2012) posited that market orientation was a direct contributor to financial performance in small businesses. Hinson and Mohammed (2011) suggested small firms that executed

market orientation activities maintained a competitive advantage. Boohene et al. (2012) argued that business development agencies should train small business owners on the importance of market orientation to aid firm performance.

Cooper (2008) and Tammi, Saastamoinen, and Reijonen (2014) advanced the marketing orientation construct in the B2G market and noted the presence of market-orientated business practices among small businesses. Consistent with the foundational literature, Cooper (2008) found the market orientation-business performance relationship to be both positive and significant. Cooper and Tammi et al. (2014) suggested small business owners who aggressively competed were successful in the B2G market. Like Boohene et al. (2012), Cooper recommended policy makers and advocacy groups incorporated market orientation into small business training and development programs.

Problem Statement

Veteran-owned small business owners experience disparate performance outcomes in government markets due to wide ranges in contract revenue and uneven market share (SBA, 2011-2014; SBAOA, 2012a). Contract revenue to VOSBs remains disproportionate, as contract revenue is one to seven times higher for other small business groups (FPDS-NG, 2013; SBA, 2011-2014). With disparate contract revenue and conflicting regulations, agencies for some socioeconomic contracting programs saw 21% in small business failures (SBAOA, 2012a). The general business problem is that inadequate resources, poor market strategy, competition, contract regulations, and differing performance outcomes continue to be issues for small business owners who compete for government contracts (Loader, 2013; Resh & Marvel, 2012). The specific

business problem is that despite the presence of market-oriented activities, some VOSB owners lack the market orientation to achieve successful business performance, and do not understand the influence of market factors specific to the government contracting market.

Purpose Statement

The purpose of my quantitative, correlational study was to examine the relationship between market orientation and business performance, and the influence of market factors among VOSBs in the government contracting market. The independent variables were market orientation and market factors (i.e., competitive intensity, market turbulence, technological turbulence, and government contracting regulation). The dependent variables were firm performance, total contract revenue, and contract bid to win rate. The target population was 7,390 VOSB owners registered for government contracts in the United States and outlying territories. The target population was appropriate for my research problem and objectives. My study might impact social change by providing VOSB owners and advocacy groups with information and evidence about market orientation to aid market strategy development and to improve the competitive advantage and survivability of VOSBs in B2G markets.

Nature of the Study

The nature of my study was an exploration of market orientation strategy in the government contracting market. The purpose of my study was to examine the relationship between market orientation and business performance, and the influence of market factors among VOSBs in the government contracting market. My research

approach was a quantitative research method, with a correlational design. Castillo-Page, Bodilly, and Bunton (2012) and Karanja, Zaveri, and Ahmed (2013) suggested a quantitative approach is objective and uses surveys and experiments to address research questions, and may show relationships among variables in the form of a measure or observation through statistical analysis. My study involved the use of a survey instrument to facilitate the data collection process.

Cokley and Awad (2013) and Turner, Balmer and Coverdale (2013) posited that a correlational design is appropriate to achieve the research objective of examining relationships, differences, and less than causal associations between variables. No other quantitative design would satisfy my research objectives, which were to examine the relationship between market orientation and business performance, and the influence of market factors. Turner et al. (2013) and Smith (2012) cited that experimental or causal-comparative designs were appropriate for control groups, interventions, or comparison of populations. A Delphi study group design was insufficient because a panel of experts was not a requirement for the objectives of my study (Neimeyer, Taylor, & Rozensky, 2012).

A qualitative research method was inappropriate for my study because this method is subjective and pursues an in-depth exploration of a problem (Ponterotto, 2013; Rennie, 2012). Ponterotto (2013) and Turner et al. (2013) suggested the use of qualitative methods address research questions by extracting the realities and experiences of participants through interviews, documents, and observations. By using a quantitative, correlative design for my study, I contributed to literature on measuring market

orientation and provided further examination of business performance and market factors in B2G markets.

Research Questions and Hypotheses

The purpose of my quantitative, correlational study was to examine the relationship between market orientation and business performance, and the influence of market factors among VOSBs. The focus of my study was market orientation as an independent variable, business performance as a dependent variable, and the importance of B2G market factors as an independent and third interaction variable. To achieve my study objectives, I formulated the following research questions and hypotheses:

RQ1. What are organizational characteristics of VOSBs contracting in the government market?

RQ2. To what extent does market orientation relate to business performance in VOSBs?

$H1_{0:}$ There is no positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid to win rate in VOSBs.

$H1_{1:}$ There is a positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid to win rate in VOSBs.

RQ3. To what extent are market orientation scores different among VOSBs based on the number of years in the government market?

$H2_{0:}$ There is no statistically significant difference in market orientation based on the number of years in the government market among VOSBs.

$H2_{1:}$ There is a statistically significant difference in market orientation based on the number of years in the government market among VOSBs.

RQ4. To what extent might market factors influence the market orientation-business performance relationship in VOSBs?

$H3_{0:}$ Market factors positively moderate the effect of market orientation on business performance among VOSBs.

$H3_{1:}$ Market factors negatively moderate the effect of market orientation on business performance among VOSBs.

Figure 1 is an illustration of relationships between dependent variables (DV) and independent variables (IV).

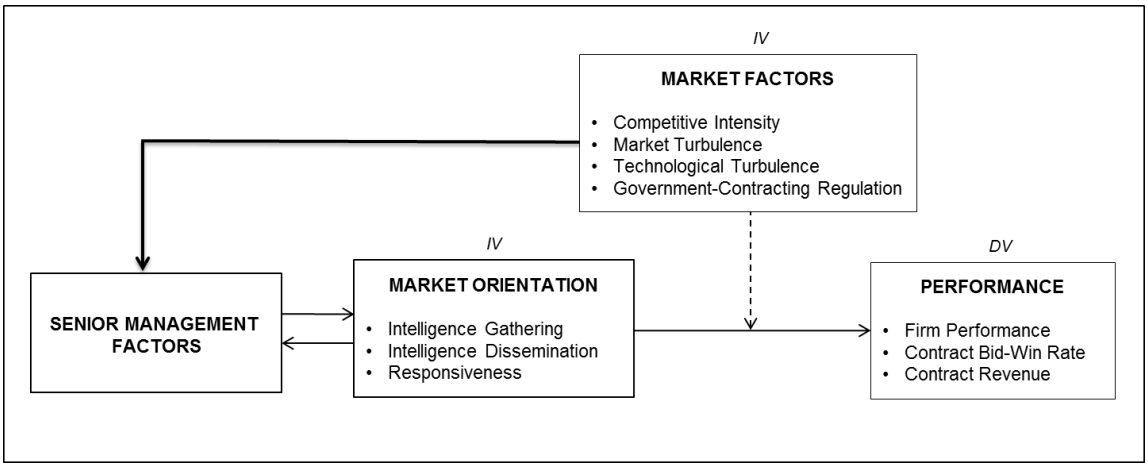

Figure 1. Research model. Senior management attitudes towards market orientation as it relates to the firm's performance and the interaction of market factors on the market orientation-business performance relationship. The interaction of all market factors informs senior management's strategic mix of market orientation and the impact of market orientation on business performance outcomes. Adapted from "Market orientation: The construct, research propositions, and managerial implications," by A. K. Kohli and B. J. Jaworski, 1990, *Journal of Marketing*, *54*(2), p. 7. Copyright 1990 by the American Marketing Association.

Theoretical Framework

Theories are lenses through which researchers explain and predict a phenomenon (Bicen & Hunt, 2012). The theoretical framework that I used for my study was the resource-advantage theory of competition (R-A). S. Hunt and R. Morgan introduced R-A as an extension of Jay Barney's resource-based theory (RBT), also known as resource-based view (RBV) (Hunt, 2012b). The key proposition of R-A is a firm's use of organizational resources (integrated into strategy implementation) to achieve customer value, competitive advantage, and superior business performance (Hunt, 2012b). Key constructs of R-A are resource attributes (i.e., financial, human [skills and knowledge], organizational [competencies and culture], informational [customer and competitor intelligence], and relational [supplier and customer]) (Hunt, 2012b).

Instrumental in the foundation of my study was market orientation, which Kohli and Jaworski (1990) formulated to operationalize the marketing concept. The key proposition of market orientation is that market orientation strategy (i.e., gathering market intelligence, market intelligence dissemination, and responsiveness) is a source of competitive advantage, and related to superior business performance (Golicic, Fugate, & Davis, 2012; Kohli & Jaworski, 1990). The informational construct (comprising customer and competitor intelligence) of R-A is congruent to the gathering market intelligence, market intelligence dissemination, and responsiveness constructs of market orientation (Bicen & Hunt, 2012; Davis & Golicic, 2010; Golicic et al., 2012). For this reason these constructs, as nested in the market orientation strategy, are a source of competitive advantage and superior business performance. As it applied to my study, R-

A, as conveyed through the market orientation construct, holds that I expected the independent variables (market orientation construct) of the MARKOR scale to relate to business performance.

Definition of Terms

Federal Procurement Data System-New Generation (FPDS-NG). The FPDS-NG is the leading computer-based system government agencies use to report federal procurement data to Congress. This system tracks prime contracts $3,000 or more (GAO, 2012).

Marketing Concept. The marketing concept is the customer-focused integration and coordination of marketing functions with other organizational functions to achieve long-term profits (Herstein & Jaffe, 2013).

Market Orientation. Market orientation is the integrated coordination of market-related activities (market intelligence generation, market intelligence dissemination, and customer responsiveness) across the firm to address customer needs and competitors' posture to achieve maximum performance and profitability (Kohli & Jaworski, 1990).

North American Industry Classification System (NAICS) code. The NAICS is a business classification code used to provide comparability in business statistics (SBAOA, 2012b).

Service-Disabled Veteran-Owned Small Business (SDVOSB). An SDVOSB is a small business owned by a veteran with a service-connected disability. This type of business was 51% owned and managed daily by a service-disabled veteran (GAO, 2013).

Small Business. A small business is one with fewer than 500 employees unless specified by different size standards according to the associated NAICS code (SBAOA, 2014).

System for Award Management (SAM). The SAM is the federal government contractor's registrations database used to collect, validate, and disseminate contractor and contract award data. SAM combined legacy systems of the Central Contractor Registration (CCR), Federal Agency Registration (FedReg), and the Online Representations and Certifications Application (ORCA), Excluded Parties List System (EPLS) into a single platform for contractors and federal contracting officials (GAO, 2012).

Veteran-Owned Small Business (VOSB). A VOSB is a small business majority owned and controlled by a veteran of military service. This type of business was 51% owned and managed daily by a veteran (GAO, 2013).

Assumptions, Limitations, and Delimitations

Assumptions

Simon (2011) posited that assumptions are parts of a study researchers assume are true, and may take actions to enforce throughout the research process. There were four assumptions associated with my research. The first assumption was that the population sample was representative of the 7,390 VOSB population registered for government contracts. Raschke, Krishen, Kachroo, and Maheshwari (2013) argued that population representation is essential to the generalizability and statistical significance of research results. A power analysis revealed a minimum of 180 participants to achieve statistically

significance results. To improve the population representation, generalizability, and power of test level, I set out to select a sample size of 1,800 for my study. A second assumption was that participants would respond in an honest and truthful manner. Simon (2011) posited that measures to protect participants' anonymity and confidentiality and to allow participants to withdraw from research are valuable to the nature of participants' responses.

A third assumption was business owner contact information at the Vendor Information Pages (VIP) was complete and accurate. The VIP is a listing of verified VOSBs the VA used to prevent awarding erroneous contracts to self-certified VOSBs (Friedman, 2014). Klabunde et al. (2012) suggested cross-referencing multiple lists for information accuracy and using alternative means to contact participants as an approach to deal with undeliverable emails. A fourth assumption was that Cooper's (2008) version of the MARKOR scale applied to the VOSB group. Rovai, Baker, and Ponton (2013) and Starr (2012) recommended the use of a field test to reduce potential threats to reliability and validity associated with using survey instruments for data collection.

Limitations

Simon (2011) suggested that limitations are limits and weaknesses of a study that may affect study outcomes. There were three limitations associated with my research. First, a quantitative method with a correlational design was appropriate for my study. Based on Ponterotto (2013) suggestions, a qualitative or mixed-methods design may provide valuable inputs essential to gaining a holistic understanding of business owner experiences in applying the market orientation strategy in government markets. Second,

Cokley and Awad (2013) argument induced considerations for limited determination of causation as a likely outcome from correlational designs. Third, the setting for my study was the federal government contracting market in the United States, and not associated with the state, local and other national government settings. The inclusion of state and local government contexts may have provided comparable evidence on market orientation strategy in government markets.

Delimitations

Simon (2011) posited delimitations are limits and boundaries researchers use to narrow the scope of a study. The first delimitation was the study population and setting. My study was specific to VOSB owners registered for federal procurement contracts in the continental United States and outlying territories. State and local government contracting were not part of my study. Self-certified and unregistered VOSB owners were not part of the sampling frame for my study. The second delimitation was that the objectives of my study were specific to market orientation, business performance measures (i.e. firm performance, total contract revenue, and contract bid to win rate), and market factor measures (i.e., competitive intensity, market turbulence, technological turbulence, and government contracting regulation). Antecedents of market orientation were not part of my study.

Significance of the Study

The value of my quantitative study was a contribution to marketing knowledge. My study provided insight into understanding VOSBs and market strategy in the B2G

market. Another point of value was that my research might advance social change and promote the economic prosperity of VOSBs in the B2G market.

Reduction of Gaps in Knowledge

Alves, Azevedo and Goncalves (2012) proclaimed that research contributes to advancing knowledge through description, prediction, improvement, and explanation. Cooper (2008) conducted an effort to advance the market orientation construct in the government contracting market in the United States. Moreover, Cooper provided recommendations for further studies to reduce knowledge gaps associated with market orientation strategy and business performance among other small business groups in the B2G market. The focus of my study was to advance knowledge in two ways. First, in furthering Cooper's effort, my research assessed market-oriented behaviors and attitudes of VOSBs by examining market orientation and business performance specific to B2G markets (i.e., total contract revenue and contract bid to win rate). Second, my study tested the influence of government market factors on the market orientation-business performance relationship. Understanding the influence of market factors may reduce gaps in VOSB owners' business practices associated with market orientation, strategy development, and implementation in B2G markets.

Contributions to Business Practice

Middleton (2013), SBA (2011-2014) and Smith (2009) highlighted that VOSBs received a disproportionately small amount of contracts and struggled with the dynamics of the B2G market. Boohene et al. (2012) and Cooper (2008) argued that the market orientation construct adds value to the business development and marketing capabilities

for small businesses in government markets. For the VOSB owner, further understanding of market orientation and market factors might contribute the development of effective market strategies fit for the government contracting market. These results, in turn, provided a strategic model by which VOSB owners can improve the economic prosperity, competitive posture, and survivability of VOSBs in the B2G market.

Implications for Social Change

Zaal, van Laar, Stahl, Ellemers, and Derks (2012) posited that positive social change depends on the shared importance of social goals and collective commitment to the individual and the community. Fassinger and Morrow (2013) suggested that researchers fostered positive social change through knowledge generation and raising awareness of matters important to the designated participants and associated communities. Fassinger and Morrow (2013) added that the knowledge and awareness gained from research may serve as a source of empowerment for participants and associated communities.

Census Bureau (2013) and SBAOA (2013) suggested VOSBs were significant contributors to economic growth in the United States. As a known factor of success, awareness of market orientation may provide practitioners, policy makers, and advocacy groups with the knowledge to address the influences of policies and practices that may impede the success of small businesses and government socioeconomic initiatives. For practitioners, policy makers, and advocacy groups, further understanding of market factors and related policy implications might contribute to the development of effective

market-focused training programs, and favorable regulations to support the economic prosperity, competitive posture, and survivability of VOSBs in the B2G market.

A Review of the Professional and Academic Literature

The purpose of my study was to assess the relationship between market orientation and business performance and to measure the influence of market factors on the market orientation-business performance relationship among VOSBs in the government contracting market. The objectives of my study were four central research questions. To address my central research questions, I formulated a subset of hypotheses.

Research Questions

RQ1. What are organizational characteristics of VOSBs contracting in the government market?

RQ2. To what extent does market orientation relate to business performance in VOSBs?

H1$_{0:}$ There is no positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid to win rate in VOSBs.

H1$_{1:}$ There is a positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid to win rate in VOSBs.

RQ3. To what extent are market orientation scores different among VOSBs based on the number of years in the government market?

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RQ4. To what extent might market factors influence the market orientation-business performance relationship in VOSBs?

H3$_{0:}$ Market factors positively moderate the effect of market orientation on business performance among VOSBs.

H3$_{1:}$ Market factors negatively moderate the effect of market orientation on business performance among VOSBs.

A search of literature from research databases at Science Direct, Business Source Complete, ABI/INFORM Complete, Sage Premier, Emerald Management Journals, and Google Scholar identified 4,389 publications on market orientation for B2B and B2C marketers. A search of literature at the Small Business Administration and Government Accountability Office (GAO) identified more than 800 reports and three databases (viz., FPDS-NG, SAM, and VIP) that contained data on small business and government contracts. Criteria for literature selection were fundamental contributions to market orientation strategy and significant advancements in market orientation strategy and business performance in government markets since Cooper's (2008) study.

I used alternative searches that contained single and combinations of keywords: *marketing*, *marketing concept*, *market orientation*, *federal contracting and government contracting*, and *federal procurement and government procurement* to identify relevant publications. Literature searches for connecting research streams about small business, organizational culture, business strategy, resource-based view, resource-advantage

theory, business performance and profitability, and market factors identified publications valuable to the wholeness of my research.

The total number of references in my study was 223, of which 190 (85%) were 5 years old or less. The total number of peer-reviewed references was 203 (91%). Other sources included two nonpeered journal articles, six books, and 12 government reports and databases. The composition of my literature review was 149 sources, of which 127 (85%) were 5 years old or less. The number of peer-reviewed references was 148 (99%).

I organized this narrative review into nine themes: (a) resource-advantage theory, (b) foundations of market orientation, (c) market orientation adoption in the business organization, (d) market orientation and business performance, (e) market orientation in small businesses, (f) measuring market orientation, (g) government market dynamics, (h) government markets and small business, and (i) market orientation in government markets. My review of professional literature comprised 6 decades of studies on marketing theory, market orientation, government markets, small business performance, and the marketing concept. Through several essays, early researchers introduced the fundamental tenets of market orientation constructs and established an empirical foundation to support a common assertion that integrated marketing and market orientation were direct contributors to superior business performance (Felton, 1959; Kohli & Jaworski, 1990; Slater & Narver, 1994).

Resource-Advantage Theory

My study drew from the theoretical framework of R-A, introduced by marketers S. Hunt and R. Morgan in 1995. Hunt and Morgan constructed R-A by combining the

works of researchers like Schumpeter from 1934, Alderson from 1965, Porter from 1980, Barney from 1991, and Connor from 1991 (Bicen & Hunt, 2012; Hunt 2012b). The build of R-A is a combination of resource-based theory and heterogeneous demand theory, and differential advantage and competitive advantage, and economic growth (Bicen & Hunt, 2012; Hunt 2011a; Hunt, 2012b).

The pedigree and structure of R-A were the competitive environment and organizational resources (Bicen & Hunt, 2012). First, environmental factors influence the competition process and economic performance (i.e., consumers, competitors, suppliers, and public policies) (Bicen & Hunt, 2012). Drawing on evolutionary economics, Bicen and Hunt held that the dynamics of competition promote economic growth, induce knowledge discovery and learning from financial performance, and have public policy implications (Bicen & Hunt, 2012; Hunt, 2011b). Through the dynamics of competition, firms compete for differential advantage in market offerings, and value efficiencies and effectiveness (Bicen & Hunt, 2012). Second, through organizational resources, companies provide differing market offerings to establish a comparative advantage as a means to achieve a market position of competitive advantage (Bicen & Hunt, 2012; Hunt, 2011a). This resource-based position of competitive advantage results in superior or inferior financial performance (Hunt, 2012b).

At the foundation of R-A was Barney's RBV. Hunt (2012a) cited that valuable resources were tangible and intangible; used to capture opportunities, and counteract competitive threats; were rare and difficult to imitate by competitors. Hunt and Morgan added that resources were financial, physical, and human, and were organizational

competencies and culture, information about customers and competitors, and relationships with suppliers and customers (Hunt, 2012b). The following premises are central to the foundation of R-A:

1. Demand is dynamic and heterogeneous across and within industries.
2. Consumer information is imperfect and costly.
3. Human motivation is constrained self-interest seeking.
4. Firm's objective is superior financial performance.
5. Firm's information is imperfect and costly.
6. Firm's resources are financial, physical, legal, human, organizational, informational, and relational.
7. Resources are heterogeneous and imperfectly mobile
8. Management must recognize, understand, create, select, implement, and modify strategies.
9. Competitive dynamics are disequilibrium provoking, with innovation endogenous (Hunt, 2011a; Hunt, 2012b).

Arguments and criticisms exist as to the differences and similarities in RBV and R-A (Kozlenkova, Samaha, & Palmatier, 2013; Shafeey & Trott, 2014). Both R-A and RBV held that resources are heterogeneous, imperfectly mobile, and hard to imitate by competitors (Hunt, 2012b; Kozlenkova et al., 2013). Scholars agreed that organizational resources, coupled with other complementary assets and capabilities, help to exploit the full potential of rare, hard to imitate strategic resources (Kozlenkova et al., 2013; Shafeey & Trott, 2014). Strategic resources, when nestled with complementary resources (i.e.,

organizational processes, management systems, and marketing capabilities), may produce a sustained competitive advantage (Fang, Chang, Ou, & Chou, 2014; Kajalo & Lindblom, 2015; Pratono & Mahmood, 2015; Shafeey & Trott, 2014). In applying R-A, the focus of the firm is the strategic use of tangible and intangible resources of differing characteristics and attributes (Bicen & Hunt, 2012; Hunt, 2012b). The goal of the firm is to maximize customer value and achieve a position of competitive advantage to realize superior business performance (Bicen & Hunt, 2012; Hunt, 2012b; Pratono & Mahmood, 2015).

The premises of R-A are compatible with the behavioral (Kohli & Jaworski, 1990) and cultural (Slater & Narver, 1994) constructs of market orientation strategy (Golicic et al., 2012; Hunt, 2011a). Hunt and Morgan postulated that through an R-A lens, the success of market orientation depended on the firm's internal commitment to information gathering to know its customers and competitors, and external responses to changes in customer preferences and competitor actions (Hunt, 2012b). Hunt and Morgan posited that market orientation was an intangible resource, and competitors could not perfectly duplicate it. Therefore, market orientation can lead to a sustainable competitive advantage and superior business performance (Hunt, 2012b).

Since Morgan and Hunt, both R-A and RBV were prominent in market orientation literature (Bicen & Hunt, 2012; Davis & Golicic, 2010; Morgan, 2012; Slater, Olson, & Sorensen, 2012). Morgan (2012) found organizational assets and resources such as market orientation strategy and capabilities, and environmental factors influenced business performance. Kajalo and Lindblom (2015), and Morgan (2012) suggested

market orientation and marketing capabilities were complementary resources. Davis and Golicic (2010) viewed intelligence gathering, dissemination, and responsiveness as information-processing behaviors, and found these organizational resources had a positive effect on market-oriented practices and attainment of an overall comparative advantage. Comez (2013) posited the proper use of market-related information puts firms ahead of competitors. Slater et al. (2012) believed that market intelligence was instrumental in identifying new opportunities and initiating creative output; and that the intelligence dimensions of the market orientation construct strongly and significantly relate to knowledge assets. Furthermore, Golicic et al. (2012) and Slater et al. (2012) proclaimed knowledge and information assets (informational advantage), were valuable and rare, hard to imitate, and therefore, a source of competitive advantage.

Smith (2009) and Middleton (2013) found attributes and activities underlying the resource advantage theory and market orientation constructs were success factors for VOSBs in the government market. Smith argued the survival of SDVOSBs in government markets requires human (i.e., strategic planning and market knowledge) and informational (i.e., market scanning) resources. Middleton suggested financial, human, and organizational resources (i.e., efficient administrative processes), might improve the success of SDVOSBs in the government contracting market. Boxal (2013) proclaimed that it is through the human resource that firms develop strategic capabilities. Thus, the framework for my study was the resource-advantage theory, whereby market orientation in VOSBs was a source of competitive advantage through financial, human, informational, and organizational resources (i.e., skills and competencies, customer and

competitor intelligence, relationships, and coordinating systems), and relates to superior business performance. The next section was a review of market orientation adoption in the business organization.

Foundations of Market Orientation

In a seminal work, Felton highlighted the complexities of the changing business environment in the Unites States as reasons for business failure and suggested companies needed to be customer-focused (Felton, 1959). Felton argued that companies should take an integrated approach to marketing, namely the marketing concept, and focus on customer needs to ensure long-term survival. Fifty years after Felton, researchers endeavored to study the marketing concept in practice and give life to the term market orientation.

Marketing scholars considered the nature, adoption, and measure of market orientation in B2B and B2C markets, which resulted in considerable contributions to marketing theory literature (Dong et al., 2015; Hunt, 2012a). Efforts to further study and understand the marketing concept induced a resurgence of market orientation, and initiated several streams of research (Hunt, 2012a). Central to past research efforts was how to apply the marketing concept to market orientation, and to measure how market orientation influenced business performance (Jaworski & Kohli, 1993; Kohli & Jaworski, 1990; Slater & Narver, 1994). In dual seminal works, Kohli and Jaworski (1990), and Slater and Narver (1994) spearheaded an approach to discerning how best to operationalize and implement Felton's (1959) marketing concept. The results of the two landmark studies cemented market orientation as a set of integrated, market-focused,

cultural, and behavioral activities that contribute to a firm's overall profitability. From empirical evidence, scholars established that a relationship exists between market orientation and business profitability (Jaworski & Kohli, 1993; Kohli & Jaworski, 1990; Slater & Narver, 1994).

Kohli and Jaworski (1990) undertook a study to operationalize the marketing concept, theory construction, future research focus, and managerial implications of market orientation. Kohli and Jaworski established market orientation as a set of market-focused behavioral activities such as gathering market intelligence about the customer and competitor, market intelligence dissemination across all departments, and applying this intelligence to business strategy through a customer- and competitor-focused response. Jaworski and Kohli (1993) endeavored to validate the many propositions posed in their 1990 work and explore antecedents and consequences of market orientation. Jaworski and Kohli revealed top management had a significant impact on the attention given to market orientation achievement, and that formal regulations might affect market orientation.

Jaworski and Kohli (1993) believed a rigid and formalized process hindered an organization's ability to adapt to the external environment. Concerning performance, Jaworski and Kohli showed that no relationship existed between market orientation and objective measures, such as market share and return on equity (ROE). Jaworski and Kohli illustrated a significant association between market orientation and subjective measures of performance. Likewise, Jaworski and Kohli found no moderating effects on the market orientation-business performance from market factors (i.e., market turbulence,

competitive intensity, and technological turbulence). Jaworski and Kohli suggested the lack of significance of the study was due to the statistical power of a small sample size or low reliability of the measures. Measures of Jaworski and Kohli's 1993 study constituted the first draft of the MARKOR scale. Jaworski and Kohli tested the reliability of the scale using Cronbach's coefficient alphas. The alphas for scale components were intelligence gathering, .79; intelligence dissemination, .88; and responsiveness, .92.

Slater and Narver (1994) validated propositions and test hypotheses from previous studies by Kohli and Jaworski (1990), and Jaworski and Kohli (1993) regarding the moderating effects of the competitive environment on the market orientation and business performance relationship. Slater and Narver considered the moderating impacts of market and technological turbulence, competitive intensity and hostility, market growth, and buyer power. Slater and Narver revealed limited findings consistent with those of Jaworski and Kohli 1993 study. Slater and Narver showed no clear evidence that the competitive environment had a moderating effect on the market orientation-performance relationship. Slater and Narver posited that businesses that achieve and sustain a competitive advantage through market orientation might find success during changing environmental conditions. Slater and Narver concluded that short and long-term environmental effects may exist, but benefits to remain market-oriented were cost-effective.

In the ensuing pursuit of market orientation strategy, scholars presented frameworks for market orientation within Slater and Narver's cultural construct of customer orientation, competitor orientation, and interfunctional coordination (Dong et

al., 2015; Hunt, 2012a). Other scholars applied Kohli and Jaworski's behavioral construct of market intelligence gathering, market intelligence dissemination, and responsiveness (Hunt, 2012a). The advancement of the two market orientation constructs touched several research streams (Dong et al., 2015; Hunt, 2012a). Scholars and business owners realized the success of the market orientation strategy across various industries (Chung, 2012; Usman, Ullah, Kayani, Haroon, & Khan, 2012; Wang, Chen, & Chen, 2012), and different types of organizations (Levine & Zahradnik, 2012; Modi, 2012). The study of market orientation also spanned both developed and developing countries (Mahmoud & Hinson, 2012; Shin, 2012; Vieira, 2010). In a global presence, scholars across the European Union, Soviet bloc, Africa, and the United States, lead some studies on applying the market orientation strategy (Dong et al., 2015). The following sections are a review of the nature and dynamics of market orientation, adoption and implementation of market orientation, and the market orientation-business performance relationship in both the behavioral and cultural constructs.

Market Orientation Adoption in the Business Organization

The behavioral and cultural schools of thought on market orientation strategy connect with organizational research perspectives (Bodlaj, 2012). Organizational cultures develop over time from patterns of behaviors, activities, values, and beliefs (Wei, Samiee, & Lee, 2014). Organizational behavior and culture were significant contributors to organizational performance (Joseph & Francis, 2015; Kizilos, Cummings, & Cummings, 2013; Wei et al., 2014). The organizational theory might inform market-oriented firms through market presence, marketing leadership, and decision-making by

use of strategic marketing resources, alliances, and collaborations (Bicen & Hunt, 2012; Bodlaj, 2012; Joseph & Francis, 2015; Morgan, 2012). For market-oriented firms market success requires the appropriate organizational culture-market strategy fit (Bodlaj, 2012; Press, Arnould, Murray, & Strand, 2014).

The internal focus of the business organization (i.e., culture, management, and leadership) is critical to competitive strategy makeup and performance outcomes (Joseph & Francis, 2015; Wanto & Suryasaputra, 2012; Wei, Yi, & Guo, 2014). The decision to adopt, or not implement the marketing concept or market orientation rests on leadership attitudes and organizational capacity to structure and allocate resources (Kivipo & Vadi, 2013; Sahi, Lonial, Gupta, & Seli, 2013; Siddique, 2013; Z. Wei et al., 2014). The integration of marketing throughout all departments was also essential to the implementation of market orientation (Kaufmann & Roesch, 2012; Press et al., 2014). Song, Wei, and Wang (2015) suggested that to increase strategic performances; business owners must structure organizations to capitalize on the full exploitation of market orientation-performance outcomes. Successful implementation depends upon the interconnectedness of organizational commitment (Oyeniyi, 2013; Ruizalba, Bermudez-Gonzaleza, Rodriguez-Molinab, & Blanca, 2014), and leadership emphasis on adopting the market orientation strategy (Bodlaj, 2012; Sahi et al., 2013).

Market orientation also required both an internal and external focus of the business firm (Avlonitis & Giannopoulos, 2012; Fitzgerald et al., 2013; Kaur, Sharma, & Seli, 2013). Chung (2012) postulated that managerial and political ties influenced market orientation activities, and reduced the market orientation-performance relationship. The

synergy between leadership emphasis and promotion of market-oriented behaviors (Mahmoud & Hinson, 2012; Phong-inwong et al., 2012), and the internal practices at the employee level (Zaman, Javaid, Arshad, & Bibi, 2012) were critical to creating customer value and meeting customer needs. Whereby employees were instrumental to the achievement and sustainment of market orientation, internally the needs of the employee were equally important (Avlonitis & Giannopoulos, 2012; Kaur et al., 2013; Sahi et al., 2013).

Fitzgerald et al. (2013) illustrated how market orientation between failed and nonfailed banks was about the same due to internal and external influences. The failed banks show higher customer and competitor orientations and lower interfunctional coordination while the nonfailed banks had higher interfunctional coordination scores. Fitzgerald et al. concluded that since the overall market orientation scores were nearly the same as failed and nonfailed banks, there was not enough evidence to support the hypothesis that high market orientation positively relate to bank failures.

In comparing the scores for the separate components of market orientation, Fitzgerald et al. (2013) revealed high customer and competitor orientation positively relates to bank failures. For this reason, Fitzgerald et al. suggested that failed banks were more customer and competitor focused, and not concerned with costs or profitability. Based on the apparent divide in results among market orientation components and the business groups, Fitzgerald et al. believed nonfailed banks focused more on internal efficiencies, functionality, and costs.

Regarding identifying a point of diminishing returns, Fitzgerald et al. (2013) posited that a more than moderate investment in market orientation might yield a negative return. Fitzgerald et al. recommended that if a firm pursued an investment that was not profitable in the short term, it would not survive in the long run. Wei, Zhao, and Zhang (2014) showed how competing resources for market orientation might hinder the achievement of desired performance goals. V. Kumar et al. (2011) suggested competitive intensity, market turbulence, and technological turbulence may contribute the diminishing effects of market orientation.

Jyoti and Jyoti (2012) examined whether employee satisfaction and customer satisfaction acted as mediating or moderating variables affecting market orientation. Jyoti and Jyoti believed market-oriented firms created potential sources of sustainable competitive advantage, and the core of market orientation was value creation. Jyoti and Jyoti revealed that a high degree of market orientation yielded a high level of both employee and customer satisfaction. Jyoti and Jyoti illustrated how variables customer and employee satisfaction had a direct effect on market orientation and business performance. This result denoted the moderating role of both customer and employee satisfaction on the market orientation-business performance relationship. Jyoti and Jyoti concluded, customer satisfaction had a significant impact on business performance and suggested firms that satisfy the needs of its customers better than the competition, generate superior returns. Avlonitis and Giannopoulos (2012), and Kaur et al. (2013) agreed that the integration of internal and external marketing requires a balanced market orientation, where both employee and customer needs were essential to business success.

Gounaris and Boukis (2013) suggested that employee job and customer satisfaction are of equal strategic importance and a source of sustainable competitive advantage.

The marketing concept in practice required an adaptive effort in decision-making and resource allocation as the business environment changes (Chung, 2012; Kivipo & Vadi, 2013; Ruizalba et al., 2014). Market orientation success was dependent upon organizational structure, culture, and capabilities (Bicen & Hunt, 2012; Revilla, Vega, & Cabello, 2012). Market orientation required both an internal and external focus of the business firm (Avlonitis & Giannopoulos, 2012). While the focus of business leaders may be external and drawn to customer needs, internally, employee needs were equally critical to the success of market orientation strategy (Jyoti & Jyoti; 2012; Kaur et al., 2013).

Market Orientation and Business Performance

A market orientation-business performance relationship exists (Jaworski & Kohli, 1993; Slater & Narver, 1994). Researchers categorized the relationship as positive, strong, significant, and direct (Boso, Cadogan, & Story, 2012; Fang et al., 2014; Gruber-Muecke & Hofer, 2015); or negative, weak, insignificant, indirect, and nonexistent (Kajalo & Lindblom, 2015; Mohd-Mokhtar et al., 2014; Pleshko & Heiens, 2011). Business performance outcomes related to market orientation stem from profitability to various forms of objective and subjective measures (Boohene et al., 2012; Dong, 2015). Return on investment and assets (Fitzgerald et al., 2013), sales volume, market share (Jaworski & Kohli, 1993; Pleshko & Heiens, 2011), new products and services (Guo, Wang, & Metcalf, 2014; Hong, Song, & Yoo, 2013; Wong & Tong, 2012), and customer

and employee satisfaction (Jyoti & Jyoti, 2012; Ruizalba et al., 2014) were all performance outcomes present in existing market orientation literature.

Business strategy was a direct contributor to business performance outcomes (Blackburn, Hart, & Wainwright, 2013; Dani, Idrus, Nimran, & Sudiro, 2013). Business leaders must decide on a proactive strategy and drive the market, or a responsive strategy and be driven by the market (Bodlaj, Coenders, & Zabkar, 2012; Chen, Li, & Evans, 2012). To achieve the desired level of profitability and performance business, owners must consider implementing an appropriate degree or level of market orientation (Song & Parry, 2009). To do so, business owners need to find a balance between customer and market-focused strategies, and performance objectives (Avlonitis & Giannopoulos, 2012). Owners and managers may elect to incorporate other business strategies (Martelo, Barroso, & Cepeda, 2013; Pleshko & Heiens, 2011), and adapt a strategic mix to environmental influences (Bodlaj et al., 2012; Johnson et al., 2012) to achieve desired performance objectives.

Business strategy mix. An organization's business strategy may mediate (Ngo & O'Cass, 2012a; Pleshko & Heiens, 2011; Wong & Tong, 2012) or moderate (Carrizo-Moreira & Silva, 2013) the market orientation and business performance relationship. A mediator, as third variable acts as a link between the cause and effect of a relationship (Dutta, 2013). A moderator as a third variable modifies the causal relationship (Dutta, 2013).

Scholars found market orientation strategy complemented corporate social responsibility strategy (Mahmoud & Hinson, 2012), supply chain strategy (Kibbeling, der

Bij, & Weele, 2013), and product innovation (Altuntas, Semercioz, & Eregez, 2013; Song et al., 2015; Wang & Chung, 2014). Marketing capabilities and planning (Jain, Jain, & Jain, 2013; Sami Kajalo & Lindblom, 2015; Murray, Gao, & Kotabe, 2011), and entrepreneurial and other strategic orientations (Boso et al., 2012; Gruber-Muecke & Hofer, 2015; Kumar, Boesso, Favotto, & Menini, 2012), were also a complement to market orientation strategy. Likewise, market orientation facilitated the relationship between other business strategies and business performance (Chin, Lo, & Ramayah, 2013; Kumar et al., 2012). Press et al. (2014) argued that while strategic orientations may have economic value, adopting a particular strategic orientation has cultural and regulatory implications, which can be a source of organizational conflict. The use of business strategies pioneered by early economists and marketers, namely McCarthy's marketing mix, Miles and Snow's strategic postures, and Porter's competitive strategy necessitate having the right strategy-mix (Pleshko & Heiens, 2011; Slater, Olson, & Finnegan, 2011).

Mahmoud and Hinson (2012) assessed the influence of market orientation, innovation, and corporate social responsibility (CSR) on business performance. In a survey of marketing managers, Mahmoud and Hinson revealed that CSR, innovation, and market orientation each had a positive and significant impact on business performance. Saekoo, Chuntarung, and Thoumrungroje (2012) also showed positive associations between an integrated marketing strategy, CSR, and business performance. Mahmoud and Hinson found the impact of innovation to be the most significant on business performance. Mahmoud and Hinson's results were consistent with the literature on the

influence of CSR and innovation on business performance (Bigliardi, 2013; Rubera & Kirca, 2012; Torugsa, O'Donohue, & Hecker, 2013).

Beyond the independent, positive and significant relationship market orientation had on business performance, the interaction of market orientation with CSR and innovation were also significant. Mahmoud and Hinson (2012) added that as market orientation increased, so did innovation, and corporate performance; and CSR and innovation mediated the market orientation-business performance relationship. Carrizo-Moreira and Silva (2013), and Jain et al. (2013) supported Mahmoud and Hinson's position that innovativeness mediated the relationship between market orientation and business performance. Carrizo-Moreira and Silva (2013) found the market orientation-business performance relationship to be stronger with innovation as a mediator. Modi (2012) suggested innovativeness was the missing link that mediated the market orientation-performance relationship. Mahmoud and Hinson concluded that when joining market orientation with other strategic sources of competitive advantage, the potential for superior performance increased.

In a similar study focus as Mahmoud and Hinson (2012), Song et al. (2015) evaluated management dimensions impact on market orientation and innovativeness. Song et al. found a positive association between market orientation and innovativeness. The higher the level of ownership, the stronger the market orientation-innovation performance relationship. This result translated to a positive moderation and interaction between organizational structures, market orientation, and innovation performance. Carrizo-Moreira and Silva (2013), and Kibbeling et al. (2013) found a positive

association between market orientation, employee relationships, organizational commitment, and innovativeness. Scholars suggested that when combined, marketing innovation and market orientation had a significant impact on market performance (Ozkaya, Droge, Hult, Calantone, & Ozkaya, 2015; Song et al., 2015). Song et al. (2015) showed a positive association between market orientation and innovation performance. Ozkaya et al., (2015) also found a positive relationship between market orientation and innovation performance.

Murray et al. (2011) revisited RBV, and investigated the behavioral context of market orientation, and marketing capabilities impact on business performance in exporters. Marketing capabilities are employee knowledge and skills used as a source of competitive advantage (Kajalo & Lindblom, 2015; Murray et al., 2011; Shin & Aiken, 2012). Murray et al. showed that through internal processes and joint activities, marketing capabilities mediated the market orientation and business performance relationship. Murray et al. provided mixed conclusions as to how other competitive strategies and the business environment might influence the market orientation and business performance relationship. Staff coordination and competitive intensity strengthened the market orientation and business performance relationship, while the inclusion of cost leadership strategy, and market turbulence decreased market orientation's effect on marketing capabilities and performance (Murray et al., 2011).

Shin and Aiken (2012) studied the impact of strategic orientations such as learning orientation, technology orientation, market orientation, customer orientation, and competitor orientation, on firm performance from an RBV perspective. Shin and Aiken

showed higher technology and learning orientations were mediators to marketing capabilities, and garnered support for a premise that marketing skills improve firm performance. Wanto and Suryasaputra (2012) agreed that organizational learning influenced firm performance by shaping employee competencies, and enhancing competitive strategies. Usman et al. (2012) suggested a company's information system, and organizational commitment through marketing mix increased business performance. Usman et al. added managers who want to gain a competitive edge must have better resources and practical implementation of a marketing mix and market orientation to increase business performance outcomes. Scholars suggested whether strategic orientations were independent or in combination, environmental conditions may influence the success of strategic orientations (Deshpande, Grinstein, & Ofek, 2012; Lynch, Beresford, Mason, & Found, 2012). Lynch et al. (2012) cautioned the changing business environment necessitated a combination of strategic orientations, and a firm that was over-reliant on a single orientation might threaten long-term firm success.

Shin and Aiken (2012) found partial support for market orientation components, in that customer and competitor orientations did not mediate the marketing capabilities-performance relationship. Component-wised testing yielded mixed results in other studies on market orientation and business performance (Gruber-Muecke & Hofer, 2015; Mohd-Mokhtar et al., 2014). Mohd-Mokhtar, et al. (2014) found market intelligence dissemination to be a significant contributor to organizational performance while market intelligence generation and responsiveness were insignificant.

Pleshko and Heiens (2011) presented a contingency theory approach and examined the relationships between market orientation, and other marketing strategy concepts (i.e., Miles and Snow strategy, the Porter strategy group, market growth, service growth, service focus, market coverage, and firm type). Contingency theory framework is the influence of organizational structure, and internal characteristics; environmental uncertainty and stability; and leadership and strategic decision-making (Hanisch & Wald, 2012).

Pleshko and Heiens (2011) found that strategic combinations of market orientation and Miles and Snow strategy to be positive and significant. The focus of Miles and Snow strategy was the strategic behavior, and competitive posture of the organization (Hekis, Soares, de Medeiros Valentim, de Paula Teixeira, & Neis, 2013; Martins, Kato, Martins, & Silva, 2014). Market growth strategy, service growth strategy, market coverage, firm type, and strategic marketing initiatives were positive and significant (Pleshko & Heiens, 2011). These strategic combinations yielded the highest market share performance (Pleshko & Heiens, 2011). Different from an earlier test of market share (Jaworski & Kohli, 1993), Pleshko and Heiens found market share performance to be relevant to market orientation.

Pleshko and Heiens (2011) added, the fit between market orientation and the Porter strategy group; differentiation and cost leadership, and service focus to be insignificant. In contrast, K. Kumar et al. (2011) found a stronger market orientation among firms that adopted a differentiation strategy, than those that pursued a cost leadership strategy. Consistent with Murray et al. (2011), Pleshko and Heiens suggested

the combination of market orientation and other business strategies have potential economic benefit. Pleshko and Heiens showed this approach required the appropriate strategic fit, the right degree of market orientation and the right complementary strategy profile. The determination of good strategic fit may explain the inconsistency in study results related to market orientation and other business strategy.

Market factors. Business strategy has a significant impact on firm performance and understanding the environment first was necessary for business strategy development and implementation (Lynch et al., 2012; Olusola & Akinlolu, 2012). The success of market orientation strategy was a firm's ability to align with changes in customer needs, and the demands of the market (Dutta, 2013). Internally, organizational challenges might influence market orientation and performance achievements (Herstein & Jaffe, 2013; Kaur & Gupta, 2010). Externally, market factors may have a significant impact on market strategy implementation and business performance outcomes (Johnson et al., 2012; Miles, 2014; Mohd, Idris, & Momani, 2013). Competitive intensity (Abebe & Angriawan, 2014; Kumar, Jones, Venkatesan, & Leone, 2011), market turbulence (Grewal, Chandrashekaran, Johnson, & Mallapragada, 2013; Lettice, Tschida, & Forstenlechner, 2014), environmental uncertainty (Parnell, Lester, Mehmet, & Koseoglu, 2012; Song & Parry, 2009), technological turbulence (Bodlaj et al., 2012; Johnson et al., 2012; Terawatanavong, Whitwell, Widing, & O'Cass, 2012; Wang et al., 2012), may moderate the market orientation-performance relationship. Along with strategy implementation, market factors influence the competitive responsiveness of the firm (Abebe & Angriawan, 2014; Chang & Chen, 2014).

V. Kumar et al. (2011) evaluated long-term and diminishing effects of adopting market orientation. V. Kumar et al. believed companies first to adopt a market orientation were more capable of identifying customer needs, and responding with new products or services. V. Kumar et al. found technological turbulence weakened the relationship between market orientation and sales, and between market orientation and profits. V. Kumar et al. posited that competitive intensity strengthened the effect of market orientation on business performance in both the short and long run.

Consistent with foundational literature (Jaworski & Kohli 1993; Slater & Narver 1994), V. Kumar et al. (2011) found competitive intensity moderated market orientation-business performance relationship. Particular to competitive power, Abebe and Angriawan (2014) found that competitive intensity positively moderated exploration activities of market orientation (e.g., intelligence generation), while negatively reducing exploitative activities (e.g., responsiveness). V. Kumar et al. suggested market orientation might help firms navigate turbulent times.

Johnson et al. (2012) revisited the nature of market orientation in small and large businesses. Johnson et al. considered the company's aggressiveness, future orientation, the extent of marketing formalization, risk proclivity, environmental forces, and the relationships between these dimensions and market orientation. Johnson et al. found that in smaller firms with less than 5,000 employees, aggressiveness positively influenced market orientation; and in large companies of as many as 10,000 employees, aggressiveness suppressed market orientation. Market turbulence suppressed any positive influence aggressiveness had on market orientation in large firms (Johnson et al.,

2012). In small businesses, aggressiveness in technologically turbulent markets improved market orientation (Johnson et al., 2012). Similarly, competitive intensity augmented the effects of aggressiveness on market orientation in larger firms (Johnson et al., 2012).

Johnson et al. (2012) showed competitive intensity to be significantly negative in small businesses. Likewise, future orientation negatively influenced market orientation in small businesses, but was not significant in larger firms (Johnson et al., 2012). Johnson et al. found market formalization positively influenced market orientation in large companies, while finding no effect for small businesses. Johnson et al. also illustrated how technology turbulence and competitive intensity positively moderated the effect of risk aversion on market orientation in big business and not in small businesses. Johnson et al. suggested that understanding of environmental forces, and customer needs inherent in market orientation, might be a strategic resource leveraged by the strategically focused firm.

In consideration for Johnson's et al. (2012) mixed findings of firm size, Grewal et al. (2013) suggested the success market orientation on firm performance outcomes varied from firm to firm. Grewal et al. posited that a company's size does not indicate a like endowment of resources (i.e., small, or large), and might moderate the effects of market orientation on business performance outcomes. Specific to market dynamism, Grewal et al. found that market dynamism and technological turbulence both positively and negatively moderated the effect of market orientation on firm performance in small and large businesses. Similarly, Terawatanavong et al. (2012) showed technological

turbulence positively and negatively moderated the effect of market orientation on buyer performance.

Particular to small firms, market dynamism negatively and positively moderated the effect of market orientation (Grewal et al., 2013). An adaptive application of strategic orientations (i.e., market orientation, technological orientation, and competitor orientation), may account for the positive moderation of market factors on market orientation and business performance (Deshpande et al., 2012; Grewal et al., 2013). Grewal et al. argued that the mixed findings regarding market orientation, business performance, and market dynamics were due to researchers not accounting for the interaction of all possible sources of moderation (i.e., firm size, innovativeness, resources, type of performance objectives, and market factors). In a similar vein as V. Kumar et al.'s suggestion that market orientation may prove valuable during turbulent times, Boso et al., (2012) added that market orientation might contribute to a firm's success when market dynamism is high.

Market Orientation and Small Business

To get a keen understanding of organizational dynamics, scholars explored and examined the nature of market orientation in businesses of different sizes (Grewal et al., 2013; Modi, 2012; Parry, Jones, Rowley, & Kupiec-Teahan, 2012; Usman et al., 2012). Market orientation unique to small businesses revealed different considerations for the implementation and overall success of market orientation strategy (Qureshi & Kratzer, 2012; Reijonen, Laukkanen, Komppula, & Tuominen, 2012). Cronin-Gilmore (2012) and Parry et al. (2012) suggested complex marketing models were sometimes unrealistic

and inappropriate for small business owners who lack the necessary expertise. This suggestion for small firms was consistent with views of other marketing scholars (V. Kumar et al., 2011; Mohd-Mokhtar et al., 2014; Parry et al., 2012). Parry et al. (2012) believed complex marketing models might be daunting for small business while V. Kumar et al. (2011) proclaimed adopting market orientation first was a source of competitive advantage.

Usman et al. (2012) viewed small business size as a contributor to firm performance when coupled with marketing mix. Among small and medium-sized enterprises (SME) competing in government markets in Europe, Tammi et al. (2015) found a positive correlation between firm size, age, and the company's contract bid activity. In consideration of market orientation, Grewal et al. (2013) showed consistent positive effects of market orientation on business performance in small firms compared to mixed results for large companies. Modi (2012) and Siddique (2013) suggested size and age of companies neither hindered nor helped in developing a market orientation. Kajalo and Lindblom (2015), and Ngo and O'Cass (2012b) argued that small businesses must consider of other complementary capabilities as market orientation alone, might not yield the desired level of business performance outcomes.

Small businesses are better fit to implement the market orientation strategy (Intihar & Pollack, 2012; Usman et al., 2012), and possessed the flexibility to adapt resources to changing market conditions (Bamiatzi & Kirchmaier, 2012; Basu & Gupta, 2013). Adaptive strategy and flexibility were critical to increasing market opportunities and growth of businesses in uncertain environments (Bamiatzi & Kirchmaier, 2012;

Bressler, 2012; Comez, 2013; Theodosiou, Kehagias, & Katsikea, 2012). Some scholars disagreed with the idea that small businesses have the capability to adapt strategy and resources quickly (Garcia-Zamora, Gonzalez-Benito, & Munoz-Gallego, 2013; Parry et al., 2012). Others suggested that market-oriented firm were better enabled to reduce uncertainty and to endure environmental conditions in the long run (Garcia-Zamora et al., 2013; Hilman & Kaliappen, 2014).

Measuring Market Orientation

The foundation for measuring the market orientation construct was from the MARKOR and the MKTOR scales (Hajipour, Rahimi, & Hooshm, 2013; Kaur & Gupta, 2010; Kaur et al., 2013; Rojas-Mendez & Rod, 2013). The MKTOR scale (Slater & Narver, 1994) was a cultural framework used to assess customer orientation, competitor orientation, and interfunctional coordination. The MARKOR scale (Jaworski & Kohli, 1993) was a behavioral framework used to evaluate market intelligence generation, market intelligence dissemination, and responsiveness. Of the studies for this research project, some researchers used the behavioral construct in the MARKOR scale and others use the cultural construct in the MKTOR scale. Researchers refined and adapted the scales for application across different organizational and national contexts. Scholars provided significant reviews and commentary on the reliability and validity of each scale. Among the two, the MARKOR scale was the most accepted and widely used among marketing scholars (Hunt, 2012a; Reijonen et al., 2012).

Kaur and Gupta (2010) presented a combination of a 15-item MKTOR scale, a 20-item MARKOR scale, and a 9-item MORTN scale, and examined the change in levels

of market orientation. Kaur and Gupta believed the scales were too general in wording and covered only a small fraction of the entire business operation. Kaur and Gupta added that the constructs fall short of organizational attempts to identify systems constraints (i.e., management's efforts to identify, and manage resources and processes), that limit the company's ability to maximize profit or to improve the degree of market orientation. Kaur and Gupta pointed out concerns for scale reliability and validity, and the preference for a Thurstone scale over a Likert-type scale. Kaur and Gupta highlighted concerns that single informants provided differences in perceived market orientation at different management levels. Kaur and Gupta argued multiple assessments from the organization, customers, and distributors might reflect an accurate measure of a firm's market orientation.

Hajipour et al. (2013) compared the separate components of market orientation, and the research models of Narver-Slater, Jaworski-Kohli, and Codogan-Diamantopolous scales. Hajipour et al. concluded that separate models were appropriate for different business types, operating environments, and provided three recommendations for using each scale. First, the Jaworski-Kohli model was appropriate for firms that intend to enter a new and unfamiliar market and has a strong organization and business foundation (Hajipour et al., 2013). Second, the Narver-Slater model was best for a firm with the conditions and size of SMEs and intended to enter into the current market to gain more shares of the market (Hajipour et al., 2013). Third, the Codogan-Diamantopolous model was best for a firm entering an international market (Hajipour et al., 2013).

Rojas-Mendez and Rod (2013) compared the MKTOR and MARKOR scales. Sixty-nine CEOs and marketing managers completed a face-to-face survey questionnaire that for both the Narver-Slater MKTOR and the Jaworski-Kohli MARKOR market orientation scales. Rojas-Mendez and Rod found that more than half the Chilean wine producers were market-oriented, with 65% similarity between the two scales. Rojas-Mendez and Rod suggested the MKTOR and MARKOR scales showed similar levels of predictive power when using subjective or perceptual measures of performance as dependent variables.

Vieira (2010) found significant consistencies between the two market orientation constructs in the literature and cited bias in the MARKOR scale. Vieira believed the MARKOR influenced market orientation results, and the relationship between market orientation and performance was stronger using the MARKOR scale when compared to the MKTOR. Rojas-Mendez and Rod suggested the MARKOR scale appeared to have superior predictive validity and explained the change in the dependent variables to a greater degree with objective measures. Rojas-Mendez and Rod (2013), and Vieira (2010) agreed that the strength of market orientation and organizational performance using subjective evaluations might differ from relationship tests using objective measures.

The measuring of market orientation using the MKTOR scale was dominant among the sampled literature. The MARKOR scale was appropriate for my research project based on the scholars continued use and refinements of the scale in market orientation literature, and the scale's reliability in studies in small businesses (Reijonen et

al., 2012), and the government contracting market (Cooper, 2008). With a field test, Cooper (2008) adapted the MARKOR scale to fit the government contracting and B2G market context. Cooper provided high, reliable coefficients alphas of .90 for the overall scale, .82 for intelligence generation, .73 for intelligence dissemination, and .78 for responsiveness. In the following section, I provided a review of the government contracting market and small businesses and the extent to which scholars studied market orientation in the government contracting market.

Government Market Dynamics

The United States government is the world's largest buyer (Amtower, 2011; Midland & Walter, 2010). The government market, often referred to as government contracting, federal contracting, government procurement, and federal procurement, is how socioeconomic initiatives materialize into economic prosperity for small business (McKevitt, Flynn, & Davis, 2014; Snider et al., 2013; Withey, 2011). As many as 80 government agencies represent the government as the single buyer in the government contracting market (FPDS-NG, 2013; Johnston & Girth, 2012). Therefore, the government contracting market is a multiple agent-single buyer and multiple seller monopsonistic environment (Johnston & Girth, 2012). In Arrowsmith (2005) and McCrudden (2007), the government balances the dual role of government-regulator and government-buyer (as cited in Arrowsmith, 2010).

The government contracting process provides challenges for business owners and government officials (Lu, 2013; Schick, 2011). Business owners endure the rigors of competition, complexities of the contracting process, and regulatory burdens (Loader,

2013; Lu, 2013). Likewise, government officials bear the complexities of managing the contracting process, and this compounds challenges businesses face in the market (McKevitt et al., 2014; Schick, 2011). Economic and political externalities also complicate the shape and scope of competition (Miles, 2014; Resh & Marvel, 2012; Shukla, & Shukla, 2014). With the end user on one side and the business owner on the other side, the motivations of procurement officials become a critical link between the health of the economy and prosperity of small businesses (Snider et al., 2013).

As a regulator, the government efforts were multidimensional (Caballero, Cowan, Engel, & Alejandro, 2013; Johnston & Girth, 2012; Kitching, Hart, & Wilson, 2013). The first was to stimulate economic prosperity and business performance (Kitching et al., 2013; Lang, 2013; Snider et al., 2013). The second was to promote, regulate and shape competition (Johnston & Girth, 2012; Snider et al., 2013). Third was to reduce regulatory burdens and costs for businesses operating in the market (Caballero et al., 2013; Vance, 2012). Regulation of the market plays a significant role in influencing competition, and small business entry and performance outcomes (Blackburn et al., 2013; Kitching et al., 2013). Marketing scholars suggested government intervention and regulation might increase a firm's benefit from developing a market orientation, and influence a firm's desired level of market orientation by reshaping the competitive and economic landscape (Song & Parry, 2009).

As a buyer and ultimate customer of the B2G, the government and defense industry fosters economic prosperity, and contributes to change in the business (Withey, 2011). In the government contracting market, government agencies contracted out for

supplies and services due to a lack of in-house expertise and perceived cost savings (Johnston & Girth, 2012; Raudla, 2013). Practitioners and policy makers scrutinize the decisions to contract out inherent government functions (Midland & Walter, 2010). Economically, from 2010 to 2013, government buying accounted for an annual average of $400 billion in contract revenue to large and small businesses (SBA, 2011-2014).

Particular to small businesses, government contracting agencies' continuous struggles to meet socioeconomic goals compound small business challenges (Bublak, 2013; Middleton, 2013). Bublak (2013) argued that while government agencies strive to achieve socioeconomic goals, small business groups lose $15 billion in potential contract revenue. Efforts to promote, regulate and shape competition often impedes competition (Bublak, 2013; Lu, 2013; Smith, 2009). For these reasons, scholars believed policy makers and contracting officials must be aware of potential adverse effects of regulation when balancing the economic prosperity of small businesses and promoting competition (Hunt, 2011b; Snider et al., 2013). Likewise, small businesses need to be aware of how regulation might influence competition and performance outcomes in B2G markets (Amtower, 2011; Blackburn et al., 2013).

Government Markets and Small Business

For small businesses, the government market was an enduring paradox (Johnston & Girth, 2012). The customer and sellers have to balance the same challenges and often endure fruitless efforts (Lu, 2013; Schick, 2011). The single constant in the government market is regulation (Caballero et al., 2013; Johnston & Girth, 2012). In a highly regulated market, success for small businesses requires owners to be regulated, adaptive

to the needs of a regulated customer, and flexible to the changing competitive posture of an equally regulated competitor (Johnston & Girth, 2012).

As business size and resources are determinants of small business success (Pett, Wolff, & Sie, 2012), this was true of small companies in the government market (Amtower, 2011; Flynn, McKevitt, & Davis, 2013; Woldesenbet, Ram, & Jones, 2012). Limited resources (knowledge and skills) amplify challenges of small businesses when supplying purchasing organizations (Woldesenbet et al., 2012). Amtower (2011) posited that considerations for resource allocations for small companies in B2B and B2C markets might differ from those of small businesses competing for government contracts in the B2G market.

The availability of government initiatives and preferences do not guarantee success (Bublak, 2013; Haapio, Berger-Walliser, Walliser, & Rekola, 2012), and dynamics of the market limits the strategic choice of small firms (Lynch et al., 2012; McKevitt & Davis, 2013). A lack of understanding the customer, the contract, and the contracting process impact strategic outcomes in small businesses (Haapio et al., 2012; Loader, 2013). Ruane, Santos, and Enriquez (2010) highlighted how the lengthy contracting registration time, delayed contract payments, and poor communication with government contracting officials were key reasons why small businesses were dissatisfied with government contracting. Woldesenbet et al. (2012) argued that collaboration with the main customer officials was an important factor in small business success in supplying larger purchasing organizations and that this relationship was often difficult to maintain. Apte, Rendon, and Salmeron (2011) believed agencies' sourcing decisions

during the procurement process might serve as a source of competitive advantage for business owners who master understanding the customer, the market, and the contracting process.

Small business owners in the government market also face the challenges of irregular competition, and a regulated and politically driven market (Johnston & Girth, 2012; Snider et al., 2013). A notable illustration of this is Amtower (2011), which pointed out the bias in contract awards on one General Services Administration (GSA) Schedule. Of the $690 million in contracts to 536 contractors on one GSA Schedule, 52% of those contractors made less than $25,000 (Amtower, 2011). In that same year, small business entrants into the government market grew by 17%, while the number of small business failures in the market was at 21% (SBAOA, 2012a).

Veteran-owned small businesses. Dynamics of the government contracting market are inadvertent contributors to business failure (Bublak, 2013; Hope, Oh, & Mackin, 2011; Middleton, 2013; Smith, 2009). Hope et al. (2011) cited underutilization and disproportionate contract awards as issues VOSBs faced while competing for government contracts. Bublak (2013) argued that while government agencies struggle to meet socioeconomic goals, small business groups lose $15 billion in contract revenue. Annually, government contracting officials struggle to award 5% of government contracts to VOSBs and 3% to SDVOSBs (Middleton, 2013). Veteran-owned small businesses received a minuscule portion of government contracts (SBA, 2011-2014; Smith, 2009). VOSBs and SDVOSBs won an annual average of 4.6% and 2.9% respectfully, of the average $400 billion contract dollars eligible for small businesses

since 2009 (SBA, 2011-2014). Consequently, contract revenue to VOSBs was one to seven times less than that of other small business groups (SBA, 2011-2014).

In comparison to other small business groups, contract revenue for VOSBs were on par with contract revenue for HUB Zones and WOSBs, 1.5 times less than SDBs, and five times less than that of the general small business group (SBA, 2011-2014). Contract revenue for SDVOSBs was 1.3 times more than that of HUB Zones, 1.3 times less than WOSBs, 2.6 times less than SDBs, and 7.5 times less than that of the general small business group (SBA, 2011-2014). Where VOSBs won an average of 4.6%, and SDVOSBs won 2.9% of the annual $400 billion in small business eligible contract dollars from FY2011-FY2013, the general small business group won 21.8%, SDBs won 7.3%; WOSBs won 3.7%, and HUBZones won 2.4% (SBA, 2011-2014). Figure 2 is an illustration of VOSBs' portion of all small business contract dollars from FY2011-FY2013.

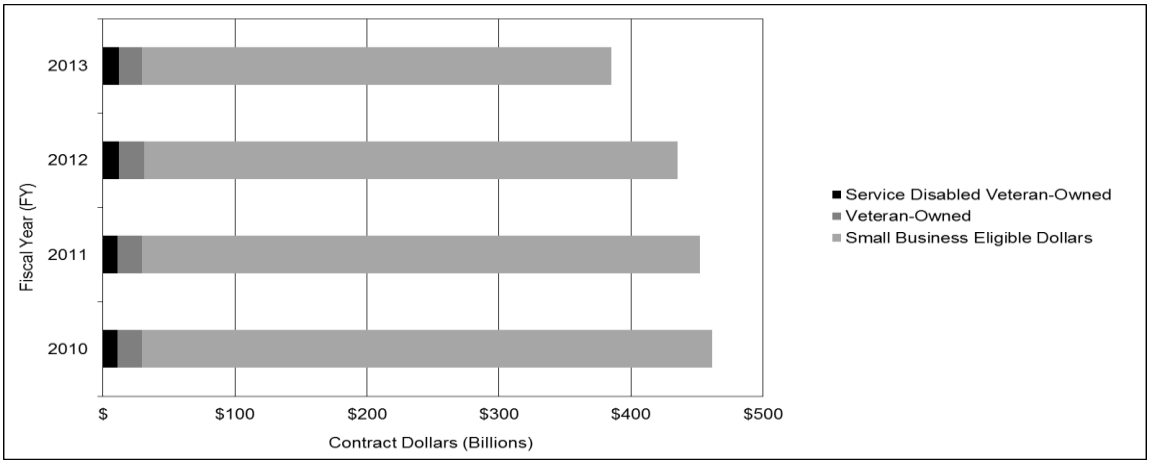

Figure 2. Veteran-owned small business contract dollars. The portion of all small business eligible contract dollars awarded to VOSBs and SDVOSBs from October 2009-September 2013. Adapted from "Small business goaling reports FY2011-FY2013," Federal Procurement Data System-Next Generation.

From a survey of 25 small businesses, Smith (2009) explored success factors of SDVOSBs in the government contracting market. Smith revealed that 20 SDVOSB firms dominated 70% of the SDVOSBs' market share of contract revenue. Smith attributed disproportionate awards, lack of strategic knowledge, planning, and strategy development as factors of failure among SDVOSBs. Middleton (2013) suggested business development, access to capital, and technical skills contributed to SDVOSB failure in the B2G market. Consistent with Middleton (2013) and Loader (2013), Bublak (2013) added, inadequate resources, access to capital, lack of a knowledgeable workforce, regulation, and competition were barriers to small business success in the government contracting market.

Based on the perceptions of 33 SDVOSB owners, Middleton (2013) provided a different insight into SDVOSBs experiences in the government market. Middleton revealed how possessing adequate resources yielded less than desirable outcomes in the government market. Consistent with previous studies (Bublak, 2013; Ruane et al., 2010), Middleton found a majority of SDVOSB owners felt dissatisfied with government contracting programs and policies. Regarding organizational resources, 69% percent of owners felt they possessed the financial resources while 78% believed they possessed the administrative processes, human resources, and technology to compete in the government market (Middleton, 2013). Seventy-nine percent of owners felt firms were knowledgeable of contracting policies and procedures, and 51% felt extremely satisfied or satisfied about the firm's internal business practices (Middleton, 2013).

While 78% of owners believed their companies possessed the resources (financial and human) necessary to compete, most owners identified business development, proposal writing, bonding, and manpower as their greatest challenges in the market (Middleton, 2013). Contrary to business owners' positive perceptions of organizational resources, the performance outcomes from Middleton's (2013) study were consistent with literature regarding disproportionate small business performance in government markets (Amtower, 2011; Bublak, 2013; Smith, 2009). Fifty-six percent of owners rated their organization with satisfactory to poor performance in response to government solicitations (Middleton, 2013). Of the business owners questioned, 72% earned less than $500,000 from government contracts, and 61% rated their firm with a poor to very poor performance in winning contracts (Middleton, 2013).

Despite sparse peer-reviewed literature about small business marketing practices in the government contracting, market-oriented activities, and resource-based perspectives are present in B2G markets (Cooper, 2008; Smith, 2009). Critical success factors for VOSBs that Smith noted were leadership, strategic planning and management, education, and marketing. Smith suggested that thorough knowledge and scanning of the market were critical to leadership, and strategic planning and management. During times of uncertainty, fundamentals of environmental scanning aid in the identification of potential opportunities (Gagnon, Michael, Elser, & Gyory, 2013). Market scanning activities are vital to gathering market intelligence, which is a component of the market orientation construct (Kohli et al., 1993; see Shahedul Alam, Guild, & Sparkes, 2013). Market scanning is also essential to the mediation of other business strategies (Babatunde

& Adebisi, 2012; Slater et al., 2011). Central to the market orientation construct, managers use market-scanning activities to capture information related to the behavior of externalities such as customers, competitors, regulation, and social and political influences (Gagnon et al., 2013; Kohli et al., 1993). Scholars of the government market who identified business challenges in association with like externalities (Bublak, 2013; Lu, 2013), provided support for Smith's (2009) argument of the strategic importance of market scanning.

Widespread adoption and understanding of the market orientation strategy in the government market are not clear. Hinson and Mohammed (2011), and Reijonen et al., 2012) found that market-oriented activities were evident among small business in the B2B market, and in many cases implementation was informal and intermittent. The absence of a formal or systematic focus on business strategy and a lack of understanding of underlying market factors contribute to enduring challenges of small business in government markets (Lu, 2013; Schick, 2011; Smith, 2009). The purpose of my study was to examine the presence of market-oriented activities related business performance, and the influence of market factors among VOSBs in the B2G market. In the next section, I discussed Cooper's (2008) study of market orientation in the government market.

Market Orientation in Government Markets

Cooper (2008) examined the market orientation and business performance relationship among minority-owned firms in the government contracting market. Cooper adapted and tested the behavioral construct of market orientation in the MARKOR scale

developed by Jaworski and Kohli (1993). Cooper found a significantly positive relationship between market orientation and business performance among minority-owned firms in the government market. The results illustrated significant and positive relationships between each component of the market orientation construct (i.e., intelligence generation, intelligence dissemination, and responsiveness) and business performance (Cooper, 2008). Cooper's adaptation of the MARKOR scale produced high reliability coefficient alphas of .90 for the overall scale, .82 for intelligence generation, .73 for intelligence dissemination, and .78 for responsiveness. No relationship existed between market orientation and the number of years a small business was in the minority-owned business program, nor were there any statistically significant differences in market orientation among business types by industry (Cooper, 2008).

Cooper (2008) recommended further studies on market orientation using qualitative and mixed-methods, and longitudinal designs to improve business understanding of the market orientation strategy, and to identify success factors in implementing the market orientation strategy over time. Cooper called for further studies to develop generalizations among the minority-owned business group, and the inclusion of demographic variables such as the number of employees, contract revenue volume, and location. Cooper suggested furthering studies of market orientation in the government market with consideration for antecedents and moderators of market orientation and alternative measures of performance like contract bid to win rate.

Transition and Summary

The government market and defense industry influenced changes in business and marketing philosophy. Researchers established the philosophy and legacy of integrated marketing in market orientation literature. The seminal works of Felton from 1959, Kohli and Jaworski from 1990, and Slater and Narver from 1994 cemented the marketing concept and market orientation as sources of competitive advantage and superior business performance. After half a century, scholars found no empirical evidence to support changing this proclamation. A review of the extant literature showed marketers studied market orientation in-depth in the business and global contexts in B2B and B2C markets. Empirical evidence in the literature supported market orientation as a strategic enabler to competition and market conditions, and as a facilitator of superior business performance.

A review of the literature revealed a gap in knowledge and practice for market orientation in the B2G market. The focus of my research project was to advance the study of market orientation in the B2G market. Therefore, one focus of my study was to answer the first and second research questions regarding the nature of contract awards and the relationship between market orientation and business performance among VOSBs in the government contracting market. The age and years of operation after market entry relates to small companies' rate of survival and therefore, another research question of my study was to determine what relationship exists between market orientation and the number of years a small business operates in the government market.

Multiple researchers described market forces as sources of influence on small businesses participating in the government market. Equal support and inconsistent results

in the literature showed the impact of market turbulence, competitive intensity, and technological turbulence on the market orientation-business performance relationship. In addition to market factors in market orientation literature, scholars in the government market considered the influence of government contracting policy and regulation on small business performance. Therefore, my final research question was to determine how market factors might affect the market orientation and business performance relationship in the government market. In the next section, I provided considerations for research methodology and ethical requirements. The section covered the role of the researcher, research methodology, research design, data collection and data analysis techniques. The section concluded with reliability and validity considerations for the survey instrument and the study process.

Section 2: The Project

This section provides details about the research methodology. I proposed a quantitative research method with a correlation design to examine the relationship between market orientation and business performance among VOSBs in the government contracting market. This section is a review of the purpose statement and a discussion of the role of the researcher during the research process. The discussion includes further detail on research methodology, research design, data collection and analysis techniques, and the reliability and validity of the survey instrument. This section also includes ethical considerations for study participants and the research process.

Purpose Statement

The purpose of my quantitative, correlational study was to examine the relationship between market orientation and business performance, and the influence of market factors among VOSBs in government markets. The independent variables were market orientation, and market factors (i.e., competitive intensity, market turbulence, technological turbulence, and government contracting regulation). The dependent variables were firm performance, total contract revenue, and contract bid to win rate. The target population was 7,390 VOSB owners registered for government contracts in the United States and outlying territories. The target population was appropriate for my research problem and objectives. My study may impact social change by providing VOSB owners and practitioners with information and evidence about market orientation to aid market strategy development, and to improve the competitive advantage and survivability of VOSBs in B2G markets.

Data collection was conducted using a combination of the MARKOR scale and the Government Regulation Lassez-Faire Index to assess the market orientation and business performance relationship, and the influence of market factors (i.e., competitive intensity, market turbulence, technological turbulence and government contracting regulation). I adapted the combined survey instrument for relevance to small businesses in the government market and facilitated data collection through the online survey platform at Survey Monkey®. The first set of independent variables was the value of the overall market orientation and the three components of the market orientation construct. The dependent variables were business performance measures. The second set of independent variables was market factors I used to examine the interaction between the market orientation-business performance relationships. Data analysis happened in two phases. The first stage consisted of preliminary descriptive statistics and analysis provided by Survey Monkey. The second phase of data analysis was in Statistical Package for the Social Sciences (SPSS) for follow-on data analysis and hypothesis testing.

Role of the Researcher

It is important that researchers identify and separate personal associations, beliefs, values, and interests that may degrade research efforts (Ben-Ari & Enosh, 2012). My role as a researcher was to take appropriate actions to minimize or eliminate risks associated with personal biases that may degrade the quality of my data collection and data analysis efforts (Ben-Ari & Enosh, 2012). Ben-Ari and Enosh (2012) and Cowen

(2014) suggested that researchers have a responsibility to maintain objectivity throughout the study process and must provide a straightforward presentation of research findings.

I have worked as a Soldier in the U.S. Army for 17 years as a logistician and government contracting official, and I am a military veteran. My profession was a source of possible bias and conflict of interest for my study involving the government contracting market and the armed forces veteran business population. Damianakis and Woodford (2012), Drake (2014) and Vainio (2013) posited that such in-depth experiences with research subjects and potential participants require that researchers transition from practitioner to researcher to mitigate known risks and biases.

There were actions available to mitigate risks associated with possible biases and conflicts of interest. In my official capacity as a contracting officer, I have access to data at SAM, FPDS-NG, and the VIP. It would have been unethical to use any data or agency access in my capacity as a contracting official to conduct research for my study. All inquiries to government agencies for data access permissions at FPDS-NG were as a doctoral candidate (see Appendix E). As a contracting official, I have professional relationships with multiple small business owners. The recruitment of small business owners in my official or professional capacity for participation in my research project would also have been unethical. Disclosure of employment affiliations was part of all formal requests for small business participation via survey announcement, survey invitation, and participant's informed consent (see Appendixes H, and I).

Ben-Ari and Enosh (2012), Bull et al. (2013) and Drake (2014) added that researchers have an ethical responsibility to protect the rights and welfare of participants

and communities associated with research efforts. I provided participants information regarding nature, purpose, and implications of my study so they might make an informed decision regarding potential risks and benefits associated my research. The nature of informed consent was in the first question of my survey. Damianakis and Woodford (2012), Drake (2014), and Vainio (2013) suggested that the act of deleting identifiable data, and decoding business names and location during data organization improved participant anonymity. I set parameters at Survey Monkey to exclude all identifiable information from respondents' survey submissions. To ensure participant protection, I secured research manuscripts and raw data in a locked box for 5 years after completion of my research project.

Participants

Eligibility Criteria

Researchers select research participants for inclusion and exclusion of the target population based on specific criteria associated research purpose and objective (Rovai et al., 2013; West, 2013). The purpose of my study was to assess market orientation among VOSBs in the B2G market. The objectives of my study were to examine the relationship between market orientation and business performance, and the influence of market factors among VOSBs in the B2G market. Criteria for participant inclusion in my study population were: (a) VOSBs based on business challenges in VOSB literature (see Friedman, 2014; Middleton, 2013; Smith, 2009), (b) VOSBs registered for government contracts in the United States, and (c) VOSBs listed in the VIP directory. Criteria for exclusion was VOSBs not listed in the VIP directory.

Accessing Participants

Participant selection starts with an accessible portion of the target population (DiGaetano, 2013; Klabunde et al., 2012), which researchers may organize into lists for sampling (Dykema, Jones, Piche, & Stevenson, 2013; Klabunde et al., 2012). Bublak (2013), Cooper (2008), and Smith (2009) used lists from the Central Contractor Registration, Federal Business Opportunities, and Duns and Bradstreet databases to access small businesses registered for government contracts. The Central Contractor Registry is now a combination of components within the System for Award Management (SAM) database. Use of these databases was labor intensive when searching for VOSBs registered for government contracts. Therefore, I used the VA's VIP directory to access 7,390 veteran-owned small businesses registered for government contracts. The VA developed the VIP list to validate business owners' veteran status and to rid the contracting process of owners who self-certified and won erroneous contract awards as VOSBs (Friedman, 2014). The VIP contains business names, phone numbers, addresses, email addresses, veteran status, and the date of verification. This information was the most accurate for identifying and accessing VOSBs registered for government contracts in the United States.

Working Relationship with Participants

A social exchange of assurance in trust, creditability, appreciation, cooperation, and benefit between researcher and participant is necessary for survey research (Bull et al., 2013). Researchers establish authentic relationships and gain the cooperation of participants through personalized announcements and invitations, and through informed

rights, risks, and benefits of the research project (Ben-Ari & Enosh, 2012; Bull et al., 2013; Drake, 2014). I established a working relationship and increased cooperation by announcing my study at the Government Market Masters community at LinkedIn.com for one week before sending invitations to my population sample (see Appendix G). Based on contact information in the VIP listing, participants received survey invitations via email, explaining the nature of my study, and a request for participation in my study (see Appendix I). I outlined participants' rights, risks, and benefits, and outlined the nature of confidentiality and voluntary participation.

Research Method and Design

Method

Researchers have used qualitative, quantitative, and mixed-methods research methods to study market orientation (Cooper, 2008; Hinson & Mahmoud, 2011; Song & Parry, 2009). A quantitative method is appropriate for theory testing through hypothesized research questions, empirical observations, measurements, and statistical analysis (Castillo-Page et al., 2012; Karanja et al., 2013). A quantitative method of a cross-sectional, correlational design was consistent with my research objectives. Central to my research goals were questions of market orientation adoption, the examination of market orientation and business performance relationship, and the influence of market factors in the government contracting market. Cooper (2008) used a quantitative method with a cross-sectional, correlational design to examine market orientation and business performance among minority-owned small businesses in the government contracting market.

In using a qualitative method, researchers seek to extract the realities and experiences of participants through interviews, documents, and observations (Ponterotto, 2013; Turner et al., 2013). A qualitative method is appropriate for in-depth understandings of a phenomenon, and to further theory and hypothesis development (Rennie, 2012; Turner et al., 2013; Watkins, 2012). Through qualitative methods in market orientation research, Hinson and Mahmoud (2011) provided valuable humanistic perspectives and insights into how business owners applied market orientation strategies. Siddique (2013) and Tammi et al. (2014) provided support for more exploratory methods in market orientation research.

A mixed-method is appropriate when research objectives require a combination of both qualitative and quantitative approaches. Mixed-methods methodology allows the researcher to use combined techniques of qualitative and quantitative methods while lessening the risks associated with using a single method (Harrison, 2013; Ponterotto, Mathew, & Raughley, 2013). Song and Parry (2009) used a mixed-methods approach, providing a holistic view of how businesses operationalized the marketing concept through market-oriented activities and the relationship between those activities and business performance outcomes. I did not select a qualitative or mixed-method approach because of the lack of congruence with my research objectives, which were to examine the market orientation-business performance relationship and the influence of market factors among VOSBs in government contracting markets. My decision included considerations for schedule and resource constraints (i.e., access to participants, turnaround time, and costs).

Research Design

A cross-sectional, correlational design is appropriate for testing hypotheses in which the objectives were to examine relationships and associations among variables (Cokley & Awad, 2013; Roberts, 2012; Turner et al., 2013). Correlation is a statistical technique used to assess the relationship between variables (Rovai et al., 2013). The objective of my study was to examine the relationships between market orientation as an independent variable and business performance measures (i.e., perceived firm performance, contract bid to win rate, and total contract revenue) as dependent variables. A supporting objective of my study was to assess the influence of market turbulence, technological turbulence, competitive intensity, and government contracting regulation as independent variables. A survey technique as part of the research design is inexpensive, has a quick turnaround time, and is useful in accessing large participant populations (Melnyk, Page, Wu, & Burns, 2012; Roberts, 2012). In the absence of more humanistic approaches, researchers can provide an understanding of participants' attitudes, opinions, and behaviors with a survey (Roberts, 2012).

In considering other viable quantitative study designs as part of my study process, based on suggestions for Smith (2012), I did not select an experimental, quasi-experimental, or causal-comparative design since my research objectives did include assessing causality, using control groups, or comparing populations. Based on recommendations from Neimeyer et al. (2012), I rejected considerations for a Delphi study group design since input from a panel of experts was not required to achieve my research objectives. There was also increasing support for longitudinal designs in market

orientation research (Alpkana, Sanalb, & Aydenc, 2012; Cooper, 2008; V. Kumar et al., 2011). My choice to forego other quantitative designs (i.e., experimental, quasi-experimental, causal-comparative, and Delphi study), and longitudinal or time series designs were due to resource limitations, and time and scheduling constraints.

Population and Sampling

Population

The purpose of my study was to examine the nature of market orientation and business performance in VOSBs in the government contracting market. The target population for my study was the 7,390 VOSBs registered for government contracts and listed in the VIP. I used the VIP directory as the sampling frame for my study.

Sampling Method

I used a probabilistic sampling method to select a systematic random sample of the sampling frame. Using a probabilistic sampling method enhances the generalizability and statistical inferences of the target population (Acharya, Prakash, Saxena, & Nigam, 2013; Boslaugh, 2013; Raschke et al., 2013; Rovai et al., 2013). There were different subcategories and sampling approaches associated with a probabilistic sampling method (i.e., simple random sampling, systematic random sampling, stratified random sampling, cluster sampling, multiphase sampling, multistage sampling (Acharya et al., 2013; Rovai et al., 2013). In using a probabilistic sampling method, researchers may encounter limitations and weaknesses associated with high cost, large sampling errors, and decreased the probability of random selections (Acharya et al., 2013; Rovai et al., 2013). While nonprobabilistic sampling was common in quantitative and social science research,

scholars cautioned that nonprobabilistic sampling threatens external validity and impedes a researcher's ability to make generalizations about the study population (Boslaugh, 2013; Raschke et al., 2013; Rovai et al., 2013).

Like a simple random sampling approach, a systematic random approach was useful when members of a sampling frame were large (Acharya et al., 2013). Weakness associated with this sampling approach was that business owners on subsequent pages have a zero change of selection (Acharya et al., 2013). The VIP listing contains 7,390 VOSBs and consists of 10 VOSBs per web page. Since I could not export the listing into a single file, developing a sampling frame required that I click through more than 700 web pages. I established a sampling interval by dividing the sample population by the desired sample size (7,390/1,800 = 4). Based on the random number drawn from the sampling interval of 1-4 (1, 2, 3, and 4), I selected a page number from the VIP listing in that interval until I reach my desired sample size. I discussed power analysis and sample size in the next section.

Power Analysis

Button, et al. (2013) and Oyeyemi et al. (2010) suggested that in determining sample size, researchers must account for the alternative hypothesis, Type I and II errors, power, size effect, and the population. Researchers must balance power level to lower the chance of committing a Type II error with the probability of having committed a Type I error, at the desired effect size and alpha level (Button, et al., 2013; Osborne, 2013; Oyeyemi et al., 2010). A Type I error, known as the alpha value (α) of .05, denotes a researcher has a 5% chance of reaching a wrong conclusion and accepting a false

positive, null hypothesis. A Type II error, known as the beta value (β) of .20, denotes a researcher has a 20% chance of reaching a wrong conclusion and fails to reject a null hypothesis, deriving a false negative result. The statistical power, (p = 1-β), or (1-.20 = .80), represents the probability of a researcher correctly rejecting a false null hypothesis (Button, et al., 2013; Osborne, 2011; Oyeyemi et al., 2010). The effect size (i.e., small, medium, or large), was the degree to which a researcher may explain and accept the variance of a statistical test (Rovai et al., 2013). The smaller the effect size (f^2 statistic), the lesser the statistical power, and the increased likelihood of Type I or Type II errors (Rovai et al., 2013). The appropriate effect size varies with sample size and statistical tests (Rovai et al., 2013). A statistical power of 0.80, a medium effect size, and statistical significance (alpha) level of 0.05 was an acceptable balance when using power analysis a function of sample size (Button, et al., 2013; Osborne, 2011; Oyeyemi et al., 2010). For my study, I used an alpha value of α = .05, a beta value of β = .20, a statistical power value of 1-.20 = .80, and a medium effect size as appropriate for each statistical test.

I used the G*Power 3.1.9.2 software developed by Faul, Erdlelder, Buchner, and Lang (2009) to calculate the alpha, power level, and appropriate effect size to determine a minimum sample size necessary to provide statistically significant results for my study. I used *a priori* tests: to calculate sample size before conducting my research. For RQ2, multiple regression analysis required a minimum sample size of 85 using a minimum power level of 0.80, a medium effect size of 0.15, and an alpha level of 0.05 with four independent variables (overall market orientation, intelligence generation, intelligence dissemination, and responsiveness). For RQ3, a one-way analysis of variance required a

minimum sample size of 180 using a minimum power level of 0.80, a medium effect size of 0.25, and an alpha level of 0.05 with four groups (0-3 years, 3-5 years, 5-10 years, and 10 years or more). For RQ4, multiple regression analysis required a minimum sample size of 92 using a minimum power level of 0.80, a medium effect size of 0.15, and an alpha level of 0.05 with five independent variables (i.e., market orientation, competitive intensity, market turbulence, technological turbulence, and government contracting regulation). Table 1 is a summary of the minimum sample size from my power analysis, using the G*Power 3.1.9.2 software.

Table 1.

Summary of Power Analysis

Statistical Test	Model	Research Question	Power Parameters	Minimum Sample Size
Multiple Regression Analysis	Linear multiple regression: Fixed model, R^2 deviation from zero	RQ2	$f^2 = .15$ (medium) $\alpha = 0.05$ $1-\beta = .80$ Predictors = 4	N = 85
One-way Analysis of Variance (ANOVA)	ANOVA: Fixed effects, omnibus, one-way	RQ3	$f^2 = .25$ (medium) $\alpha = 0.05$ $1-\beta = .80$ Groups = 4	N = 180
Multiple Regression Analysis	Linear multiple regression: Fixed model, R^2 deviation from zero	RQ4	$f^2 = .15$ (medium) $\alpha = 0.05$ $1-\beta = .80$ Predictors = 5	N = 92

Note. RQ1 is organizational characteristics and demographics and has no associated hypthesis testing. Predictors for RQ2 are overall market orientation, intelligence generation, intelligence dissemination, and responsiveness. Groups for RQ3 are 0-3 years, 3-5 years, 5-10 years, and 10 years or more. Predictors for RQ4 are overall market orientation, market turbulence, competitive intensity, technological turbulence, and government-contracting regulation.

Since the one-way ANOVA required a higher number of cases to obtain statistically significant results, I used the power analysis from the one-way ANOVA to

justify a minimum sample size of 180 for my study. Figure 3 is an illustration of G*Power input/output for the one-way ANOVA. Figure 4 is an example of sample size based on the range of minimum (0.80/180) and maximum (0.99/384) power levels/sample size.

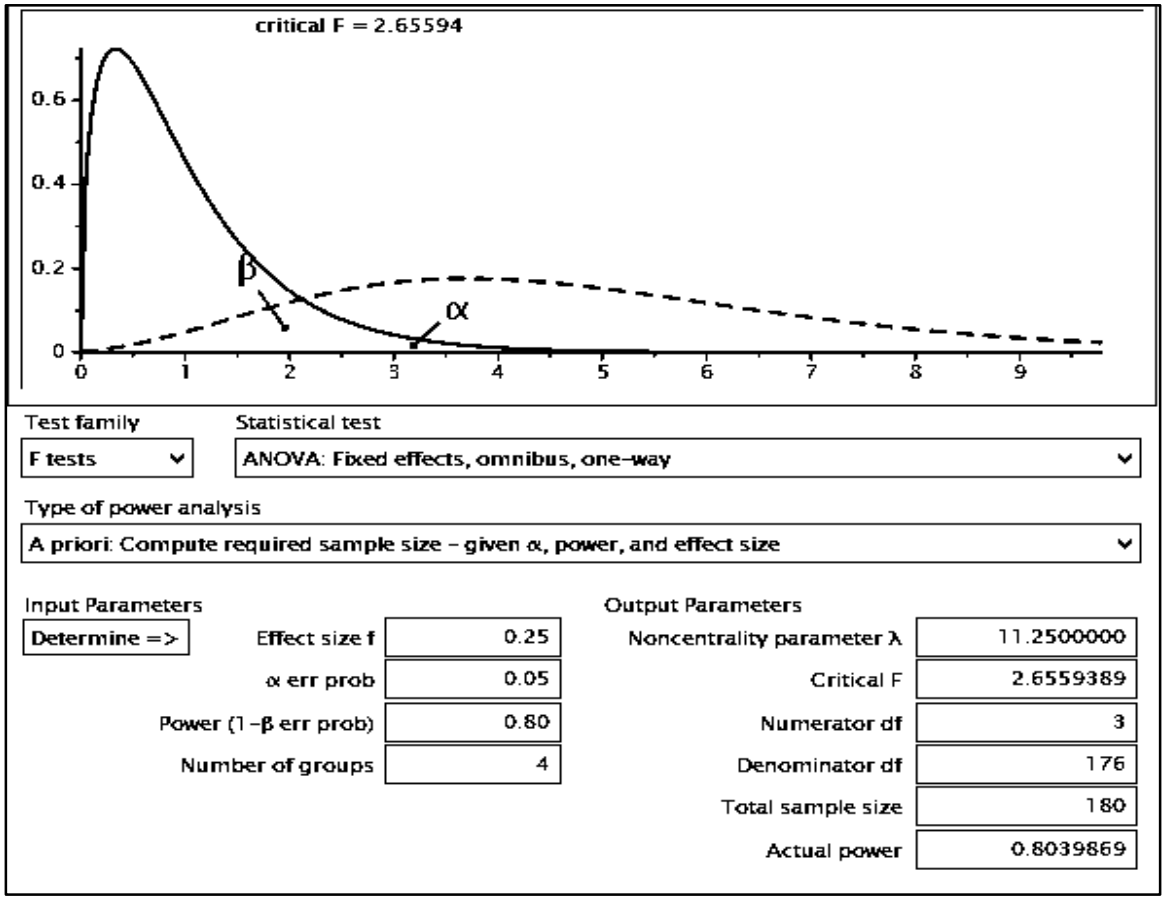

Figure 3. G*Power analysis input and output for sample size.

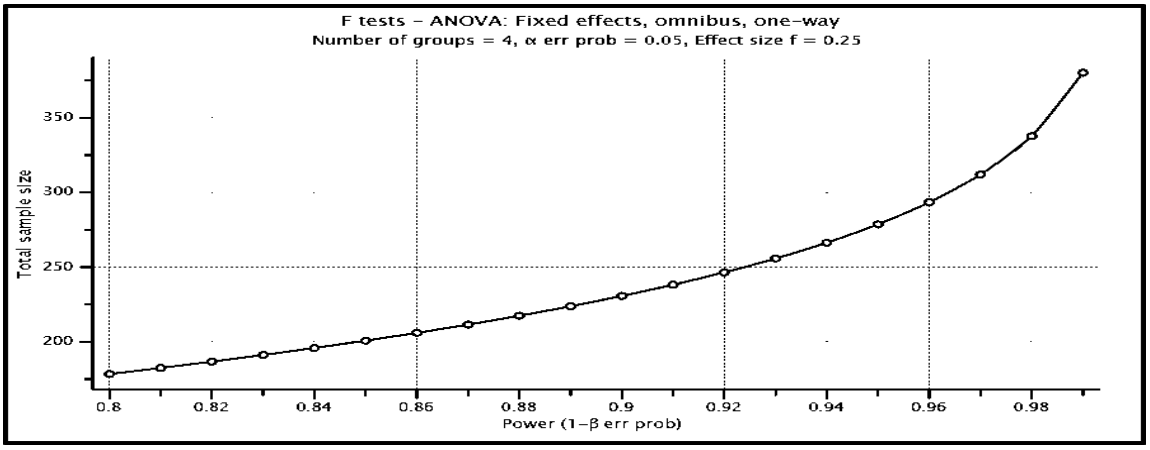

Figure 4. Power analysis as a function sample size.

Sample Size

Calculating and determining the appropriate sample size for a research project is an enduring argument (Button et al., 2013; Oyeyemi, Adewara, Adebola, & Salau, 2010; Roberts, 2012). Some researchers supported logic for strategy and sample size based on statistical power (Button et al., 2013; Oyeyemi et al., 2010; Rouquette & Falissard, 2011). Others suggested this strategy must include the purpose and objectives of the research project (Brooks & Barcikowski, 2012; Button, et al., 2013; Oyeyemi et al., 2010). Rovai et al. (2013) provided support for a 10% sample size for descriptive research. Roberts (2012) advocated for a 15% increase in sample size to account for population attrition. Jaworski and Kohli (1993) suggested small samples affect the power of statistical tests in market orientation research. In support of Jaworski and Kohli's observation, some scholars argued that larger than minimum sample sizes improved population representation, the reliability of measures, and reduced sampling errors (Fincham & Draugalis, 2013; Roberts, 2012).

A one-way ANOVA required a sample size of 384 using a maximum power level of 0.99, a medium effect size of 0.25, and an alpha level of 0.05. Based on arguments by Roberts (2012) and Rovai et al. (2013), 384 cases may not account for subgroup characteristics and population attrition among 7,390 VOSBs. Rovai et al. suggested a population sample of 10% or 705 cases for subgroup characteristics. Roberts (2012) recommended a sample of 15% or 1,057 cases for population attrition. Oyeyemi et al. (2010) posited that an increase in sample size increases power levels and lower chances of committing Type II errors.

Using Acharya et al.'s (2013) calculation for a systematic random approach (sample population/desired sample) to establish a sampling interval, I selected (7,390/1,800 = 4) a random number from 1-4 (interval), to develop a start-point for my random selection process. Based on the random number drawn from the sampling interval of 1-4 (1, 2, 3, and 4), I selected a page number from the VIP listing in that interval until I reach my desired sample size. I drew the number 4 for the pilot test sample and the number 3 for the study sample. For example, in selecting the number 3, I chose participants from pages 3, 6, 9, and so on, until I reach a total sample of 1,800 potential participants. I derive a sample size of 1,800 from a minimum sample size of 180/.10 (desired response rate) = 1,800. The desired response rate of 10% was due to response rates from previous studies in the government contracting market (see Cooper, 2008; Ruane et al., 2010).

A sample size of 1,800 of VOSBs may improve subgroup representation for my study. A sample size of 1,800 was 24% of the VOSB population, larger than the sample

size Roberts (2012) and Rovai et al. (2014) recommended for subgroup representation and population attrition. Likewise, a sample size of 1,800 was larger than 384, which was the sample size necessary to achieve the maximum power of test level (0.99) for multiple regression analysis and ANOVA. To achieve statistically significant results for my study, I set out to seek between 180 and 384 total responses at a power level between 0.80 and 0.99, and a response rate of 10% and 21%.

Ethical Research

Researchers must account for ethical considerations at the forefront of all human subject research (Drake, 2014; Kendall & Halliday, 2014; Vainio, 2013). When conducting research involving human subjects, a researcher's study protocols must meet Institutional Review Board approval (Alves et al., 2012; Drake, 2014). When planning to conduct research, a researcher must consider informed consent, voluntary participation, privacy and confidentiality, and the security of participant information (Bull et al., 2013; Drake, 2014; Kendall & Halliday, 2014). These areas are central to a researcher's ability to establish a relationship of trust and assurance of protection, and ensure participants do not experience any harm related to participating in the research project (Drake, 2014; Vainio, 2013). The IRB Approval Number for this research was 06-25-15-0376732, and it expires June 24, 2016.

Participant Informed Consent

Participants' informed consent is the cornerstone of ethical research (Bull et al., 2013; Drake, 2014; Kendall & Halliday, 2014). An essential premise to obtaining informed consent in human subject research is participants need to understand the rights,

risks, and benefits of what they are volunteering for (Bull et al., 2013; Drake, 2014). I required participant's informed consent before participating in my study. I provided participants with an informed consent form, which covers background information about my research project, survey procedures, the voluntary nature of participation, how to withdraw from participation, risks and benefits of participating in the study, compensation and incentives, confidentiality, and research contacts and questions. A *yes* or *no* selection for participant consent was the first question of the survey. Participants who answer *no* could not continue the survey.

Participant Right to Withdraw

Participants have a measure of consent as a means to withdraw from the study without penalty (see Bull et al., 2013). Completion and submission of the survey signifies a participant's willingness to participate and consent to use survey data. Participants who decided to withdraw after starting the survey did so by exiting the survey at any time or by not submitting the completed survey responses. Participants who completed the survey and later decided to withdraw from my study had their survey responses deleted after I exported data into SPSS. Instructions on how to withdraw from survey participation were an element of a participant's informed consent. Upon receipt of a request for withdrawal, I used demographic data from the organizational characteristics to verify a participant's submission and deleted the associated survey responses.

Participant Incentives

There were contrasting views and no clear conclusions from survey experts regarding the impact of incentives on participant response rates (Sanchez-Fernandez, Munoz-Leiva, & Montoro-Rios, 2012; van Veen, Goritz, & Sattler, 2015). The inclusion of incentives in survey research increases response rates (van Veen et al., 2015). In contrast, incentives were problematic to response quality (Parsons & Manierre, 2014; Robinson, 2014; Sanchez-Fernandez et al., 2012), and may not increase response rates (Bernstein & Feldman, 2015; Sanchez-Fernandez et al., 2012). Fincham and Draugalis (2013) suggested that even high response rates do not signify quality in the reliability and validity of study results. Bernstein and Feldman (2015), and Robinson (2014) argued that incentives might influence other than natural motives of potential respondents. Cooper's (2008) study results were consistent with the views of Fincham and Draugalis (2013). Cooper offered a $250 American Express gift card, and a market assessment report to minority-owned businesses in the government market, and achieved a low response rate of 11.25%. Despite a low response rate, Cooper produced sound validity and high reliability measures. To avoid influencing the motives of potential participants, and to ensure a means of voluntary participation, I did not offer incentives with my study survey.

Participant Protection

There were actions available to ensure the protection of participant's rights, and anonymity. Researchers use actions of de-identify, delete, or modify identifiable information to achieve anonymity, and participant's privacy and confidentiality

(Damianakis & Woodford, 2012; Drake, 2014; Vainio, 2013). The VIP listing contains business information, which I used to access study participants (i.e., business name, phone number, email, Duns and Bradstreet [DUNS] number, and business city and state). To protect the company owners' anonymity, I deleted all business names, phone numbers, business city, and DUNS numbers. The data I deleted or coded during my study remain in its coded state.

The use of Internet surveys as part of research designs presents an additional challenge to the security of participants' information (Bakla, Cekic, & Koksal, 2013). Cooper's (2008) consideration for Internet survey platforms included Secure Sockets Layer encryption protocols as a measure to ensure the confidentiality of participants' participation. Secure Sockets Layer (SSL) encryption protocols were a means to secure data collection and communications over the Internet (Okyeon et al., 2014; Zhao & Zhao, 2012). The online survey platform Survey Monkey contained SSL encryption. As an additional measure of participant protection, to ensure anonymity, I set parameters in the survey to exclude all identifiable information from participants' responses (i.e., email addresses and Internet Protocol [IP] addresses). I will store manuscripts, data sheets, and identifiable information about participants and business organizations on an external hard drive throughout the study process. The hard drive will be in a locked box for five years following the completion of my study.

Permissions

The American Marketing Association (AMA) granted me permission to use the MARKOR scale and validation tool, and research model for my research project (see

Appendixes A and J). Cooper provided permission to use an adaptation of the MARKOR scale (see Appendix B). Keelson granted me permission to use an adapted MARKOR scale (see Appendix C). Pryor provided permission to use the Government Regulation Lassez-Faire Index and specified the index was public domain (see Appendix D). The FPDS-NG support team granted public access and use of contracting data for my study (see Appendix E). The Walden University Institutional Review Board (IRB) deemed permission for public access to be sufficient for my research project (J. Sherer, personal communication, January 21, 2014).

Data Collection

Instrumentation

I used the MARKOR scale as my instrument for data collection to measure the market orientation construct as it relates to business performance. I used the MARKOR scale developed by Jaworski and Kohli (1993), and adapted by Cooper (2008) and Keelson (2012). The composition of the MARKOR instrument was Jaworski and Kohli's behavioral dimensions of the market orientation construct (i.e., intelligence generation, intelligence dissemination, and responsiveness). For the purpose of my research, the Government Regulation Lassez-Faire Index developed by Pryor (2002) was an addition to the MARKOR instrument.

Instrument Scaling and Scoring

My study instrument contained a section on organizational characteristics, and scaled constructs for market orientation, market factors, and firm performance (see Appendix G). The instrument contained 10 demographic items, and 34 items measuring

market orientation, firm performance, and market factors on an interval, 5-point Likert-type scale (1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, and 5-strongly agree). Each item of measurement contained a score of 1 to 5, whereby a score of 1 represented the lowest value, and 5 represented the highest value. A score of 3 was a neutral option for respondents who were neutral or undecided about a response (Rovai et al., 2013). Each scale and subscale (i.e., market orientation, firm performance, market factors), was a cumulative score of the associated construct and variable. A higher score suggested a strong and positive presence of the associated construct. A lower score indicated a small and negative presence of the associated construct. Instrument items contained reverse scoring, negative, and positive wording to reduce response bias.

Organizational characteristics. The first section of the instrument was organizational characteristics (ORC). To address RQ1, the 10 items for organizational characteristics provided for descriptive statistics and the demographic representation of my study participants. Scales of measurement for this section were both nominal and ratio. I used ratio data from this section (Items 5, 7, 8, and 9) to address RQ2 and RQ3.

Market orientation. The second part of the instrument was market orientation and the three subscales of the market orientation (MO) construct (i.e., market intelligence gathering, market intelligence dissemination, and responsiveness). The 13 items in this section, measured respondents' knowledge, attitudes and behaviors associated with intelligence generation (IG), intelligence dissemination (ID), and responsiveness (RSP) within the firm. The scale of measurement for this part was interval data. I used this section to measure the overall market orientation construct as an independent variable.

Firm performance. The third section of the instrument was firm performance (FP). The two items for firm performance in this part were subjective measures based on respondents' knowledge to address RQ2. The scale of measurement for this section was interval data. The ratio data from the organizational characteristics section (Items 7, 8, and 9) represented objective measures of performance (i.e., contract bid to win rate [CONTBWR] and total contract revenue [CONTR]). Total contract revenue was the product of Item 7 from organizational characteristics and transformed to a 5-point Likert-type scale. Contract bid to win rate was the result of Item 9 divided by Item 8 and converted to a 5-point Likert-type scale.

Market factors. The fourth section of the instrument was market factors. There were 19 items in this section to assess the influence of market factors (MKF) and four subscales of market turbulence (MKTB), competitive intensity (CI), technological turbulence (TTB), and government contracting regulation (GCR) on the market orientation-business performance relationship. Market turbulence signified rapid changes in customer base, and customer needs and preferences. Competitive intensity alluded to an increased presence of competitive niches, competitive pricing, and other competitive moves in the market. Technological turbulence signified rapid changes in technology and technological breakthroughs. Government contracting regulation alluded to constraints and obstacles, and bureaucracy induced by contracting rules. The scale of measurement for this section was interval data. I used market factors as independent variables (interaction), to determine the influence on market orientation and business

performance to address RQ4. Table 2 was a summation of the constructs, variables, and scales.

Table 2.

Summary of Constructs and Variables

Constructs and Variables	Number of Items	Cumulative Score Minimum - Maximum (Likert-type scale 1 - 5)
Market Orientation (MO) = (IG + ID + RSP)	13	13 - 65
Intelligence Generation (IG)	*4*	*4 -20*
1. We meet with current customers at least annually.		
2. We do a lot of in-house market research.		
3. We are slow to detect changes in our customer's preferences.		
4. We periodically review how our business environment on customers.		
Intelligence Dessimenation (ID)	*4*	*4 - 20*
1. We have interdepartmental meetings at least once a quarter.		
2. Marketing personnel discuss customers' needs with other departments. (R)		
3. When something happens to a customer, the whole company knows about it.		
4. Data on customer satisfaction are disseminated at all levels in our company.		
Responsiveness (RSP)	*5*	*5 - 25*
1. We tend to ignore changes in our customers' product or service needs.		
2. We review product development to ensure alignment with customer wants.		
3. Departments plan responses to changes in our business environment.		
4. We develop, and implement an immediate response competitor campaigns.		
5. We are quick to implement marketing plans. (R)		
Firm Performance (FP)	2	2 - 10
1. Revenue growth performance of the firm last year against plan.		
2. Profit performance of the firm last year against plan.		
Contract Revenue (CONR) = (ORC9)	1	1 - 5
1. The total amount of contract revenue.		
Contract Bid - Win Rate (CONBWR) = (ORC8/ORC7)	2	1 - 5
1. The total number of bids proposed.		
2. The total number of contracts won.		
Marker Factors (MKF) = (MKTB + CI + TTB + GCR)	19	19 - 95
Market Turbulence (MKTB)	*5*	*5 - 25*
1. Customers' product preferences change quite a bit over time.		
2. Customers tend to look for new products all the time.		
3. We are witnessing demand from new customers.		
4. New customers tend to have product-related needs.		
5. We cater to many of the same customers that we used to in the past.		
Competitive Intensity (CI)	*6*	*6 - 30*
1. Competition in our industry is cutthroat. (R)		
2. There are many promotion wars in our industry.		
3. Anything that one competitor can offer others can readily match.		
4. Price competition is a hallmark of our industry.		
5. One hears of a new competitive move almost every day.		
6. Our competitors are relatively weak.		
Technological Turbulence (TTB)	*4*	*4 - 20*
1. The technology in our industry is changing rapidly.		
2. Technological changes provide big opportunities in our industry.		
3. New product ideas are possible through technological breakthroughs.		
4. Technological developments in our industry are rather minor.		
Government-Contracting Regulation (GCR)	*4*	*4 - 20*
1. Government contracting regulation has great influence on your company.		
2. Senior management spends a lot of time with contracting bureaucracy.		
3. Government contracting regulations that constrain businesses are minimal.		
4. Government contracting procedures are an important obstacle.		
Number of Years in Government Market (YGM) = (2014 - ORC5)	1	Grouped 1 - 4
1. The year the firm registered for government contracting market.		

Note. Some items are abbreviated for presentation of constructs and scales. For a detailed list of items see Appendix G. Items designated as (R) are reverse-scored items. Contract Revenue is the product of Question 9 (ORC9) from Organizational Characteristics and tranformed to 5-point Likert-type scale. Contract Bid-Win Rate is the product of (ORC8/ORC7) and transformed to a 5-pint Likert-type scale. Number of years in the government market is the product of the year business owner registered for government contracts to year 2014. Groups for the YGM variable are 0-3 years, 4-6 years, 7-9 years, and 10 years or more.

Instrument Reliability and Validity

Marketing scholars accept the MARKOR scale as a tested and reliable instrument (Cooper, 2008; Keelson, 2012; Reijonen et al., 2012). Notable was the internal consistency validity of the scale, which was how consistent items of a construct produce similar results. Keelson and Reijonen et al. adapted the MARKOR scale to study small businesses and achieved high measures of Cronbach's alphas (a measure of internal consistency reliability). Likewise, Cooper (2008) adapted the MARKOR scale to study minority-owned small businesses in the government contracting market and achieved high measures of reliability. The validation tool Kohli et al. (1993) provided with the MARKOR scale, assess criterion-related and predictive validity (see Appendix E).

Starr (2012) recommended the use of field tests to improve the relevance and content validity while enhancing the reliability of survey instruments. Klabunde et al. (2012) suggested pretests were necessary to identify issues with survey design and execution. Cooper (2008) conducted a field test to adapt the MARKOR to the small businesses and government market context, which improved the relevance and content validity of the scale. I performed a field test as part of instrument refinement for my study. Raw data from results be available by request.

Field test. Through field tests, a researcher improves the content validity of an instrument and ensures the instrument can measure what it was intended to measure (Cooper, 2008; Rovai et al., 2013; Starr, 2012). I requested input from two directors of small business programs, one contracting officer, three VOSB owners, and one marketing scholar to assist in refining my survey instrument. As part of my field test, I asked

subject matter experts to consider the foundational components of my study (theoretical framework, instrument construct, research questions, and hypotheses), and item relevancy in small business and government contracting contexts (see Appendix F). I received input from one contracting officer, Dr. J. Bushnell, who has 26 years of experience working for the federal government, holds a Juris Doctorate, and serves as a program coordinator for government purchases.

Bushnell cautioned that the wording of some items might induce respondent bias as some respondents may want to present their organization in a higher standing. Bushnell suggested that a large volume of items might be cumbersome for small business owners and that I should remove items that overlap, and might contribute to respondent bias. Bushnell provided input to help reword items from the Government Regulation Lassez-Faire Index. I reworded GCR1 through GCR4 to fit the government contracting context, and in a manner, which veteran-owned small business owners could understand. To address potential respondent bias, I reversed the scoring for negatively worded items and reversed the scale of measurement for items RSP5 and CI1.

Data Collection Technique

My study consisted of a Web-based survey using the MARKOR scale to facilitate data collection. There were recommendations for survey research techniques in research methodology literature (Dykema et al., 2013; Halbesleben & Whitman, 2013; Kaplowitz, Lupi, Couper, & Thorp, 2012; Sauermann & Roach, 2013). I conducted a pilot test to assess participants' accessibility and usability of the survey instrument and to evaluate the execution of the survey process at Survey Monkey. Another consideration for data

collection was the improvement of participant response rates. Response rates in survey research signify interest in study topic (Halbesleben & Whitman, 2013). While low response rates signify nonresponse bias, hinder statistical inferences, and threaten external validity (Halbesleben & Whitman, 2013), a low response rate is not an indication of bad data (Dykema et al., 2013). I did not use incentives as a means to influence the response rates for my study. I used prenotification, personalization of the survey process, and frequent follow-ups, which were alternatives to providing incentives (Kaplowitz et al., 2012; Sauermann & Roach, 2013; van Veen, 2015).

After IRB approval, I advertised my study by announcement at the Government Market Masters community at LinkedIn.com one week before sending participants invitations to participate in my study (see Appendix G). The Government Market Masters community at LinkedIn.com is an online social media community of business managers and government market practitioners. Based on recommendations from Sauermann and Roach (2013), a study announcement serves as a prenotification to participants to promote community awareness, to gain cooperation, and to serve as an element of personalization to the survey experience.

One week after my LinkedIn.com study announcement, 25 potential pilot test participants received invitations to participate in my pilot test via the email addresses in the VIP listing. The study invitations contained a link for access to, and outline requirements for completing the Web-based survey (see Appendix H). One week following the pilot test, I sent study invitations to 1,800 VOSB owners. I left the survey

open for two weeks and issued three follow-up requests to nonrespondents following the initial request and before my survey closing date.

Data Organization Technique

Maintaining a reflective journal and establishing an archive fosters objectivity, and provides clarity and transparency of all research activities (see Cowen, 2014). I kept a separate record for my survey design process, instrumentation, data collection, and data analysis for use in future research projects. I used my IRB approved IRB protocol as a guide throughout the data collection process and recorded my daily activities and thoughts in a notebook. I maintained research and survey data on an external hard drive throughout my study process. The hard drive and all documentation are in a locked box for five years following the completion of my study.

Data Analysis Technique

The purpose of my study was to examine the relationship between market orientation and business performance among VOSBs in the B2G market in the United States and outlying territories. In addition to examining correlations between market orientation and business performance, I assessed the influence of market factors on the market orientation and business performance relationship. The objectives of my study were four central research questions and an associated subset of hypotheses:

Research Questions

RQ1. What are organizational characteristics of VOSBs contracting in the government market?

RQ2. To what extent does market orientation relate to business performance in VOSBs?

$H1_{0:}$ There is no positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid to win rate in VOSBs.

$H1_{1:}$ There is a positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid to win rate in VOSBs.

RQ3. To what extent are market orientation scores different among VOSBs based on the number of years in the government market?

$H2_{0:}$ There is no statistically significant difference in market orientation based on the number of years in the government market among VOSBs.

$H2_{1:}$ There is a statistically significant difference in market orientation based on the number of years in the government market among VOSBs.

RQ4. To what extent might market factors influence the market orientation-business performance relationship in VOSBs?

$H3_{0:}$ Market factors positively moderate the effect of market orientation on business performance among VOSBs.

$H3_{1:}$ Market factors negatively moderate the effect of market orientation on business performance among VOSBs.

Data Analysis Technique

The primary data analysis technique for my study was standard multiple linear regression analysis to test variable relationships and moderation and a second procedure in the one-way analysis of variances to access differences in mean scores. I conducted

data analysis using descriptive data from Survey Money, and SPSS. I used SPSS 21 with the PROCESSv2.13 utility developed by Hayes (2013). Hayes presented the PROCESS utility to facilitate variable interactions of mediation, moderation, and conditional effects in SPSS. Researchers used multiple regression analysis to determine the relationship between or prediction of a single continuous dependent variable and various continuous independent variables (Boslaugh, 2013; Rovai et al., 2013). A multivariate approach, regression analysis allows researchers the flexibility to use a combination of different types of variables (i.e., continuous, categorical, or dichotomous) in a single equation (Boslaugh, 2013; Rovai et al., 2013). Using multiple regression, researchers assess basic correlations between two variables, and test the addition of one or a set of independent variables (Rovai et al., 2013).

There were other data analysis techniques available to examine the relationships between variables, and assess the interaction of a third variable (Boslaugh, 2013). Bivariate correlation and prediction techniques (i.e., bivariate regression, Pearson's product-moment, point-biserial) assess the relationship one independent variable and one dependent variable, and one independent variable with another (Boslaugh, 2013; Rovai et al., 2013). The results of bivariate tests may omit information about variable relationships (Rovai et al., 2013). The use of bivariate techniques requires researchers to run multiple bivariate correlation tests, which increases the chances of committing Type I errors (Boslaugh, 2013). I use bivariate correlations to assess relationships between variables before running regressions, but not as a sole means of interpreting data.

Other multivariate analysis techniques (i.e., discriminant analysis, principal components and factor analysis, logistic regression, multivariate analysis of variance, and partial and canonical correlation analysis) examine relationships between many independent variables and many dependent variables (Rovai et al., 2013). Through a test of partial correlation, researchers assess the relationship between a continuous IV and DV after controlling or removing the third variable from the correlation (Boslaugh, 2013; Rovai et al., 2013). Researchers use logistics regression and discriminant analysis to predict the membership in two or more mutually exclusive groups and a set of predictors, and the IV may be continuous or categorical, and the DV must be categorical (Boslaugh, 2013; Rovai et al., 2013). In a reversal of discriminant analysis, researchers use a multivariate analysis of variance to assess the influence of membership from two or more categorical IVs on two or more continuous DVs (Boslaugh, 2013; Rovai et al., 2013). Researchers use principal components and factor analysis to assess the interrelationship and commonality between a large number of variables (Boslaugh, 2013; Rovai et al., 2013). With canonical correlation analysis, researchers assess the interrelationship between sets of variables (Moreira, Santos, Sousa, & Costa, 2015).

Multivariate techniques, account for the relationship between many variables and mitigate Type I errors (Boslaugh, 2013; Moreira et al., 2015; Rovai et al., 2013). However, strict measurement criteria and purpose for each technique were not congruent with the levels of measurement in my survey instrument (Boslaugh, 2013; Rovai et al., 2013). Levels of measurement for the MARKOR scale is continuous (i.e., interval and ratio data) (Boslaugh, 2013). Measurement criteria for multiple regression analysis (i.e.,

continuous DV and multiple continuous independent IVs (Boslaugh, 2013; Rovai et al., 2013), were congruent with the MARKOR scale (Cooper, 2008; Keelson, 2014; Kivipold & Vadi, 2013; Oyeniyi, 2013). Table 3 was a summary of data analysis techniques and associated hypotheses, modeling and software utilities.

Table 3.

Summary of Data Analysis Techniques

Hypotheses	Modeling	Modeling Parameters	Variables
(RQ2) H1: There is a positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid-win rate in VOSBs.	SPSS 21	Multiple Regression Analysis Regression - Linear $\hat{Y} = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + e$	Y = a measure of firm performance X_1 = overall market orientation X_2 = market intelligence generation X_3 = market intelligence dissemination X_4 = responsiveness B_0 = intercept $B_{1,2,3}$ = regression coefficient (change in Y based on X) e = assumed error
(RQ3) H2: There is a statistically significant difference in market orientation based on the number of years in the government market among VOSBs.	SPSS 21	ANOVA General Linear Model (GLM) - Univariate - Model Type III F statistic = MS_b/MS_w MS_b = SS/dfn, *or* a - 1 MS_w = SS/dfd, *or* N - a	MSb = between groups mean square MSw = within groups mean square SS = sum of squares df = degrees of freedom N = number of participants a = number of groups
(RQ4) H3: Market factors negatively moderate the effect of market orientation on business performance among VOSBs.	SPSS 21 PROCESS v2.13	Multiple Regression Analysis/Regression - PROCESS Model 1 - (Basic Moderation) $\hat{Y} = i_1 + b_1X + b_2M + b_3XM + e_Y$	Y = a measure of firm performance X = market orientation M = market factor (Moderator) i = intercept $b_{1,2,3}$ = regression coefficient e_Y = assumed error

Note. Modeling parameters for H1 adapted from "Writing Linear Equations," by S. Boslaugh, 2013, *Statistics in a nutshell: A desktop quick reference* (2nd ed.), p. 195. Copyright 2013 by O'Reilly Media. Modeling parameters for H2 adapted from "Between Subjects Analysis of Variance," by A. P. Rovai, J. D. Baker, and M. K. Ponton, 2013, Social science research design and statistics: A practitioner's guide to research methods and SPSS analysis, p. 297. Copyright 2013 by the Watertree Press. Modeling parameters for H3 adapted from "Foundamentals of Moderation Analysis," by A. F. Hayes, 2013, Introduction to mediation, moderation, and conditional process analysis: A regression-based approach, p. 214. Copyright 2013 by The Guilford Press.

Data Screening and Cleaning

The absence of data screening and cleaning in quantitative research was a major contributor to the degraded power of statistical tests, violations of assumptions, misestimating of parameter estimates, and Type I and Type II errors (Boslaugh, 2013;

Myers, 2011; Osborne, 2013). Data screening is the process of analyzing study data for inconsistencies, duplicate cases, missing data, and extreme scores before conducting data analysis (Boslaugh, 2013; Myers, 2011; Osborne, 2013). Missing data and extreme scores (e.g., outliers and fringeliers) are critical contributors to misestimating parameter estimates, erroneous conclusions; and reduce population generalizability, and study replicability (Osborne, 2013). There are three types of missing data (i.e., missing completely at random [MCAR], missing at random [MAR], and missing not at random [MNR]) (Boslaugh, 2013; Myers, 2011; Osborne, 2013). There are six errors of extreme scores (i.e., data entry errors, misreporting, sampling error, methods standardization failure, faulty distribution assumptions, and scores from the correct population) (Osborne, 2013).

I used SPSS to screen study data for missing values and extreme scores. First, I analyzed descriptive and frequency data to identify missing values in my study data. For variables with missing data, I found an average of 50 occurrences. After a visual review of the data, I recorded the associated identification number and worked to resolve the issues. Second, I analyzed descriptives and explored outputs from histograms, and boxplot percentiles and outliers to detect and identify extreme scores and outliers. This step in SPSS provided an illustration data distributions and specific cases that obtain outliers. Outputs from boxplots revealed seven multivariate outliers, and histograms showed normal to skewed distribution among variables. Once I identified missing and extreme data values, I corrected issues using data cleaning protocols from Boslaugh (2013), Myers (2011), and Osborne (2013).

Data cleaning is the process of fixing issues of missing data, and extreme scores found during data screening (Myers, 2011; Osborne, 2013). To address cases of missing data, researchers suggested deleting cases with missing data, mean substitution, and imputation using multiple regression (Boslaugh, 2013; Myers, 2011; Osborne, 2013). As for extreme scores, researchers suggested deleting cases with extreme scores, truncating or recoding variables, transforming values, or correcting data using known information (Boslaugh, 2013; Myers, 2011; Osborne, 2013; Rovai et al., 2013). Mean substitution and deletion of cases were standard practices for addressing missing data, and extreme scores (Boslaugh, 2013; Myers, 2011; Osborne, 2013). Removal of cases was the least desirable since case deletions reduce samples, and presents a bias in data estimations (Myers, 2011; Osborne, 2013; Rovai et al., 2013).

Myers (2011) and Osborne (2013) cautioned that each data cleaning approach has weaknesses, and encouraged the use of techniques available in data analysis programs like SPSS. I used SPSS to clean study data associated with missing values and extreme scores as outliers. First, I followed Osborne's (2013) protocol for correcting missing data using known information and transforming values in SPSS. I deleted 72 cases for missing data. The respondents skipped 10 or more survey questions, input data not related to the questions, or did not fit the target population. I resolved 81 data inconsistencies using other information provided by the respondents. I replaced missing values for 17 occurrences using series mean inputs in SPSS. The respondents misreported the firm's contract revenue in 23 cases. Where the respondents reported zero contracts won, they also reported favorable contract revenue. To preserve the number of

cases, I resolved this data inconsistency by listing these cases in the zero revenue group. Second, I double-checked data from reverse-scored items in the datasets. During my survey design, I preset reverse-scaled items so I would not have to transform the items once exported for SPSS. Third, due to the nature of outliers, I deleted the seven extreme cases because no other approach was sufficient without distorting the data.

Evaluating Test Assumptions

Assumptions defined. Assumptions are beliefs researchers presume as truths about the data used in data analysis and hypothesis testing (Hayes, 2013; Osborne, 2013; Rovai et al., 2013). When research data do not conform to or satisfy assumptions, researchers may compromise the power, significance, and validity of hypothesis testing (Hayes, 2013; Rovai et al., 2013). There are five common assumptions researchers associate with multiple regression analysis (i.e., linearity, multivariate normality, homoscedasticity, independent observations, and multicollinearity) (Hayes, 2013; Rovai et al., 2013). The assumptions of normality, independence, and equal variances are three assumptions researchers associate with one-way ANOVAs (Boslaugh, 2013; Rovai et al., 2013). Linearity is the assumption that a linear relationship exists between the DV and IV (Hayes, 2013). The assumption of multivariate normality is the belief that a normal distribution exists for single and combinations of variables (Boslaugh, 2013; Hayes, 2013). Homoscedasticity is the assumption that the variability of estimates of one variable was equal to that of another variable in the regression equation (Hayes, 2013). The assumption of independent observations is the belief that values or estimates of one observation are independent of other observations (Hayes, 2013; Rovai et al., 2013).

Multicollinearity is the assumption that there are no high correlations between independent variables in the regression equation (Osborne, 2013; Rovai et al., 2013).

Testing assumptions. Osborne (2013) argued researchers must provide evidence of assumptions testing and document actions taken to address violations of assumptions. Testing of assumptions is essential to protecting statistical power, effect size, population estimates, and avoiding Type II errors (Osborne, 2013; Rovai et al., 2013). There were actions available for researchers to evaluate test assumptions (i.e., outputs from inferential tests and graphic plots) (Boslaugh, 2013; Osborne, 2013; Rovai et al., 2013). Boslaugh and Rovai et al. suggested the use of the Levene's Test of Equality of Error Variances and Box's *M* tests to test assumptions of equal variance. Based on guidance from Rovai et al., to test assumptions of linearity, I observed outputs from scatterplots, and observations of Pearson's *r* coefficient, and correlation coefficient eta. As Osborne posited that parametric tests such as the ANOVA are robust against minor violations of normality, I tested assumptions of normality using boxplots, histograms, measures of Kurtosis and skewness, the Kolmogorov-Smirnov *D* test, and the Cook's D_i test. To test the assumption of independent observations, Boslaugh and Rovai et al recommended the use of the Durbin-Watson test. I tested assumptions of homoscedasticity through the outputs of scatterplots and boxplots. To test the assumption of multicollinearity, Rovai et al. suggested the observation of collinearity regression outputs (i.e., bivariate correlation coefficients outputs, and tolerance, variance inflation factor, and variance portions). I ran preliminary tests of assumptions, during my data screening process, and reported my findings in my data screening results.

Addressing violations of assumptions. During my data screening and cleaning procedures, I focused on missing data and outliers as contributors to assumptions violations, which may affect subsequent data analysis (Osborne, 2013). After data cleaning, and before the execution of data analysis, I ran a second iteration of screening for potential violations of assumptions, using Rovai et al.'s (2013) protocol for dealing with assumption deviations. Rovai et al. argued that violations of assumptions of independent observations were issues of sampling and measurement, and suggested that data collection by survey questionnaire may prevent such violations. To address violations of assumptions of multivariate normality, I adjusted outliers and deleted extreme cases. Based on recommendations from Osborne and Rovai et al., in cases of non-normal variables and skewness not addressed using other approaches, I considered data transformations. Osborne and Rovai et al. added that to address violations of assumptions of multicollinearity, consider removing problem variable(s) from the model or combine two or more problem variables where appropriate. Boslaugh (2013) and Osborne suggested addressing violations of assumptions of linearity and homoscedasticity by adjusting variable measurements through logarithmic, square root, or inverse transformations. Osborne and Rovai et al. posited that reporting tests of assumptions, actions taken to address violations, and results were central to understanding research outcomes and improving replicability of the research. I compared and reported the results of my actions taken to address violations of assumptions.

Interpretation of Inferential Results

Research question 1. To address RQ1, describe the nature of VOSB contracting in the United States and outlying territories, the use of descriptive statistics was appropriate to show respondent characteristics and demographics. To present the results, I developed charts and graphs to illustrate distributions, frequency, mean, range, variance, and standard deviation of respondents' representation and organizational characteristics at Survey Monkey and SPSS. To describe the representation of study respondents, I presented frequency tables of respondents' State, primary business industry, and business classifications. To describe organizational characteristics, I presented distributions tables of business age, the number of employees, the number of years in the B2G market, the length of time (years) it took the business to win first contract, total contract revenue, and contract bid to win rate.

Research question 2. To address RQ2, I used inferential statistics to analyze data and test hypotheses to examine the relationship between market orientation and business performance. The purpose of my study was to assess the presence of market orientation activities and measure these activities in relation to the firm's performance. Extant literature supported the premise that a relationship exists between market orientation and business performance (Boohene et al., 2012; Cooper, 2008; Hunt, 2102a; Jaworski & Kohli, 1993; Mahmoud & Hinson, 2012; Slater & Narver, 1994). Firm performance in the MARKOR scale was a subjective measure of business performance. Cooper (2008) and Ruane et al. (2010) recommended total contract revenue, and contract

bid to win rate as objective measures of business performance in government contracting market research. For this research question, I formulated the following hypothesis:

> H1: There was a positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid to win rate in VOSBs.

I used multiple regression analysis to examine the relationship between market orientation (i.e., intelligence gathering, intelligence dissemination, and responsiveness) and business performance (i.e., firm performance, contract bid to win rate, and total contract revenue). I transformed objective measures of business performance to a 5-point Likert-type scale. The scale for contract bid to win rate was in five groups ranging from zero to 100 (1-0% to 20%; 2-21% to 40%; 3-41% to 60%; 4-61% to 80%; 5-81 to 100%). The scale for total contract revenue was in five groups ranging from zero to over $5 million (1-$0 to $25,000; 2-$25,001 to $100,000; 3-$100,001 to $500,000; 4-$500,001 to $5 million; 5-Over $5 million).

To interpret data results for RQ2, I used descriptive statistics, correlations coefficients from the regression equation, and scatter plots to describe the relationship between market orientation and business performance measures. I examined a component wise and the overall relationship between market orientation and business performance measures (i.e., overall market orientation, intelligence generation, intelligence dissemination, and responsiveness). First, the *Correlations* output provides Pearson's correlations among all variables in the regression equation and serves as my first source to identify relationships between market orientation and business

performance measures. Second, I evaluated the *multiple correlation* or *R, R Square*, and *Adjusted R Square* from the *Model Summary* output, and the *F* statistic and *p* values from the *ANOVA* output. Data in the *Model Summary* supports inferences about the strength of relationships between market orientation and business performance measures. The *R Square* identifies how the IV, market orientation may account for the variance in the DV, business performance (Rovai et al., 2013). Data in the *ANOVA* output supported determinations of the significance of the predictive power of the regression model (Rovai et al., 2013). I evaluated the *p*-value for a *Sig*. less than .05, which was the threshold to reject the null hypothesis. Third, as suggested by Rovai et al. and Boslaugh (2013), I evaluated the *B* and *Beta* of the *Coefficients* output to describe the predictive power, and nature of the relationship between market orientation and business performance measures. I presented results for this research question by restating variables, outcomes of assumptions testing, inferential analysis from SPSS outputs, predictor analysis, and my hypothesis decision.

Research question 3. To address RQ3, the use of inferential statistics was suitable to analyze data and test hypotheses in SPSS, and to examine the difference in market orientation scores based on the number of years a VOSB has been in the government market. In the government market, small businesses take as long as three years to obtain a contract (Ruane et al., 2010). Businesses' ages were significant factors in small business performance outcomes (Blackburn et al., 2013). Small businesses fail within one to five years (Cook et al., 2012; SBAOA, 2014) while small business failure

rates in the government contracting market were at 21% (SBAOA, 2012a). For this research question, I formulated the following hypothesis:

H2: There was a statistically significant difference in market orientation based on the number of years in the government market among VOSBs.

I used a one-way analysis of variance (ANOVA) to examine the relationship and difference in market orientation scores and the number of years a firm has been in the government market. A between-subject ANOVA was appropriate to consider the mean difference and variability of groups (Boslaugh, 2013). The independent variable number of years in the government market was the grouping variable, and the dependent variable was market orientation. For ANOVA testing, I transformed the number of years in the government market into four groups (1-0 to 3 years, 2-4 to 6 years, 3-7 to 9 years, and 4-10 years or more).

To interpret data results for RQ3, I used descriptive statistics (i.e. mean market orientation scores, the number of firms, and numbers of years) and a boxplot from the ANOVA to describe the degree of market orientation scores for each year group. First, I evaluated the *Levene's Test of Equality of Error Variance* (homogeneity) to check for violations of the assumption of equality of variance (i.e., a violation was a *Sig*. value less than .05). Second, I evaluated the *F* statistic, *Partial Eta Squared*, and *p* values from the *Tests of Between-Subjects Effects* output. The *Partial Eta Squared* (effect size) indicates the strength of the relationship between market orientation and difference number of years in the government market. The effect size also identifies how the number of years in the government market may account for the variance in market orientation (Rovai et

al., 2013). A *p*-value or *Sig*. less than .05 rejects the null hypothesis (Boslaugh, 2013; Rovai et al., 2013). The *F* statistic provides the overall significance of the ANOVA (Boslaugh, 2013; Rovai et al., 2013). A significant *F* statistic warrants post hoc testing to assess pairwise differences among group means (Rovai et al., 2013).

A choice of post hoc test depends on whether or not a violation of the assumption of equal variance exists (Boslaugh, 2013; Rovai et al., 2013). Rovai et al. recommended the use of Tukey or R-G-W-Q test if no violation of the assumption of equal variance exists, and Dunnett's C test when a violation exists. Tables and boxplot graphs from post hoc tests may provide further examination and comparisons of differences in market orientation scores between business year groups (Rovai et al., 2013). I presented results from this research question by restating variables, outcomes of assumptions testing and post hoc testing, inferential analysis from SPSS outputs, and my hypotheses decisions.

Research question 4. To address RQ4, I used inferential statistics to assess the influence of market factors (i.e., market turbulence, competitive intensity, technological turbulence, and government contracting regulation) on the market orientation-business performance relationship. The nature of the influence concerns the moderating effects of market factors on the market orientation-business performance relationship. There were inconsistent results in the extant literature regarding the influence of market factors on the market orientation-business performance relationship (Grewal et al., 2013; Jaworski & Kohli, 1993; Johnson et al., 2012; V. Kumar et al., 2011; Parry & Song, 2009). Cooper (2008) suggested further research on market orientation in the government

market should include consideration for examining the impact of market factors. For this research question, I formulated the following hypothesis:

H3: Market factors negatively moderate the effect of market orientation on business performance among VOSBs.

To interpret data results for RQ4, I used regression analysis to examine the moderation of market factors on the market orientation and business performance relationship. I evaluated multiple regression analysis outputs from the SPSS PROCESS utility to assess the interaction of the market factors on the market orientation-business performance relationship. First, I compared data in the *Model Summary* data from the PROCESS output with data from the regular SPSS output. I assessed the *Model Summary* output for the overall significance (*p*-value) of the model and identified the significance of each independent variable and product variable (predictor variable X moderator variable). Second, based on guidance from Hayes (2013) and Hayes, Glynn, and Huge (2012), I evaluated the *Conditional effect* output, which provides data regarding the impact of the IV on the DV at different levels of interaction with the moderator variable. From the *Conditional effect* output, I assessed the differing levels of effects (i.e., low, medium, and high), the effect/coefficient beta, and the significance of each conditional effect. I reported the nature (significance and strength) of the relationship between market orientation and business performance based on the level (low, medium, high) of conditional effects of market factors. I also entered each market factors into the regression equation, to assess how each market factors influenced the moderation equation. I presented results for this research question by restating variables,

outcomes of assumptions testing, inferential analysis from SPSS and PROCESS outputs, and my hypothesis decision.

Reliability and Validity

Reliability

I used the MARKOR scale to survey 1,800 veteran-owned small businesses in the government contracting market. Reliability was the extent to which the study process and research instrument or scale might yield consistent measures (Rovai et al., 2013; Wahyuni, 2012). I used Cronbach's coefficient alphas to assess the internal consistency reliability and validity of the survey instrument. Cronbach alphas greater than .70 signify uniformity and reliability (Rovai et al., 2013). Jaworski and Kohli's (1993) assessment of the reliability of the MARKOR scale yielded Cronbach alphas of .71 for intelligence generation, .82 for intelligence dissemination, .80 for responsiveness, .83 for firm performance, .68 for market turbulence, .81 for competitive intensity and .88 for technological turbulence. Keelson's (2012) assessment of the reliability of the MARKOR scale yielded Cronbach alphas of .87 for intelligence generation, .87 for intelligence dissemination, .86 for responsiveness, .87 for market turbulence, .87 for competitive intensity and .87 for technological turbulence.

The reliability of the MARKOR adaptations specific to small business was evident in the extant literature (Cooper, 2008; Keelson, 2012; Mohd-Mokhtar et al., 2014). Mohd-Mokhtar et al. (2014) use of the MARKOR scale produced reliable coefficients of .89 for overall market orientation, .64 for intelligence generation, .75 for intelligence dissemination, and .67 for responsiveness. Cooper's (2008) assessment of

reliability produced reliable alphas of .90 for overall market orientation, .82 for intelligence generation, .73 for intelligence dissemination, and .78 for responsiveness. Cooper (2008) confirmed the MARKOR scale was a reliable instrument for research in the government market context.

Validity

Validity was the degree to which an instrument or scale measures what it was designed to measure (Wahyuni, 2012). Kohli et al. (1993) highlighted methodology concerns regarding the importance of scale adaptations unique to the appropriate context. Scholars provided reviews of the construct, content, and criterion-related validity of the MARKOR scale (Hajipour et al., 2013; Rojas-Mendez & Rod, 2013; Vieira, 2010). I took actions to mitigate threats to validity. As suggested by Rovai et al. (2013 and Wahyuni (2012), to address the external validity of the study, I used a systematic random, probabilistic sampling strategy, and a power analysis to optimize the representativeness of the study population and the generalizability of study results. To strengthen internal validity, I standardized data collection procedures, conducted data screening for missing and extreme scores, and minimized the length of the study and interactions with participants. A field test helped to strengthen the content validity of the survey instrument. As part of my survey instrument, I used the validation tool in the MARKOR scale, which assesses criterion-related and predictive validity (see Appendix E).

Transition and Summary

The purpose of my study was to examine the relationship between market orientation and business performance among VOSBs in the government contracting

market. I proposed to extend the work of Cooper (2008), to consider market orientation in other small business groups, to assess the nature of business performance measures, and to test the interaction of market factors in the B2G market. I chose a quantitative research methodology with a correlational design to achieve my study objectives, address the research problem, and answer the research questions. In the next section, I provided an overview of my research, and a presentation of the findings, and discussion regarding applications to professional practice, implications, and considerations for future research.

Section 3: Application to Professional Practice and Implications for Change

This section contains study results on the market orientation-business performance relationship and the influence of market factors among VOSBs in the government contracting market. First, in this section, I provide an overview of the study and presentation of the findings. Second, I discuss an application to professional practice, implications for social change, recommendations for action, and recommendations for further study. Last, I provide reflections of my experiences during the research process and my study conclusions.

Overview of Study

My research centered on veteran-owned small businesses competing for and winning a fair amount of government contracts in the United States. The objectives of my study were to provide further understanding of the composition of the VOSB population, the presence of market orientation and market factors in the government contracting market, and VOSB performance. The results of my study provided considerations for market orientation strategy and business performance for VOSB owners, and policy implications for decision makers and advocacy groups.

The multiple regression analysis revealed a positive and statistically significant relationship between market orientation and firm business performance, a positive and statistically significant relationship between market orientation and the total contract revenue, and a positive and statistically nonsignificant relationship between market orientation and contract bid to win rate. With low R^2 measures ranging from .019 to .094, regression modeling did not provide sufficient results to conclude that market

orientation significantly predicts outcomes associated with firm performance and total contract revenue in VOSBs. The one-way analysis of variance revealed no statistically significant difference in market orientation scores based on VOSBs' number of years in the government contracting market. The moderation analysis using the PROCESS utility showed a positive moderation effect of (combined) market factors (i.e., competitive intensity, market turbulence, technological turbulence, and government regulation) on the market orientation-business performance relationship. The moderation analysis showed a mix of positive and negative, significant and nonsignificant moderation effect of (single) market factors on the market orientation-business performance relationship. The next section contains a discussion of my study findings.

Presentation of the Findings

In this section, I present the results of my findings. First, I discuss the results of my data collection; and data screening and cleaning efforts; relevant themes, patterns, and relationships found; and the presence of outliers and other discrepancies found in the data. Second, I presented findings in a manner that addressed each research question and associated hypotheses. Third, in this discussion, I related the findings to a larger body of literature on the topic, including the theoretical framework, and research on effective business practice.

Data Collection

Following my study announcement and pilot test, I invited 1,800 VOSBs to participate in my study survey. This sample represented a portion of the 7,390 certified VOSBs listed in the VA's VIP directory. I formulated the sample based on the highest

minimum sample required to achieve a statistical power of test level of .80 (180 cases for ANOVA), divided by my desired response rate of .10 or 10% to equal 1,800. I used a systematic random sampling technique to draw a sample of VOSBs for my pilot test and study survey.

My original study survey remained open for 2 weeks. I sent three follow-up requests to nonrespondents over that period. Of the 1,800 VOSB owners I invited to participate in my study survey, 188 responded to the survey for a response rate of 10%. After having only 87 usable responses, I reopened the questionnaire with an additional sample of 1,230 VOSBs for 2 weeks. I increased the number of VOSBs sampled with the goal of obtaining a minimum number of 180 good cases, to achieve a desired statistical power of .80. The total number of VOSBs sampled for the study was 3,030. The total number of responses received was 333, for an overall response rate of 11%. After performing data screening and cleaning procedures, I determined 203 responses to be usable for data analysis and hypotheses testing.

Data Cleaning and Screening

Data inconsistencies reduce the power of statistical tests, increase chances of violations of assumptions, misestimating of parameter estimates, and Type I and Type II errors (Myers, 2011; Osborne, 2013). I conducted data screening to identify duplicate cases, missing data, and extreme scores. First, I performed a missing value analysis (MVA) to determine the volume of missing values. Missing values accounted for 29.6% of the values in the dataset. Second, I reviewed each variable in the dataset for data discrepancies and worked to resolve each discrepancy using other information in the

dataset. Third, I removed cases with a consent selection of *no* (11), high volume of missing values (80), participant exclusion criteria (registration of 2015 [15] and not registered for contracts [9]). For high volume of missing values, I deleted cases where respondents skipped through the entire survey, or where missing values accounted for more than 30% of the case. Fourth, I conducted a second iteration of MVA, and my cleaning procedures minimized the volume of data missingness to 2.6%. This level of missingness was suitable to perform missing values replacement.

To replace missing values, I used series mean substitution in SPSS. A standard method for replacing missing values, mean substitution is a viable method in situations of low levels of missingness. Myers (2011) and Osborne's (2013) concerns about potential data bias resulting from high volumes of missing values and choice of strategy for missing value replacement were evident in my assessment of test assumptions and subsequent data analysis outcomes. I provided further detailed discussions of test assumptions and associated hypothesis testing in later sections.

Test Assumptions

Reporting tests of assumptions and actions taken to address violations are central to understanding research outcomes and improving replicability of the research (Osborne, 2013; Rovai et al., 2013). There were no violations of assumptions of independent observations, which I mitigated with data collection by survey questionnaire. There were violations of assumptions of normality and the presence skewness and kurtosis among dependent variable distributions (i.e., firm performance [FP], contract revenue [CONTR], and contract bid to win rate [CONTBWR]). To address moderate to severe presences of

deviations to variable normality, I tested logarithmic and square root transformations and deleted extreme and mild outliers to improve the tenability of skewness and kurtosis. In the cases of firm performance (Figure 5) and total contract revenue (Figure 7), the removal of four extreme outliers, and the multiple of occurrences of 11 mild outliers, were more efficient than the data transformations. For contract bid to win rate, the square root transformation (CONTBWR_Sqrt) (Figure 9) provided the most suitable output for normality.

There were no violations of assumptions of multivariate normality. The combination of IG, ID, and RSP variables did not affect the normality of the MO variable. The MKTB, CI, TTB, and GCR variables did not affect the normality of the MKF variable. I detected no violations of assumptions of linearity, multicollinearity, and homoscedasticity in correlation coefficient and scatterplot outputs for both predictor and outcome variables. I used residual statistics outputs to identify other possibilities of outliers and multicollinearity (e.g.,. tolerance factors lower than .10, variance inflation factors above 10, Mahalanobis distance, and Cook's distance greater than 1). Based on the residual statistics and casewise diagnostics, I detected three additional outliers (slightly beyond three standard deviations from the mean), which did not have any influence on the model. In all data analysis involving market orientation and market factors, I removed the MO and MKF variables from models that contained their associated subscale variables (i.e., IG, ID, and RSP; MKTB, CI, TTB, and GCR). There were violations of assumptions of normality in the dependent variables firm performance, total contract revenue, and contract bid to win rate. Therefore, the reader should consider

the interpretation of data associated with these variables with caution. My data analysis included the use of bootstrapping of 2000 samples with a 95% confidence interval due to the potential influence of assumption violations. I noted considerations for bootstrapping where appropriate. Figures 5 through 10 contain the scatterplot and P-P plots of the three outcome variables in firm performance, total contract revenue, and contract bid to win rate.

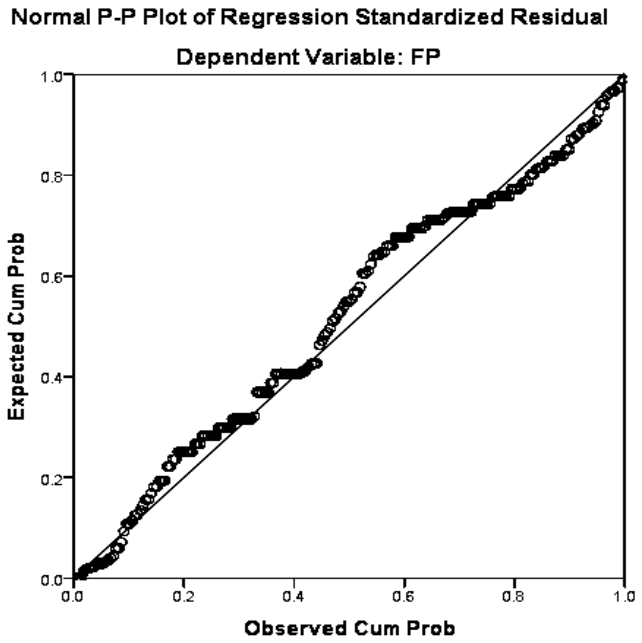

Figure 5. Normality Probability Plot of the regression standardized residual (FP).

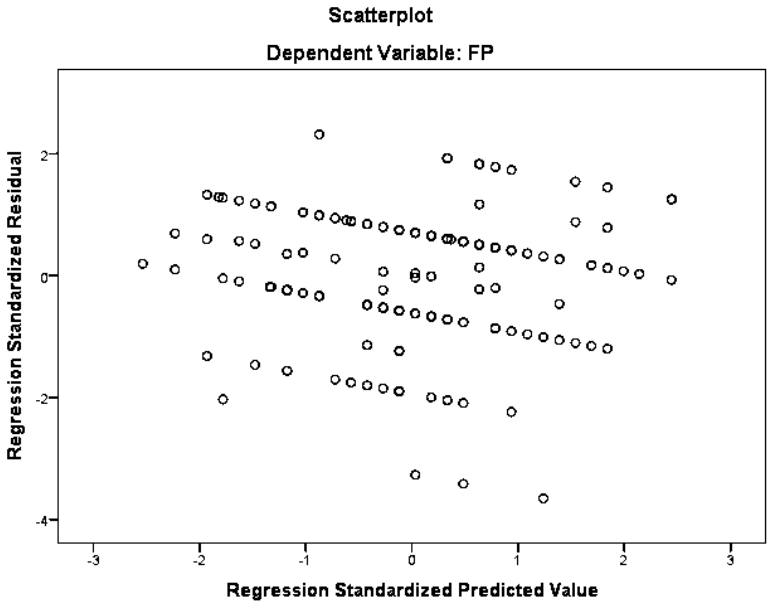

Figure 6. Scatterplot standardized residual (FP).

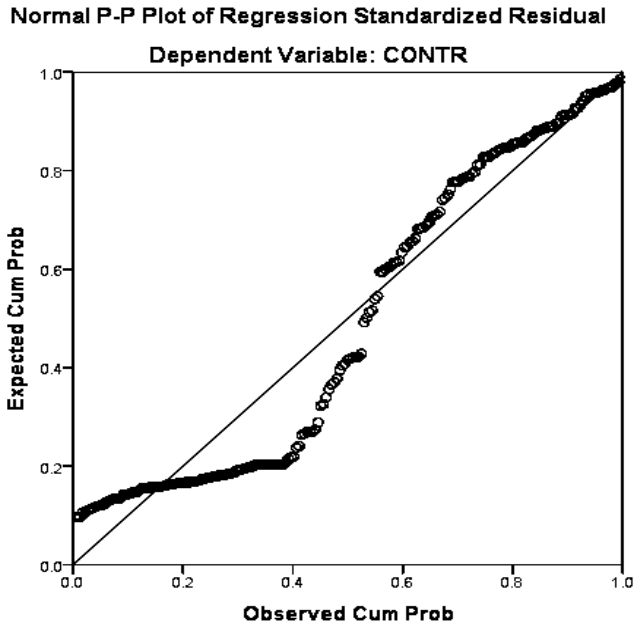

Figure 7. Normality Probability Plot of the regression standardized residual (CONTR)

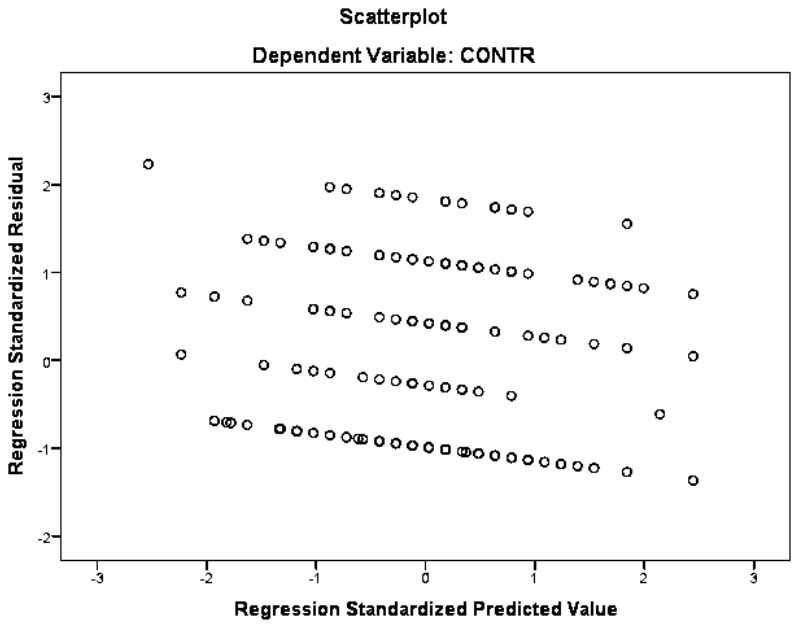

Figure 8. Scatterplot standardized residual (CONTR).

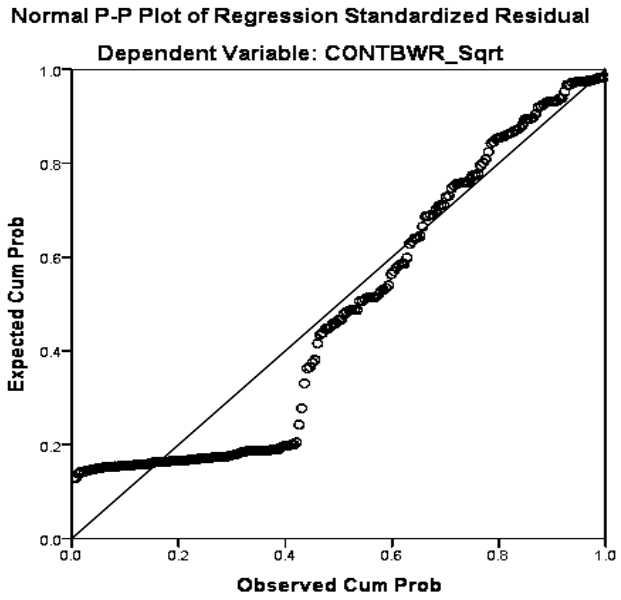

Figure 9. Normality Probability Plot of the regression standardized residual (CONTBWR_Sqrt).

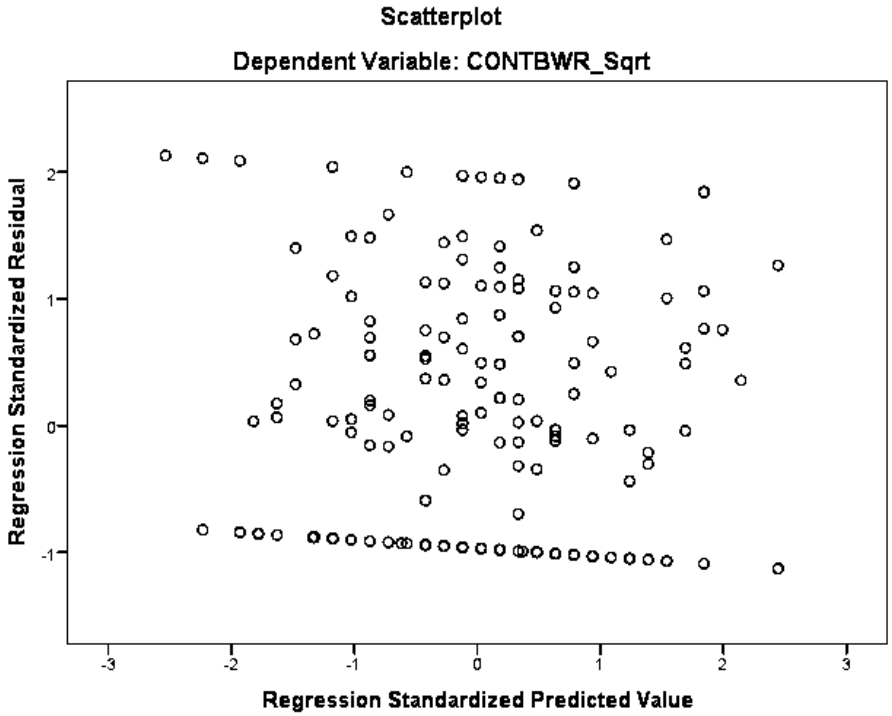

Figure 10. Scatterplot standardized residual (CONTBWR_Sqrt).

Descriptive Statistics

I surveyed 3,030 VOSBs registered for government contracts using a 34-item questionnaire. I used these items to examine the presence of market orientation and market factors as each relates to measures of business performance. Table 4 is a list of study variable descriptives derived from questions in the study survey.

Table 4.

Variable Descriptives Mean (M) and Standard Deviation (SD)

Study Variables	M	SD	Bootstrap – 95% CI (Lower - Upper)
Market Orientation (MO)	43.7960	6.62806	(42.9029 - 44.7185)
Market Factors (MKF)	62.7186	5.66687	(61.9293 - 63.5539)
Market Turbulence (MKTB)	13.9138	2.80629	(13.5242 - 14.2896)
Competitive Intensity (CI)	19.5376	2.57915	(19.1567 - 19.9069)
Technological Turbulence (TTB)	13.0334	1.97130	(12.7618 - 13.2940)
Government contracting Regulation (GCR)	16.2338	3.09357	(15.7937 - 16.6502)
Firm Performance (FP)	6.9263	1.58191	(6.7080 - 7.1419)
Contract Revenue (CONTR)	2.3990	1.42932	(2.1972 - 2.6108)
Contract Bid to win Rate (CONTBWR_Sqrt)	0.3303	0.34087	(0.2831 - 0.3790)
Years in the Government Market (YGM_Grp)	2.1330	1.41930	(1.9704 - 2.2906)

Note. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples.

Research Questions and Hypotheses Testing

To understand the nature of VOSB representation in the government contracting market, I drew from descriptive statistics of organizational characteristics. In furthering an understanding of market orientation in the B2G market, I examined the relationship between VOSBs' market orientation scores and respondents' perceived business performance, the number of years in the market; and the total contract revenue, and contract bid to win rate. I also assessed how competitive intensity, market turbulence, technological turbulence, and government regulation influenced the effect of market orientation on business performance among VOSBs.

Research Question 1

To describe the nature of VOSB representation in the government contracting market, I used 10 survey questions to capture respondents' organizational characteristics. The respondents represented 43 states across the continental United States and included the District of Columbia and Puerto Rico. Of the VOSB firms surveyed, 34.5% were less than five years of age, and 35.5% were 5 to 10 years old. As many as 75.4% of the VOSB owners who participated in the study employed fewer than 20 people. One participant employed more than 500 people. Participants reported a combination of VOSB and SDVOSB status, as well as classifications of WOSB, SDB, and HUB Zone small businesses. Of VOSB participants, 46.8% operated within the Professional, Scientific and Technical Services industry. Table 5 is a list of respondents' firm by age group. Table 6 shows the number of employees among VOSB participants. Table 7 is a list of respondent's small business classifications. Table 8 lists VOSB participants by business industry.

Table 5.

Firm Age

Firm Age Group	Frequency	Percent (%)
0 - 4 years	70	34.5
5 - 10 years	72	35.5
11 - 15 years	34	16.7
16 - 20 years	14	6.9
21 or more years	13	6.4
Total	203	100

Table 6.

Number of Employees

Number of Employees	Frequency	Percent (%)
1 - 20 employees	153	75.4
21 - 50 employees	24	11.8
51 - 100 employees	17	8.4
101 - 250 employees	8	3.9
500 - 1000 employees	1	.5
Total	203	100

Table 7.

Small Business Classifications

Small Business Classifications	Frequency	Percent (%)
Service-disabled veteran-owned (SDVOSB)	88	43.3
Veteran-owned (VOSB)	79	38.9
Woman-owned (WOSB)	11	5.4
Small disadvantage (SDB)	22	10.8
Historically-underutilized (HUB Zone)	4	1.9

Table 8.

Primary Small Business Industry

Industry	Frequency	Percent (%)
Construction	24	11.8
Manufacturing	7	3.4
Merchant, Wholesalers	6	3.0
Transportation and Warehousing	4	2.0
Information	6	3.0

(Continued)

Table 8. (Continued)

Primary Small Business Industry

Industry	Frequency	Percent (%)
Finance and Insurance	1	.5
Real Estate, Renting, and Leasing	2	1.0
Professional, Scientific and Technical Services	84	41.4
Administrative, Support, Waste Management	18	8.8
Educational Services	8	3.9
Health Care and Social Services	5	2.5
None	38	18.7
Total	203	100.0

VOSB participants competed in the B2G market for more than 20 years. Most participants (41.4%), competed for government contracts for up to three years, and 17.7% had been competing for 10 years or more. Of those still competing for 1 to 3 years, 25.1% had not won any contracts. On the other hand, those VOSBs that were successful, 21.7% won their first contract the same year they registered to compete for contracts. As much as 31.5% of study participants experienced a lengthy time of competing for 1 to 3 years before winning their first contract. Table 9 is a list of respondents' firm by the number of years in the government market. Table 10 is a breakdown of the time VOSB participants competed in the B2G market before winning their first contract.

Table 9.

Years in the Government Market

Years Group	Frequency	Percent (%)
0 - 3 years	84	41.4
4 - 6 years	44	21.7
7 - 9 years	39	19.2
10 or more years	36	17.7
Total	203	100.0

Table 10.

Time Until First Contract

Time Until First Contract	Frequency	Percent (%)
Competing 1 to 3 years (No Contract)	51	25.1
Competing 4 to 6 years (No Contract)	6	3.0
Competing 7 to 9 years (No Contract)	5	2.5
Competing 10 years or more (No Contract)	1	.5
Won contract same year registered	44	21.7
Won contract in 1 to 3 years	70	34.5
Won contract in 4 to 6 years	15	7.4
Won contract in 7 to 9 years	8	3.9
Won contract in 10 more years	3	1.5
Total	203	100

The nature of competing for government contracts is also reflective in the total number of contracts won and total contract revenue among VOSBs in the B2G market. For the period of October 1, 2013 to September 30, 2014, 41.9% of VOSB participants won no contracts. A cumulative 44.4% won 1 to 5 contracts. For the period of October 1, 2013 to September 30, 2014, 44.3% of the VOSBs participants earned a total contract revenue of $0 – $25,000. For this period, 65% had a contract bid to win rate of 0% –

20%, whereas 7.4% had a contract bid to win rate of 81% – 100%. Table 11 shows the number of contracts won among study participants. Table 12 displays the contract bid to win rate among study participants. Table 13 displays the total contract revenue among study participants.

Table 11.

The total number of contracts won from October 1, 2013 to September 30, 2014

Number of Contracts	Frequency	Percent (%)
0 contracts	85	41.9
1 – 5 contracts	90	44.4
6 – 10 contracts	18	9.0
11 – 20 contracts	7	3.5
21 or more contracts	3	1.5
Total	203	100

Table 12.

Participants' contract bid to win rate from October 1, 2013 to September 30, 2014

Bid to Win Rate	Frequency	Percent (%)
0 – 20 percent	132	65.0
21 – 40 percent	26	12.8
41 – 60 percent	19	9.4
61 – 80 percent	11	5.4
81 – 100 percent	15	7.4
Total	203	100

Table 13.

The total amount of contract revenue from October 1, 2013 to September 30, 2014

Contract Revenue	Frequency	Percent (%)
$0 - $25,000	90	44.3
$25,001 - $100,000	19	9.4
$100,001 - $500,000	32	15.8
$500,001 - $5million	47	23.2
Over $5million	15	7.4
Total	203	100

Preliminary Correlations

Before further data analysis and hypotheses testing, I conducted an initial review of variable relationships. The initial correlations output showed a positively (weak) significant relationships between MO, FP, and CONTR. There was a positively (weak) significant relationship between MO and MKF. The relationships between MO and CONTBWR and YGM were positive, very weak and nonsignificant. A positive and significant relationship existed between CONTR and FP (very weak), CONTR and CONTBWR (strong), and CONTR and GCR (weak). A positive and significant relationship existed between YGM and CONTR (moderate), YGM and CONTBWR (weak), and YGM and GCR (very weak). Table 14 shows correlation output for study variables.

Table 14.

Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9	10
1. MO	-									
2. MKF	.321**	-								
3. MKTB	.359**	.503**	-							
4. CI	.054	.622**	.042	-						
5. TTB	.175*	.476**	.180*	.118	-					
6. GCR	.107	.554**	-.139**	.188**	-.026	-				
7. FP	.305**	.103	.181**	-.011	.052	.001	-			
8. CONTR	.154*	.046	-.184**	.056	-.041	.230**	.151*	-		
9. CONTBWR_Sqrt	.066	-.012	-.075	-.150*	-.005	.175*	.130	.640**	-	
10. YGM_Grp	.042	.066	-.136	.138*	-.016	.139*	.066	.489**	.376**	-

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples.

Research Question 2

I conducted a multiple regression analysis $\alpha = .05$ (two-tailed) to examine to what extent market orientation relates to business performance in VOSBs. The independent variables were MO, IG, ID, and RSP. The dependent variables were FP, CONTR, and CONTBWR.

The survey instrument contained 13 items measuring market orientation, two items for firm performance, and 19 items to measure market factors on an interval, 5-point Likert-type scale (1-strongly disagree, 2-disagree, 3-neither agree nor disagree, 4-agree, and 5-strongly agree). Each item of measurement contained a score of 1 to 5, whereby a score of 1 represented the lowest value, and 5 represented the highest value. A score of 3 was a neutral option for respondents who were neutral or undecided about a response (Rovai et al., 2013). Each scale and subscale (i.e., market orientation, firm

performance, market factors), was a cumulative score of the associated construct and variable. A higher score suggested a strong and active presence of the associated construct. A lower score indicated a low and negative presence of the associated construct.

There was a maximum overall score of 65 points available for MO, 10 points for FP, 5 points for CONTR, and 5 points for the CONTBWR. There was a minimum score of 27.00, a maximum score of 60.00, and a mean score of 43.80 for MO. There was a minimum score of 2.00, a maximum score of 10.00, and a mean score of 6.93 for FP. There was a minimum score of 1.00, a maximum score of 5.00, and an average score of 2.40 for CONTR. There was a minimum score of 0.00, a maximum score of 1.00, and a mean score of 0.33 for the CONTBWR. Table 15 shows the descriptive statistics for each variable.

Table 15.

Variable Descriptives

Variable	M	SD	Minimum	Maximum	Bootstrap – 95% CI (M) (Lower - Upper)
MO	43.7960	6.62806	27.00	60.00	(42.8664 - 44.6954)
FP	6.9263	1.58191	2.00	10.00	(6.7107 - 7.1370)
CONTR	2.3990	1.42932	1.00	5.00	(2.2118 - 2.5961)
CONTBWR_Sqrt	0.3303	0.34087	0.00	1.00	(0.2831 - 0.3790)

Note. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples.

The null hypotheses were that there is no positive statistically significant correlation between market orientation and firm performance, total contract revenue, and contract bid to win rate in VOSBs. The alternative hypotheses were that there is a

positive statistically significant correlation between market orientation and firm performance, total contract revenue, and contract bid to win rate in VOSBs. I conducted preliminary analysis to assess violations of assumptions of linearity, multivariate normality, homoscedasticity, and multicollinearity. There were violations of assumptions of normality in the dependent variables FP, CONTR, and CONTBWR. Therefore, the reader should consider the interpretation of data associated with these variables with caution.

The Pearson's correlations showed a positively significant correlation between MO and FP. The overall predictive power of the model was significant. The linear combination of MO was significantly related to FP, F (1, 201) = 20.67, $p < .001$. The sample multiple correlation coefficients (adjusted r^2) was .089, indicating that the linear combination of MO accounted for 9% of the variance in FP. Models for this multiple regression analysis showed significance in the independent variable (MO), but the variance and adjusted R^2 measures were too low to conclude sufficient predictor accuracy. The bootstrap coefficients model was also significant. These results provided support to reject the null hypothesis that there is no positive statistically significant correlation between market orientation and firm performance in VOSBs. Figure 11 shows the scatterplot output of the MO and FP relationship. Tables 16 through 18 show ANOVA and coefficient outputs from the multiple regression analysis of the market orientation and business performance relationship.

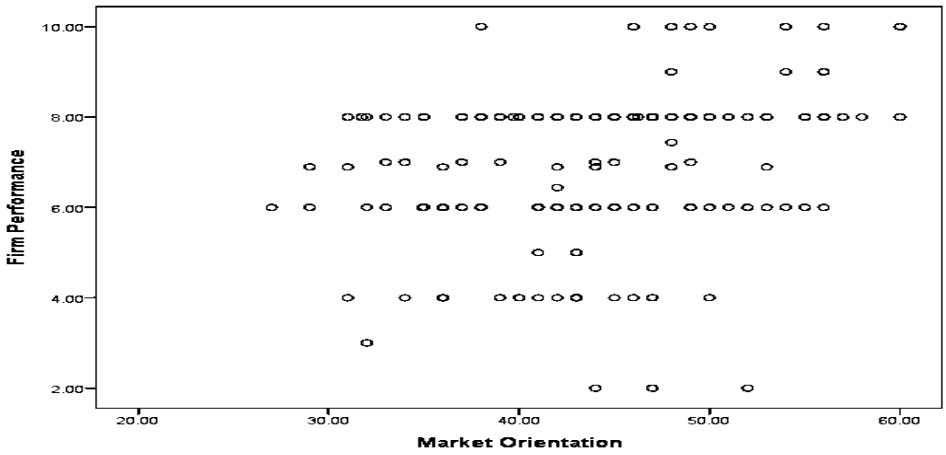

Figure 11. Scatterplot of market orientation and firm performance relationship.

Table 16.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	47.142	1	47.142	20.673	.000[b]
	Residual	458.351	201	2.280		
	Total	505.493	202			

a. Dependent Variable: FP

b. Predictors: (Constant), MO

Table 17.

Bootstrap for Coefficients

Model		B	Bootstrap[a] Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval Lower	Upper
1	(Constant)	3.734	.007	.676	.000	2.407	5.089
	MO	.073	.000	.016	.000	.041	.104

a. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples.

Table 18.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	*t*	Sig.
1	(Constant)	3.734	.710		5.259	.000
	MO	.073	.016	.305	4.547	.000

a. Dependent Variable: FP

The overall predictive power of the model using a set of predictors (i.e., IG, ID, and RSP) was significant; F (3, 199) = 7.99, $p < .001$. The adjusted R^2 of .094 indicated that the linear combination of IG, ID, and RSP accounted for 9% of the variance in FP. In the final model, IG and RSP were statistically significant, with IG (beta = .191, p = .017) accounting for a higher contribution in the model than RSP (beta = .182, p = .042). This result suggests that as values of IG and RSP increases so should the values of FP. Market intelligence dissemination did not provide any significant variance in FP. None of the predictors was significant in the bootstrapping output. Tables 19 through 21 show ANOVA and coefficient outputs from the multiple regression analysis of the IG, ID, RSP and FP.

Table 19.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	54.345	3	18.115	7.990	.000[b]
	Residual	451.148	199	2.267		
	Total	505.493	202			

a. Dependent Variable: FP

b. Predictors: (Constant), RSP, IG, ID

Table 20.

Bootstrap for Coefficients

Model		B	Bootstrap[a] Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval Lower	Upper
1	(Constant)	3.401	.008	.730	.000	1.963	4.821
	IG	.141	.006	.081	.084	-.018	.306
	ID	.004	.000	.051	.931	-.094	.105
	RSP	.106	-.004	.062	.090	-.022	.218

a. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples

Table 21.

Coefficients

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	*t*	Sig.
1	(Constant)	3.401	.751		4.528	.000
	IG	.141	.059	.191	2.402	.017
	ID	.004	.044	.009	.100	.921
	RSP	.106	.052	.182	2.049	.042

The Pearson's correlations showed a positively significant correlation between MO and CONTR. The overall predictive power of the model was significant. The linear combination of MO significantly was related to CONTR, F (1, 201) = 4.86, $p < .05$. The sample multiple correlation coefficients (adjusted r^2) was .019, indicating that he linear combination of MO accounted for 2% of the variance in CONTR. Here, models for this multiple regression analysis showed significance in the independent variable (MO), but the variance and adjusted R^2 measures were too low to conclude sufficient predictor

accuracy. The bootstrap coefficients model was also significant. These results provided support to reject the null hypothesis that there is no positive statistically significant correlation between market orientation and total contract revenue in VOSBs. Figure 12 shows the scatterplot output of the MO and CONTR relationship. Tables 22 through 24 show ANOVA and coefficient outputs from the multiple regression analysis of the MO and CONTR relationship.

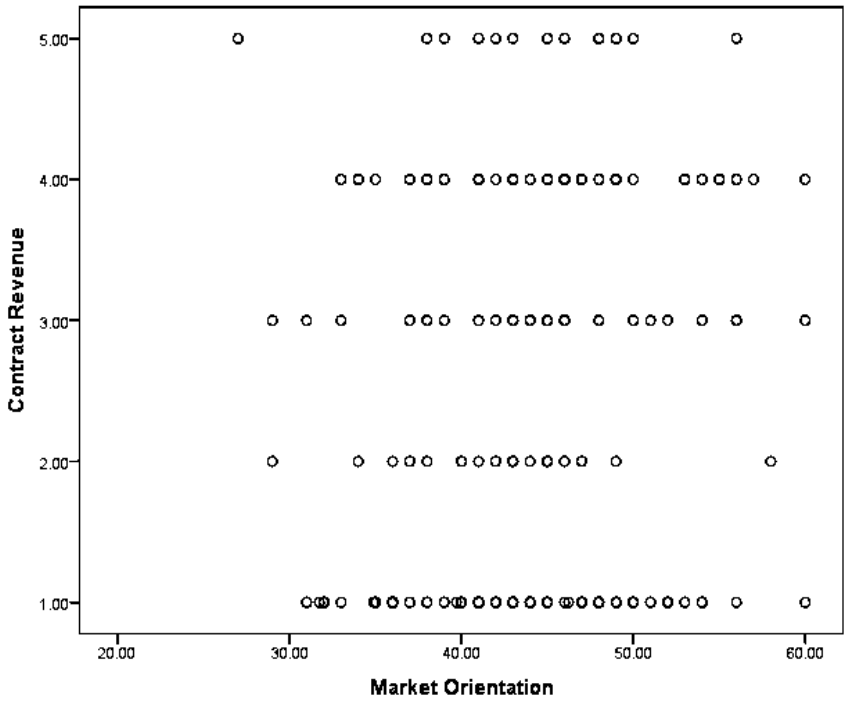

Figure 12. Scatterplot of market orientation and contract revenue relationship.

Table 22.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	9.736	1	9.736	4.857	.029[b]
	Residual	402.943	201	2.005		
	Total	412.680	202			

a. Dependent Variable: CONTR

b. Predictors: (Constant), MO

Table 23.

Bootstrap for Coefficients

					Bootstrap[a]		
					Sig. (2-tailed)	95% Confidence Interval	
Model		B	Bias	Std. Error		Lower	Upper
1	(Constant)	.948	-.001	.649	.140	-.338	2.218
	MO	.033	3.553E	.015	.028	.005	.062

a. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples

Table 24.

Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	*t*	Sig.
1	(Constant)	.948	.666		1.425	.156
	MO	.033	.015	.154	2.204	.029

The overall predictive power of the model using a set of predictors (i.e., IG, ID, and RSP) was not significant; F (3, 199) = 2.18, $p > .05$, $R^2 = .032$. None of the contributions of the predictor variables was significant. Therefore, the model was not useful to make accurate predictions about the linear combination of IG, ID, and RSP

might contribute to outcomes of total contract revenue. Here, poor model fit is potentially a consequence of a high volume of missing values in the survey questionnaire, data discrepancies, and irregularities in participants' characteristics such as significantly low total contract revenue. I discussed factors of poor model fit in more detail in a subsequent section. None of the predictors was significant in the bootstrapping output. Tables 25 through 27 show ANOVA and coefficient outputs from the multiple regression analysis of the IG, ID, RSP, and CONTR.

Table 25.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	13.154	3	4.385	2.184	.091[b]
	Residual	399.526	199	2.008		
	Total	412.680	202			

a. Dependent Variable: CONTR

b. Predictors: (Constant), RSP, IG, ID

Table 26.

Bootstrap for Coefficients

Model		B	Bias	Std. Error	Bootstrap[a] Sig. (2-tailed)	95% Confidence Interval Lower	Upper
1	(Constant)	1.190	-.002	.692	.083	-.169	2.506
	IG	.075	-.001	.056	.172	-.031	.191
	ID	.058	.000	.043	.173	-.033	.141
	RSP	-.026	.001	.049	.589	-.123	.073

a. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples

Table 27.

Coefficients

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	*t*	Sig.
1	(Constant)	1.190	.707		1.684	.094
	IG	.075	.055	.113	1.367	.173
	ID	.058	.041	.128	1.413	.159
	RSP	-.026	.049	-.049	-.534	.594

The Pearson's correlations showed a positive (very weak) and nonsignificant correlation between MO and CONTBWR_Sqrt. The overall predictive power of the model was nonsignificant. The linear combination of overall MO was not significantly related to CONTBWR_Sqrt, F (1, 201) = .868, p > .05. Therefore, the model was not useful to make accurate predictions about the linear combination of how MO might contribute to outcomes of CONTBWR. I did not test the overall predictive power of the linear combination of IG, ID, and RSP. These results provide support to fail to reject the null hypothesis that there is no positive statistically significant correlation between

market orientation and contract bid to win rate in VOSBs. Tables 28 show ANOVA output from the multiple regression analysis of the MO and CONTBWR_Sqrt relationship.

Table 28.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	.101	1	.101	.868	.353[b]
	Residual	23.370	201	.116		
	Total	23.471	202			

a. Dependent Variable: CONTBWR_Sqrt
b. Predictors: (Constant), MO

Research Question 3

I conducted an ANOVA to examine the difference number of years in government market based on the degree of market orientation among VOSBs. The independent variables were the grouped variable YGM_Grp, the number of years in government market (i.e., 0 to 3 years, 4 to 6 years, 7 to 9 years, and 10 years or more), while the dependent variable was MO scores. Table 29 shows the descriptive statistics for scores on each variable. Table 30 shows variable descriptives based on each YGM_Grp group.

Table 29.

Variable Descriptives (MO and YGM Scores)

Variable	M	SD	Minimum	Maximum	Bootstrap – 95% CI (M) (Lower - Upper)
MO	43.7960	6.6281	27.00	60.00	(42.8469 - 44.7272)
YGM_Grp	2.1330	1.4193	1.00	4.00	(1.9704 – 2.2906)

Note. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples.

Table 30.

Descriptive Statistics - Dependent Variable: MO

YGM_Grp	Mean	Standard Deviation	N
0 – 3 years	42.9278	6.65763	84
4 – 6 years	44.6591	6.21679	44
7 – 9 years	45.7926	6.23289	39
10 years or more	42.6037	7.07980	36
Total	43.7960	6.62806	203

The null hypotheses are that there is no statistically significant difference in market orientation scores based on the number of years in the government market among VOSBs. The alternative hypothesis was that there is a statistically significant difference in market orientation based on the number of years in the government market among VOSBs. I conducted a preliminary analysis to assess violations of assumptions of normality, equal variance, and independent observations. There were no serious violations of assumptions (see Test Assumptions). Table 31 shows the ANOVA output for MO scores based on YGM_Grp variable.

Table 31.

Tests of Between-Subjects Effects - Dependent Variable MO

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	302.742[a]	3	100.91	2.34	.074	.034
Intercept	351729.661	1	351729.66	8166.06	.000	.976
YGM_Grp	302.742	3	100.91	2.34	.074	.034
Error	8571.360	199	43.07			
Total	398245.837	203				
Corrected Total	8874.102	202				

a. R Squared = .034 (Adjusted R Squared = .020)
b. Computed using alpha = .05

The overall model of the ANOVA test was not significant, F (3, 199) = 2.34, p > .05. The results of the ANOVA indicated no significant difference in MO based on the YGM_Grp, F (3, 199) = 2.34, p > .05. The effect size identified in the Partial Eta Squared output was .034, and indicated no relationship between MO scores and YGM_Grp. Since the F test was not significant, no further analysis through Post hoc testing was necessary. Therefore, the model was not useful to make accurate predictions associated with a firm's MO and the number of years a company competed for government contracts. This result provides support to fail to reject the null hypothesis that there is no statistically significant difference in market orientation based on the number of years in the government market among VOSBs.

Research Question 4

I conducted a multiple regression analysis to examine to what extent might market factors influence the market orientation-business performance relationship in VOSBs.

The independent variables were MO and MKF (i.e., MKTB, CI, TTB, and GCR) while the dependent variables were FP and CONTR. Market turbulence signified rapid changes in customer base, and customer needs and preferences. Competitive intensity alluded to an increased presence of competitive niches, competitive pricing, and other competitive moves in the market. Technological turbulence signified rapid changes in technology and technological breakthroughs. Government contracting regulation alluded to constraints and obstacles, and bureaucracy induced by contracting rules.

I used the PROCESS utility for SPSS to conduct moderator analysis for hypothesis testing. The moderator analysis included FP and CONTR as dependent variables, MO as an independent variable, and MKF, MKTB, CI, TTB, and GCR as moderating variables. I used multiple regression analysis to determine what contribution each market factor may influence the market orientation-business performance relationship. Considering the inclusion of dependent variables FP and CONTR in the moderation models (violations of normality), I set bootstrapping at 2000 samples with a 95% confidence interval due to the potential influence of assumption violations. With this in mind, readers should consider the interpretation of data associated with these variables with caution. Table 32 shows the descriptive statistics for each variable.

Table 32.

Variable Descriptives

Variable	M	SD	Minimum	Maximum	Bootstrap – 95% CI (M) (Lower - Upper)
MO (IV)	43.7960	6.62806	27.00	60.00	(42.8664 - 44.6954)
FP (DV)	6.9263	1.58191	2.00	10.00	(6.7107 - 7.1370)
CONTR (DV)	2.3990	1.42932	1.00	5.00	(2.2118 - 2.5961)
MKF (M)	62.7186	5.66687	47.00	76.00	(61.9293 - 63.5539)
MKTB (M)	13.9138	2.80629	5.00	21.00	(13.5242 - 14.2896)
CI (M)	19.5376	2.57915	14.00	26.00	(19.1567 - 19.9069)
TTB (M)	13.0334	1.97130	8.00	17.00	(12.7618 - 13.2940)
GCR (M)	16.2338	3.09357	7.00	20.00	(15.7937 - 16.6502)

Note. Unless otherwise noted, bootstrap results are based on 2000 bootstrap samples.

The null hypotheses are that market factors positively moderate the effect of market orientation on business performance among VOSBs. The alternative hypothesis was that market factors negatively moderate the impact of market orientation on business performance among VOSBs. I conducted a preliminary analysis to assess violations of assumptions of linearity, multivariate normality, homoscedasticity, independent observations, and multicollinearity. There were no serious violations of assumptions among the independent variables.

Pearson's correlation coefficient matrix (see Table 14) revealed a positively (weak) significant relationship between MO and FP. The results of a multiple regression analysis with PROCESS moderation utility showed a significant and positive influence of (combined) MKF on the MO and FP relationship. Table 33 shows outputs from the moderation analysis and conditional effects of MO on FP and CONTR at different levels

of market factors moderation, at a 95% confidence level. Appendix K and L contains the complete PROCESS Moderation outputs for MO, FP and CONTR, and MKF.

Table 33.

PROCESS Output of Moderation Analysis and Conditional Effects (MO, FP, CONTR)

Factor	Model Sig. (*p*)	Int_MO Sig. (*p*)	Low Effect – Sig. (*p*)	Med Effect – Sig. (*p*)	High Effect – Sig. (*p*)
MO-FP					
MKF	.0002	.6401	.0628 - .0144	.0723 - .0001	.0817 - .0044
MO-CONTR					
MKF	.1910	.8501	.0366 - .1051	.0335 - .0366	.0303 - .2033

Note. Table reconstructed from SPSS PROCESS outputs for firm performance and total contract revenue. Values for quantitative moderators are the mean and plus/minus one SD from the mean. Values for dichotomous moderators are the two values of the moderator. The level of confidence for all confidence intervals in output: 95.00.

For MO and FP, the overall predictive power of the model was significant; F (3, 199) = 7.05, $p < .001$, $R^2 = .094$. The interaction of MO and MKF was not significant; F (1, 199) = .30, $p > .05$. At low levels of MKF (when a combination of all factors are present) (57.05) (M), the effect of MO (X) on FP (Y) was positive and significant (beta = .0628, p = .0144). At average to medium levels of MKF (62.72; an increase in market factor scores), the effect of MO on FP was positive and significant (beta = .0723, p = .0001). At high levels of MKF (68.39), the effect of MO on FP was positive and significant (beta = .0817, p = .0044). The conditional effects output showed that as levels of combined MKF increased, there was a positive and significant increase in the effect of MO and FP relationship (strengthening the relationship). The results of the moderation analysis provide support to fail to reject the null hypothesis that market factors positively moderate the effect of market orientation on business performance among VOSBs.

For MO and CONTR, the overall predictive power of the model was nonsignificant; F (3, 199) = 1.60, $p > .05$, $R^2 = .024$. The interaction of MO and MKF was nonsignificant; F (3, 199) = .15, $p > .05$. At low levels of MKF (when a combination of all factors are present in the market) (57.05), the effect of MO on CONTR was negative and nonsignificant (beta = .0366, p = .1051). At average to medium levels of MKF (62.72; an increase in market factor scores), the effect of MO on CONTR was negative and significant (beta = .0335, p = .0336). At high levels of MKF (68.39), the effect of MO on CONTR was negative and nonsignificant (beta = .0303, p = .2033). The conditional effects output showed that as levels of MKF increased, there was a decrease in the effect of MO and CONTR relationship, and the effect was significant only at medium levels of MKF (weakening the relationship). While the data showed that combined MKF had a negative conditional effect on the MO-CONTR relationship, the model was not useful to make accurate predictions about the influence of combined MKF on the MO-CONTR relationship. Statistical tests (nonsignificant) did not provide sufficient evidence (inconclusive) to neither reject the null hypothesis nor accept the alternative hypothesis. Therefore, the results of the moderation analysis provided support for a hypothesis decision to fail to reject the null hypothesis that market factors positively moderate the effect of market orientation on total contract revenue among VOSBs.

Single factor moderation. In the single factor moderation analysis of MO and FP, all models were statistically significant. For MKTB, the interaction with MO was nonsignificant, and as levels of MKTB increased (i.e., rapid changes in customer needs), the relationship (effect) between MO and FP decreased or weakened. Low levels of

MKTB were nonsignificant. For CI, the interaction with MO was nonsignificant, and as levels of CI (i.e., competitive pricing and competitive moves) increased, the relationship between MO and FP significantly decreased or weakened. Like MKTB, for TTB, the interaction with MO was nonsignificant, and as levels of TTB (i.e., technological changes and breakthroughs) increased, the relationship between MO and FP significantly increased or strengthened. Like CI, for GCR, the interaction with MO was nonsignificant, and as levels of GCR (i.e., contracting regulation constraints and obstacles) increased, the relationship between MO and FP significantly decreased or weakened. Table 34 shows the PROCESS output for single factor moderation on market orientation and firm performance.

Table 34.

PROCESS Moderation: MO and FP (Single Market Factor)

Factor	Model Sig. (*p*)	Int_MO Sig. (*p*)	Low Effect – Sig. (*p*)	Med Effect – Sig. (*p*)	High Effect – Sig. (*p*)
MKTB	.0000	.0550	.0405 - .0610	.0674 - .0001	.0942 - .0000
CI	.0002	.5886	.0811 - .0002	.0728 - .0000	.0645 - .0051
TTB	.0002	.6448	.0652 - .0060	.0725 - .0000	.0798 - 0004
GCR	.0001	.4073	.0904 - .0006	.0760 - .0000	.0615 - .0053

Table reconstructed from SPSS PROCESS Moderation outputs for market orientation and firm performance.

In the single factor moderation analysis of MO and CONTR, only two of the models were statistically significant (MKTB and GCR). For MKTB, the interaction with MO was nonsignificant, and as levels of MKTB increased (i.e., rapid changes in customer needs), the relationship (effect) between MO and CONTR significantly increased or strengthened. For CI, the interaction with MO was nonsignificant, and as levels of CI (i.e., competitive pricing and moves) increased, the relationship between MO

and CONTR decreased or weakened. Only the medium levels of CI were significant. Like CI, for TTB, the interaction with MO was nonsignificant, and as levels of TTB (i.e., technological changes and breakthroughs) increased, the relationship between MO and CONTR decreased or weakened. All levels of TTB were nonsignificant. Like all other factors, for GCR, the interaction with MO was nonsignificant, and as levels of GCR (i.e., contracting regulation constraints and obstacles) increased, the relationship between MO and CONTR decreased or weakened. All levels of GCR were nonsignificant. Table 35 shows the PROCESS output for single factor moderation on market orientation and total contract revenue.

Table 35.

PROCESS Moderation: MO and CONTR (Single Market Factor)

Factor	Model Sig. (*p*)	Int_MO Sig. (*p*)	Low Effect – Sig. (*p*)	Med Effect – Sig. (*p*)	High Effect – Sig. (*p*)
MKTB	.0003	.9570	.0537 - .0071	.0544 - .0006	.0551 - .0082
CI	.1540	.8652	.0349 - .0880	.0324 - .0332	.0300 - .1617
TTB	.1246	.9382	.0370 - .0935	.0358 - .0204	.0347 - 0961
GCR	.0023	.8127	.0325 - .1712	.0287 - .0574	.0250 - .2136

Table reconstructed from SPSS PROCESS Moderation outputs for market orientation and contract revenue.

Scale Reliability

The combined survey instrument for this study included a shorter, 15-item MARKOR scale, and a 19-item market factor scale. I conducted a pilot test to assess participants' accessibility and usability of my survey instrument during the study process, and a field test to improve the reliability of the survey instrument. I used Cronbach's coefficient alphas to assess the internal consistency reliability and validity of the survey

instrument. For the market orientation scale, my assessment of reliability produced alphas of .820 for overall market orientation, .561 for intelligence gathering, .751 for intelligence dissemination, .546 for responsiveness, and .890 for firm performance. Table 36 is a list of Cronbach's alphas for all scales and subscales of the survey instrument.

Table 36.

Cronbach's Alpha and Subscale Reliability

Scale	α	Items	M	SD
Market Orientation	.820	15	3.65	.97937
Intelligence Gathering	.561	4	3.64	1.03154
Intelligence Dissemination	.751	4	3.69	1.02389
Responsiveness	.546	5	3.63	.89842
Firm Performance	.890	2	3.46	.83308
Market Factors	.472	19	3.30	.96331
Market Intelligence	.590	5	2.78	.90912
Competitive Intensity	.201	6	3.26	.95875
Technological Turbulence	.105	4	3.26	.94488
Government contracting Regulation	.711	4	4.06	1.05632

Scale Validity

This study included a validation tool for the MAKOR scale (see Appendix C). The MARKOR Validation Tool (Jaworski & Kohli, 1993) consisted of a statement in the survey, in which respondents described their firm based on the characteristics of two companies (Company A and Company B). Respondents were to distribute 100 points between Company A and Company B as a means of best describing their business. Company A's primary focus was product-oriented and consisted of activities associated

with selling the product and getting the product to market. Company B's primary focus was market-oriented and consisted of needs of the customer and activities related to market orientation.

As many as 131 (64.5%) respondents reported having a Company B, market-oriented focus. The results of this study indicated no statistically significant relationship between market orientation scores and Company B scores. There were no significant differences in market orientation scores between respondents identified with Company A or Company B. Though reliability assessments produced high reliability scores for the market orientation scale (see Table 36), this assessment of scale validity induces a question of whether survey items for this study measure of what the scales intended to measure.

There are factors that might contribute to the presence of low internal consistency reliability and the content validity of the study instrument. In addition to questioning whether a scale is a good measure of the construct, inconsistency in inter-item correlations can be a factor (Boslaugh, 2013, Rovai, et al., 2013). That is, whether the four items in a subscale such as Technological Turbulence, all measure the same thing. Measurement error is another factor, which might have influenced data responses in this study. Contributors to measurement error are personal factors (i.e., fatigue, attitude, and skipping through questions), and situational constraints (i.e., time of day and data collection variations) (Osborne, 2013; Rovai, et al., 2013). Other factors include nonresponse bias; unwillingness to participate in the research, and response bias; unwillingness or inability to respond truthfully (i.e., question ambiguity, recalling

historical events, creating an impression, and always answering positively) (Osborne, 2013; Rovai, et al., 2013).

Relationship to Current Knowledge

Cooper (2008) tested and revealed the presence of market-oriented activities among small businesses in the government contracting market. Existing literature fostered an understanding that the market orientation construct can be of value to the company development and marketing capabilities for small businesses (Boohene et al., 2012; Cooper, 2008; Kajalo & Lindblom, 2015). My objectives were to extend existing knowledge regarding market orientation strategy and the applicability of the strategy in the B2G market. For the VOSB owner, I hoped to further understanding of how market orientation and market factors might contribute the development of effective market strategies fit for the government contracting market. The outcomes of my study, in turn, would provide a strategic model by which VOSB owners might improve the economic prosperity, competitive posture, and survivability of VOSBs in the B2G market. Table 37 is a summary of study outcome.

Table 37.

Summary of Study Outcomes

Hypotheses	Supported or Not Supported	Outcome
(RQ2) H1: There is a positive statistically significant correlation between market orientation and business performance, total contract revenue, and contract bid-win rate in VOSBs.	Partial Support	a. There is a positive statistically significant correlation between market orientation and firm performance in VOSBs. b. There is a positive statistically significant correlation between market orientation and total contract revenue in VOSBs. c. There is no positive statistically significant correlation between market orientation and contract bid-win rate in VOSBs.
(RQ3) H2: There is a statistically significant difference in market orientation based on the number of years in the government market among VOSBs.	Not Supported	There is no statistically significant difference in market orientation based on the number of years in the government market among VOSBs.

(Continued)

Table 37. (Continued)

Summary of Study Outcomes

Hypotheses	Supported or Not Supported	Outcome
(RQ4) H3: Market factors negatively moderate the effect of market orientation on business performance among VOSBs.	Partial Support	a. Market factors (combined) positively moderate the effect of market orientation on firm performance among VOSBs. b. Market factors (combined) negatively moderate the effect of market orientation on total contract revenue among VOSBs (overall model nonsignificant-inconclusive). c. Market turbulence and technological turbulence positively moderated the effect of market orientation on firm performance. Competitive intensity and government-contracting regulation negatively moderated the effect of market orientation on firm performance. d. Market turbulence positively moderated the effect of market orientation on total contract revenue. Technological turbulence, competitive intensity, and government-contracting regulation negatively moderated the effect of market orientation on total contract revenue (only market turbulence and government-contracting regulation models were significant).

By extending professional knowledge and practice, I endeavored to examine the relationship between market orientation and business performance with consideration of performance measures associated with the B2G market (i.e., contract revenue and contract bid to win rate among the veteran-owned small business group. I also considered how market factors (i.e., market turbulence, competitive intensity, and technological turbulence) might influence the presence of market orientation, with the development of a scale to measure government contracting regulation as a possible market factor. I set out to describe to VOSB population, examine the relationship between market orientation, business performance measures, and years in the government market, and the influence of market factors.

Where authors suggested, small businesses often employed fewer than 20 people (SBAOA, 2012b), 75% of VOSBs participants for this study employed 1-20 people. The VOSB group faced common challenges highlighted in government contracting literature. As Amtower (2011) noted that in recent years, small businesses experienced lengthy times to first contract and less than $25,000 in contract revenue, this is reflective of the VOSB group. As many as 44% of VOSB respondents earned less than $25,000 in contract revenue while 21.5% have been competing for 1-3 years and won no contracts. With somewhat of a surprise, 22% won their first contract the same year the firm registered for the government market. On the other hand, a cumulative 47% took 1-10 years to win their first contract. Sixty-five percent won less than 20% of the bids submitted for available contracts while 42% won no contracts during FY2014. The VOSB experiences in this study closely associated with underlying themes of disproportionate contract awards, poor business performance, and small business failures, as highlighted in previous small enterprise and government contracting studies (Bublak, 2013; Hope et al., 2011; Middleton, 2013; SBAOA, 2012a; Smith, 2009).

A positive and significant relationship exists between market orientation, firm performance, and total contract revenue among VOSBs. This relationship is evident in market orientation literature, and consistent with premises established by Cooper (2008). As many as 65% of VOSBs surveyed scored medium to high on the market orientation scale, a further testament to the presence of market-orientated practices in the B2G market. A key finding from this study is that market orientation strategy is relative to total contract revenue. There was no statistically significant difference in market

orientation scores based on the number of years a firm competed for government contracts. Like firm performance, this finding was also consistent with those of Cooper (2008). Despite not finding a statistically significant relationship between market orientation and contract bid to win rate, and number of years in the government market, there are potential contributing factors cited in existing literature (Apte et al., 2011; Lynch et al., 2012; McKevitt & Davis, 2013; Middleton, 2013). Limited strategic choices, resources, and capabilities (Lynch et al., 2012; McKevitt & Davis, 2013), contracting officials' sourcing decisions (Apte et al., 2011), and political, socioeconomic influence (Bublak, 2013; Middleton, 2013) are all factors that affect contracting outcomes for VOSB owners.

I found market factors (combined) positively and significantly moderated (strengthened) the relationship between market orientation and firm performance in VOSBs. The combination of market factors included market turbulence, competitive intensity, technological turbulence, and government contracting regulation. For total contract revenue, the overall model was nonsignificant; market factors negatively moderated (weakened) the relationship between market orientation and total contract revenue, and were only significant at medium levels.

Consistent with market orientation literature, I found mixed results for single market factor influence on market orientation and business performance outcomes (Abebe & Angriawan, 2014; Johnson et al., 2012; V. Kumar et al., 2011; Terawatanavong et al., 2012). At low to high levels of market turbulence and technological turbulence, the market orientation-firm performance relationship increased,

while decreasing at low to high levels of competitive intensity and government contracting regulation. For market orientation and total contract revenue, at low to high levels of market turbulence, the market orientation-total contract revenue relationship increased, while decreasing across low to high levels of competitive intensity, technological turbulence, and government contracting regulation. Johnson et al. (2012) found competitive intensity to be significantly negative or weakened the relationship between market orientation and business performance outcomes in small firms. V. Kumar et al. (2011) found different results in that competitive intensity positively moderated or strengthened the relationship market orientation and business performance outcomes. Only the market turbulence and government contracting regulation models were significant for market orientation and total contract revenue.

Like firm performance, the market orientation and contract revenue relationship increased at low to high levels of market turbulence, while decreasing at low to high levels of competitive intensity and government contracting regulation. Unlike the outcome of firm performance, technological turbulence reduced the relationship between market orientation and contract revenue. Like V. Kumar et al., Abebe and Angriawan (2014), and Terawatanavong et al. (2012) found technological turbulence positively and negatively moderated the relationship between market orientation and various business performance outcomes in small firms. Grewal et al. (2013) suggested that mixed findings were due to not accounting for the interaction of all possible sources of moderation. A key finding and addition to business knowledge from this study are that government-contracting regulation is a possible market factor that shapes competitive landscape and

influence performance outcomes in the B2G market. Items and scale developed to measure for government contracting regulation were reliable.

Relationship to Theoretical Framework

My study drew from the theoretical framework of R-A. Central tenets of R-A theory are compatible with the behavioral constructs of market orientation strategy (Golicic et al., 2012; Hunt, 2011a). This theory is optimal in explaining the relationships between market orientation, firm performance, total contract revenue, and contract bid to win rate, and the influence of market factors on the market orientation-business performance relationship. Key tenets of R-A theory were organizational resources, and the competitive environment (Bicen & Hunt, 2012). First, through organizational resources, firms establish a competitive advantage to realize superior financial performance (Hunt, 2012b). Second, environmental factors influence the competition process and economic performance (Bicen & Hunt, 2012).

For the tenet of organizational resources, I found an alignment with a positive and significant relationship between market orientation and firm performance and total contract revenue among VOSBs. I found no relationship between market orientation and contract bid to win rate. Grewal et al. (2013) believed the success of market orientation on performance might vary from firm to firm because a company's size does not denote a corresponding volume of resources. When limited, resources can amplify small business challenges in the B2G market (Woldesenbet et al., 2012). Wei, Zhao, and Zhang (2014) suggested competing resources for market orientation might hinder the achievement of desired performance goals. Smith (2009) argued the survival of SDVOSBs in

government markets requires human and informational resources. Middleton (2013) asserted that financial, human, and organizational resources might improve the success of SDVOSBs in the government contracting market. S. Hunt and R. Morgan postulated that through an R-A lens, the success of market orientation depends on the firm's internal commitment to information gathering to know its customers and competitors, and external responses to changes in customer preferences and competitor actions (Hunt, 2012b).

For the tenet of environmental factors, I found that a combination of market factors and single factor analysis both positively and negatively moderated the market orientation-firm performance relationship. Scholars proposed the need to account for environmental externalities such as customers, competitors, regulation, and social and political influences (Gagnon et al., 2013; Miles, 2014; Resh & Marvel, 2012; Shukla & Shukla, 2014). The market factors in this study accounted for market turbulence (rapid changes in customer base, and customer needs and preferences); competitive intensity (an increased presence of competitive niches, competitive pricing, and other competitive moves in the market); technological turbulence (rapid changes in technology and technological breakthroughs); and government contracting regulation (constraints and obstacles, and bureaucracy induced by contracting rules). Grewal et al. (2013) posited that mixed findings for market orientation, business performance, and market dynamics were due to other possible sources of moderation (i.e., firm size, resources, type of performance objectives, and market factors). V. Kumar et al. (2011) suggested market orientation strategy might help firms navigate turbulent times. The results of my study

showed that common environmental factors (i.e., market turbulence, competitive intensity, technological turbulence), along with government contracting regulation, influence the competitive process and economic performance; and have public policy implications for VOSBs competing in the B2G market.

Applications to Professional Practice

With limited knowledge of market orientation strategy and government contracting, small business owners may benefit from further understanding the use market-orientated activities to improve business performance and win contracts. Notwithstanding concerns for statistical modeling, the results of this study show that VOSBs in the government contracting market are performing market-orientated activities. Despite a lack of validity in market orientation scoring and business classifications, a majority of study respondents classified their firm as being market-oriented, and customer focused. There was a positive and statistically significant relationship between market orientation, firm performance, and total contract revenue among VOSBs, suggesting an association with a government contracting performance measure in total contracting revenue. The results of this study provide VOSB owners with further evidence that their existing market-oriented activities relate to business performance, but this relationship alone is not significant enough to ensure business success when implementing a market orientation strategy. The results of this study also suggests small business owners should not limit or waste resources on market orientation as a single source of strategic focus to win government contracts.

The study results showed no statistically significant relationship between market orientation and contract bid to win rate and put forward the potential for other factors that may contribute to bid to win outcomes in the government contracting market. There was no statistically significant difference in market orientation scores in the number of years VOSB owners competed in the B2G marker, suggesting no clear determination of whether a firm's market orientation declined or improved in the long-run. As V. Kumar et al. (2011) suggested, as more small businesses in the B2G market become market-oriented over time, such relationship might become nonsignificant. V. Kumar et al. added that market factors might contribute the diminishing effects of market orientation. Lynch et al. (2012) asserted that a firm that becomes over-reliant on a single orientation might threaten long-term firm success. The results of this study further add to the body of knowledge in showing how government contracting regulation might decrease or weaken the effect of market orientation strategy on firm performance and contract revenue outcomes among VOSBs. Government agencies and policy makers may gain further understanding of small business challenges, and as well as government contracting regulations being an impediment to small business success in the B2G market.

Implications for Social Change

The award of government contracts to small business groups is a major catalyst in the sustainment of the economy in the United States. Implications for social change include consideration for the development of alternative market strategies, changes in contract policy and socioeconomic initiatives, and small business training programs. The

outcomes of this study provided a holistic view of the business problem and challenges small businesses face while competing for government contracts. Existing activities associated with a market orientation strategy are not enough to ensure small business success when competing for government contracts. Veteran-owned small business owners should not continue to commit resources to variables in this study (i.e., market orientation, total contract revenue, and contract bid to win rate), and use the results of this study to develop alternative market strategies.

Practitioners, policy makers, and advocacy groups may gain knowledge from my study to help address the influences of policies and practices that may impede the success of small businesses and government socioeconomic initiatives. There is also potential for the development of alternative market-focused training programs (starting with existing market-oriented activities and success factors), and favorable contracting regulations to aid veteran-owned small businesses owners in capturing more opportunities and winning more government contracts.

Recommendations for Action

The small business community must recognize the relevance of market strategies in the government contracting market. The results of this study are further evidence that many small business owners are already performing market-oriented activities, with few seeing corresponding success. Veteran-owned small business owners should give attention to existing market-oriented activities and the nuances of government contracting regulation, but not limit resources to a market orientation strategy. Small business owners

need to consider other variables, and other strategic capabilities and orientations, which may impede or improve performance outcomes in government contracting markets.

Government agencies and small business advocacy groups should pay attention to VOSB organizational characteristics from this study. Practitioner and policy makers should give attention to the disproportionate business performance outcomes during the study period (i.e., the number of contracts won, and total contract revenue), and the multiple socioeconomic classifications of most VOSBs. The presence of multiple, socioeconomic classifications for one firm, creates a conflict in how agencies might count contract awards for a particular small business group. Government entities must also recognize government contracting regulation as a contributing market factor that hinders small business strategy implementation and reduces the potential for business owners to capture more opportunities and win more government contracts.

Recommendations for Further Study

Limitations of this study included a quantitative method and correlational design, with veteran-owned small business groups competing for government contracts at the federal level in the United States during FY2014. In addition to established study limitations, data collection outcomes and poor statistical modeling induced significant cautionary considerations for further studies involving market orientation strategy, government contracting markets, and the small business population. With this in mind, I recommend three considerations for further research.

First, multiple regression models for this study were of poor fit, rendering insufficient predictive power and inconclusive hypothesis testing. Notable contributing

factors included data bias from an extremely high volume of missing data in survey responses, high count in data outliers, and limitations of missing values replacement techniques, resulting in problematic variable distributions. Other factors were the absence of other important variables in the model, and not having accurate or correct items and scaling for variables used in the study.

Second, I recommend future research include new variables to strengthen the predictive accuracy and usefulness of regression models. Further quantitative studies may consider alternative statistical modeling and other market orientation scales (i.e., MKTOR and MORTN). Future studies should include the examination of other small business groups or regions in the B2G market (i.e., woman-owned, small disadvantaged, historically underutilized zones small businesses, and one of 10 SBA small business regions).

Third, exploratory qualitative studies may provide business owners and practitioners further understanding of the business problem, and other variables, business practices, and success factors associated with developing and implementing a market orientation strategy in B2G markets. Longitudinal studies may provide practitioners and government agencies an understanding of how a firm's market strategy and business performance might change during a fiscal year. Particularly, to look at differences in performance during times of external influences such as sporadic changes in contracting regulations, and budgetary implications during the first and fourth quarter of the fiscal year, or across an entire business cycle.

Reflections

As a government contracting official, I have an understanding of the small business experience and the decisions that go into what firm receives a contract award. The government contracting experience is often a sensitive subject for small business owners. For this research project, I wanted to focus on increasing knowledge to improve the small business experience. Since this study involved surveying small business owners, I was concerned that I would not receive enough survey responses; that some respondents would not participate due to my professional occupation as a contracting official and others may not answer questions truthfully. There were also concerns about focusing on my research objectives, and not injecting my personal reservations into the research process. I set out to maintain a process of openness and transparency.

In using an online platform like Survey Monkey, I was able to avoid the possibility of influencing potential participants' decisions to participate in the study. After sending survey invitations, I received emails regarding participants' interest in my research, well wishes, and study members wanting to share a particular experience related to a government contract. Dealing with a high volume of missing values across survey responses was my greatest challenge. While data discrepancies affected subsequent data analysis, through this process, I gained considerable knowledge and confidence in dealing with quantitative data and associated statistical analysis.

My study experience taught me three important things. First, to be aware of my personal biases and reservations about possible study populations or outcomes. Second, to remain objective; to focus on my research goals, and to answer my research questions.

Third, to tell the story, to present data as is, and the potential knowledge gained from the results. Given the outcome, I believe veteran-owned small business owners would benefit greatly from a further understanding of factors that make them successful in the government contracting market.

Summary and Study Conclusions

The purpose of this study was to examine the relationship between market orientation and business performance, and the influence of market factors among VOSBs in government markets. The independent variables were market orientation, and market factors (i.e., competitive intensity, market turbulence, technological turbulence, and government contracting regulation). The dependent variables were firm performance, total contract revenue, and contract bid to win rate. The target population was 7,390 VOSB owners registered for government contracts in the United States and outlying territories.

Survey invitations went to 3,030 VOSB owners, resulting in 333 responses received for a response rate of 11%. Data cleaning and screening resulted in 203 usable survey responses. Data analysis was conducted using SPSS statistical software with the PROCESS utility. In some cases, the results of my data analysis provided statistically significant results but lacked the power of predictive accuracy. In other instances, results were statistically nonsignificant and inconclusive. Through a multiple regression analysis, I concluded a positive statistically significant relationship exists between market orientation, firm performance, and total contract revenue among VOSBs in the government contracting market. I found a positive statistically nonsignificant

relationship between market orientation and contract bid to win rate. An analysis of variance showed no statistically significant difference in a firm's market orientation based on a number of years in the government contracting market. Through a moderation analysis using the PROCESS utility, I concluded that the presence of combined and single market factors provided mixed influences on the relationship between market orientation, firm performance and total contract revenue. Poor model fit for multiple regression models contributed to insufficient predictive power for statistically significant results, and inconclusive hypothesis testing.

Small business owners who compete for government contracts in the United States continue to face a multitude of challenges while trying to win contracts. Internally, market orientation and business strategy implementation yield little to no success in achieving desired performances goals. Externally, government policies and contracting regulations are often counterproductive to both the effort of the business owner and the government's socioeconomic initiatives. My goal was to provide business owners and practitioners with information and evidence about market orientation, business performance and market factors specific to government contracting; to aid in policy and market strategy development, that business owners might win more contracts; and improve the competitive advantage and survivability of VOSBs in the government market.

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Appendix A: Permission to Use MARKOR Scale (AMA)

Hello Mr. Moye,

The AMA is happy to grant you permission to use the two articles below. 1) The MARKOR scale published in the following journal article: Bernard J. Jaworski and Ajay K. Kohli (1993), Market Orientation: Antecedents and Consequences, Journal of Marketing, 57, 53-70., and 2) The Validation Tool published in the following journal article: Ajay K. Kohli, Bernard J. Jaworski, Ajith Kumar (1993), MARKOR: A Measure of Market Orientation, Journal of Marketing Research, 30, 467-477 in your doctoral research project. There is no reprint fee at this time. Please keep a copy of this email on file as proof that permission is given.

If you have any questions or additional reprint requests, please let me know. Thanks and good luck with your research.

Brian Thompson
[redacted]

Appendix B: Permission to Use Adapted MARKOR Scale (Cooper)

Good morning,

Ashley

This email confirms you have permission to use my adapted MARKOR Scale in your doctoral study.

Best regards,
Joe Cooper

Joseph G. Cooper, Ph.D.
Florida Institute for Studies and Analysis
[redacted]

Appendix C: Permission to Use Adapted MARKOR Scale (Keelson)

Ashley,

I am grateful for your acknowledgment of my work. Nothing prevents you from using the Scale but also realize that it is adapted as you mention. The pleasure is mine, and if you want the full copy of the article, I will be pleased to forward it to you. I do not want to attach any conditions.

Regards,

Solomon A. Keelson

Appendix D: Permission to Use Government Regulation Lassez-Faire Index

Dear Ashley Moye,

Of course, you can use my data, especially since it is part of the public domain. Anything I published you can use any way you want. Good luck on your project.

Regards,

Frederic L. Pryor
[redacted]

Appendix E: Permission to Access and Use Data at FPDS-NG

Please use the following steps to create a Public User account in the FPDS-NG system:

1. Go to https://www.fpds.gov/fpdsng_cms/

2. Click on the link Register.

3. After clicking on the link Register, click on the second link click here to establish an account that allows you to create reports and retrieve data. This link was for all the public users to create user accounts in the FPDS-NG system.

4. After clicking on the link click here to establish an account that allows you to create reports and retrieve data, you will be taken to the Notice of Disclaimer page. You can just click on the Yes button and the system will take you to the User Identification and Personal Information page.

5. After getting into the User Identification and Personal Information page, you can just fill in your user account information there. The password was case sensitive and will need to have 8 characters, which needs to include at least 1 letter, 1 number, and 1 special character (i.e. @, $, %...etc.). You do not have to mix the uppercase and lowercase letters. You can use all uppercase letters or all lowercase letters.

Thank you,

FPDS-NG Support Desk | Serendipity Now
[redacted]

Appendix F: Field Test

I. Research Instrument Constructs:

Please consider the following questions as you review each of the three market orientation constructs, business performance measure and market factors for content validity:

How does each question measure the construct that it is intended to measure?

Is each item relevant to the federal contracting domain? Would you delete or add any questions?

Would you recommend any changes to the wording to improve the clarity or content of the questions?

Assessment of organizational characteristics:

The ten characteristics/demographic questions:

_____
_____
_____

Assessment of each of the three market orientation constructs (intelligence gathering, intelligence dissemination, and responsiveness) was previously tested and adapted to fit the government market and small business context. Scores for these items are reliable.

The four intelligence generation questions:

_____
_____
_____

The four intelligence dissemination questions:

_____
_____
_____

The five responsiveness questions:

_____
_____
_____

Assessment of each of the three market factors:

The five market turbulence questions:

_____
_____
_____

The six competitive intensity questions:

_____
_____
_____

The four technological turbulence questions:

_____
_____
_____

The four government contracting regulation questions:

_____
_____
_____

II. Performance Construct:

The two performance questions:

_____

The specific performance measures (contract bid to win rate, total contract revenue):

_____

III. Research Questions and Hypotheses:

Research Question 1: What are organizational characteristics of VOSB contracting in the government market?

Research Question 2: To what extent is the market orientation exhibited in VOSBs relate to their business performance?

Research Question 3: To what extent are market orientation scores different among VOSBs based on the number of years in the government market?

Research Question 4: To what extent might market factors influence the market orientation-business performance relationship in VOSBs?

Hypothesis 1: There is a positive statistically significant correlation between the degree of market orientation in VOSBs and their business performance, total contract revenue, and contract bid to win rate.

Hypothesis 2: There is a statistically significant difference in market orientation based on the number of years in the government market among VOSBs.

Hypothesis 3: Market factors negatively moderates the effect of market orientation on business performance among VOSBs.

Appendix G: MARKOR Survey Instrument

Survey Sections
A. Organizational Characteristics
B. Market Orientation
C. Firm Performance
D. Market Factors
E. Validation Tool

A. Organizational Characteristics (ORC)
1. The year the firm was established.
2. Business location-State.
3. The number of employees.
4. The primary small business NAICS code.
5. The year the firm registered for government contracting market.
6. The year you won your first prime contract.
7. The total number of bids proposed from October 1, 2013 to September 30, 2014.
8. The total number of contracts won from October 1, 2013 to September 30, 2014.
9. The total amount of contract revenue from October 1, 2013 to September 30, 2014.
10. Other small business classifications for your firm.

B. Market Orientation (MO)

Questions:	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Intelligence Generation(IG)					
1. We meet with current customers at least annually to assess current performance and find out what products and services they will need in the future.	1	2	3	4	5
2. We do a lot of in-house market research on (a) bid opportunities, (b) Federal customers and (c) competitors including (d) the use of internal databases and subscriptions to information services (equal weighting across a, b, c and d).	1	2	3	4	5

3. We are slow to detect changes in our customer's product or service delivery preferences.	5	4	3	2	1
4. We periodically review, at least annually, the likely effect of changes in our business environment on customers (procurement policy changes and contracting goals).	1	2	3	4	5
Intelligence Dissemination(ID)					
1. We have interdepartmental meetings at least once a quarter to discuss market trends and developments.	1	2	3	4	5
2. Marketing personnel spend time discussing current customers' and prospective customers' future needs with other departments. (Reversed)	1	2	3	4	5
3. When something important happens to a major customer or a major market, the whole company knows about it in a short period.	1	2	3	4	5
4. Data on customer satisfaction are disseminated at all levels in our company on a regular basis.	1	2	3	4	5
Responsiveness(RSP)					
1. For one reason or another, we tend to ignore changes in our customers' product or service needs.	5	4	3	2	1
2. We periodically review our product development efforts and service offerings development to ensure that they are in line with what customers and prospects want.	1	2	3	4	5
3. Several departments get together periodically to plan a response to changes taking	1	2	3	4	5

place in our business environment.					
4. If a major competitor were to launch an intensive campaign targeted at our customers, we would develop, and begin implementing, a response immediately.	1	2	3	4	5
5. We are quick to implement marketing plans. (Reversed)	1	2	3	4	5

C. Firm Performance (FP)

Questions:	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Firm Performance(FP)					
1. Revenue growth performance of the firm last year against the plan. (If a formal plan does not exist, measure revenue growth performance against informal revenue growth objectives established by the CEO of the company).	1	2	3	4	5
2. Profit performance of the firm last year against the plan. (If a formal plan does not exist, measure profit performance against informal profit objectives established by the CEO of the company).	1	2	3	4	5

D. Market Factors (MKF)

Questions:	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Market Turbulence(MKTB)					

1. In our kind of business, customers' product preferences change quite a bit over time.	1	2	3	4	5
2. Our customers tend to look for the new product all the time.	1	2	3	4	5
3. We are witnessing demand for our products and services from customers who never bought them before.	1	2	3	4	5
4. New customers tend to have product-related needs that are different from those of our existing customers.	1	2	3	4	5
5. We cater to many of the same customers that we used to in the past.	5	4	3	2	1
Competitive Intensity(CI)					
1. Competition in our industry was cutthroat. (Reversed)	1	2	3	4	5
2. There are many promotion wars in our industry.	1	2	3	4	5
3. Anything that one competitor can offer others can readily match.	5	4	3	2	1
4. Price competition was a hallmark of our industry.	1	2	3	4	5
5. One hears of a new competitive move almost every day.	1	2	3	4	5
6. Our competitors were relatively weak.	5	4	3	2	1
Technological Turbulence(TTB)					
1. The technology in our industry was changing rapidly.	1	2	3	4	5
2. Technological changes provide big opportunities in our industry.	5	4	3	2	1
3. A large number of new product ideas have been made possible through technological breakthroughs in our industry.	1	2	3	4	5

4. Technological developments in our industry are rather minor.	5	4	3	2	1
Government Contracting Regulation (GCR)					
1. Government contracting regulation has little or no influence on your company.	5	4	3	2	1
2. Senior management spends a lot of time dealing with government contracting bureaucracy.	1	2	3	4	5
3. Government contracting regulations that constrain businesses are minimal.	5	4	3	2	1
4. Government contracting procedures are an important obstacle to starting a business with the government.	1	2	3	4	5

E. MARKOR Validation Scale

Please indicate the degree to which your company resembles the two companies below by distributing 100 points between them. Thus, if your company is primarily like Company A and only remotely like Company B, you might allocate 90 points to Company A and 10 points for Company B.

Company A relies heavily on its sales people to use a variety of selling techniques for getting customers to say "yes." The primary emphasis in the company is on selling. Customer satisfaction is considered important, but the emphasis is on going out and pushing the company's products/services.

Company B does a lot of research to learn the concerns of its customers and responds by developing new products/services and marketing programs. The emphasis is on understanding why customers act and feel the way they do, and exploiting this knowledge. Selling is considered important, but the emphasis is on making products/services that will almost "sell themselves."

Company A:_____points; Company B:_____points (Total = 100 points).

Appendix H: Study Announcement

My name was Ashley Moye, and I am a Doctoral Candidate at Walden University and a contracting officer for the Department of the Army. I am conducting research for my doctoral study, which examines the relationship between market orientation and business performance among veteran-owned small businesses (VOSB) in the government contracting market. The purpose of this announcement is to facilitate community awareness of my research.

My research will measure perceptions and attitudes of the organization's market orientation activities, business performance, and conditions in the government contracting market. A benefit that may arise from study participation may include an improved understanding of how applying market orientation strategy may enhance business performance in government markets. Another benefit may include an improved understanding of how market factors might necessitate a business owner's changes in market strategies to achieve desired performance outcomes.

Participation is voluntary and strictly confidential. At no time will participants need to provide business related or personally identifiable information. I received training on protecting human research participants from the National Institute of Health (NIH) Office of Extramural Research. The Walden University Institutional Review Board (IRB) approved my research study under IRB number 06-25-15-0376732 and it expires June 24, 2016.

The target population for my study is owners and managers of VOSBs registered for government contracts and listed in the Vendor Information Pages (VIP). I will send invitations to as many as 1,800 participants who I will randomly select from the VIP. The survey contains as many as 44 questions and may take 30 minutes to complete. There are no wrong answers to the survey, but accurate assessments of the business and complete responses are important. Some questions require participants to recall the number of bids proposed; the number of contracts won, and total contract revenue for Fiscal Year 2014, which spans October 1, 2013 to 30 September 30, 2014.

Survey invitations for my study will go out on July 13, 2015. The survey will close on July 24, 2015. If you have any questions about my research project, please contact me at [redacted] or [redacted].

Thanks for your time and consideration.

Appendix I: Study Invitation

My name was Ashley Moye, and I am a Doctoral Candidate at Walden University and a contracting officer for the Department of Army. As announced at the Government Market Masters community at LinkedIn.com, you are invited to participate in a study that examines the relationship between market orientation and business performance among veteran-owned small businesses (VOSB) in the government contracting market. This survey measures your perception and attitudes of your organization's marketing orientation activities, business performance, and conditions in the government contracting market.

The survey contains 44 questions and may take 30 minutes to complete. There are no wrong answers to the survey, but accurate assessments of your company and complete responses are important. Some questions require you to recall the number of bids proposed; the number of contracts won, and total contract revenue from October 1, 2013 to September 30, 2014. Your participation in this study is voluntary. This means you will not be treated differently if you decide not to participate in the study. If you complete the survey, you can still change your mind and withdraw from the survey by July 24, 2015, which is the survey closing date.

Your participation is strictly confidential. At no time will you need to provide personally identifiable information. One benefit that may arise from your participation may include an improved understanding of how applying market orientation strategy may improve business performance in government markets. Another benefit may include considerations for how market factors might influence the market strategy-business performance relationships, and necessitate changes in how businesses owners apply market strategies in government markets.

Please click the Begin Survey link below to access the survey. The survey will close on July 24, 2015, at 11:45 pm (EST).

If you have any questions about the research project and survey questions, contact the researcher at [redacted] or [redacted]. For questions regarding your rights as a participant, contact [redacted]. The Walden University's approval number for this research is IRB number 06-25-15-0376732, and it expires June 24, 2016.

Thank you very much for your time and consideration.

Sincerely,

Ashley Moye
Doctoral Candidate
Walden University

Appendix J: Permission to Use Research Model (AMA)

Hello,

Thank you for contacting Support. I have reviewed the attachment, and hereby grant permission to use the mentioned figure in the resulting work assuming proper citation to the American Marketing Association is used. Please keep a copy of this email as confirmation of permission approval. Feel free to contact me with any questions.

Thank you again.

Best,

Jeff Wright
[redacted]

Appendix K: PROCESS Moderation Output (MO-FP)

```
************** PROCESS Procedure for SPSS Release 2.13***************

          Written by Andrew F. Hayes, Ph.D. www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 1
    Y = FP
    X = MO
    M = MKF

Sample size
        203

**************************************************************************
Outcome: FP

Model Summary
   R       R-sq.      MSE          F        df1        df2          p
.3077      .0947     2.2997     7.0540     3.0000   199.0000      .0002

Model
          coeff        se          t          p       LLCI       ULCI
constant 8.3206     9.9280      .8381      .4030   -11.2569    27.8981
MKF      -.0730      .1609     -.4539      .6504     -.3903      .2442
MO       -.0325      .2225     -.1461      .8840     -.4712      .4062
int_1     .0017      .0036      .4683      .6401     -.0054      .0087

Interactions:

 int_1    MO          X     MKF

**************************************************************************

Conditional effect of X on Y at values of the moderator(s):
MKF     Effect        se          t          p        LLCI       ULCI
57.0517  .0628      .0254     2.4686      .0144      .0126      .1130
62.7186  .0723      .0178     4.0541      .0001      .0371      .1074
68.3854  .0817      .0284     2.8797      .0044      .0258      .1377

Values for quantitative moderators are the mean and plus/minus one SD from the mean.
Values for dichotomous moderators are the two values of the moderator.

**************************************************************************

Data for visualizing conditional effect of X on Y
Paste text below into an SPSS syntax window and execute to produce a plot.

DATA LIST FREE/MO MKF FP.
BEGIN DATA.

    37.1679    57.0517     6.4891
    43.7960    57.0517     6.9054
    50.4240    57.0517     7.3216
    37.1679    62.7186     6.4272
    43.7960    62.7186     6.9062
    50.4240    62.7186     7.3852
    37.1679    68.3854     6.3653
    43.7960    68.3854     6.9070
    50.4240    68.3854     7.4487

END DATA.
GRAPH/SCATTERPLOT=MO WITH FP BY MKF.

****************** ANALYSIS NOTES AND WARNINGS ************************

Level of confidence for all confidence intervals in output: 95.00

NOTE: All standard errors for continuous outcome models are based on the HC3 estimator

------ END MATRIX -----
```

Appendix L: PROCESS Moderation Output (MO-CONTR)

```
***************** PROCESS Procedure for SPSS Release 2.13 ***************

          Written by Andrew F. Hayes, Ph.D. www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 1
    Y = CONTR
    X = MO
    M = MKF

Sample size
        203

**************************************************************************
Outcome: CONTR

Model Summary
    R       R-sq.        MSE          F        df1        df2          p
  .1543      .0238     2.0244     1.5986     3.0000   199.0000      .1910

Model
             coeff         se          t          p       LLCI       ULCI
constant     -.5661     8.2216     -.0689      .9452   -16.7789    15.6466
MKF           .0240      .1320      .1819      .8559     -.2363      .2844
MO            .0686      .1857      .3696      .7121     -.2976      .4349
int_1        -.0006      .0030     -.1892      .8501     -.0064      .0053

Interactions:

 int_1    MO          X     MKF

**************************************************************************

Conditional effect of X on Y at values of the moderator(s):
      MKF        Effect       se          t          p       LLCI       ULCI
    57.0517      .0366      .0225     1.6278      .1051     -.0077      .0810
    62.7186      .0335      .0159     2.1048      .0366      .0021      .0648
    68.3854      .0303      .0237     1.2764      .2033     -.0165      .0771

Values for quantitative moderators are the mean and plus/minus one SD from the mean.
Values for dichotomous moderators are the two values of the moderator.

**************************************************************************

Data for visualizing conditional effect of X on Y
Paste text below into an SPSS syntax window and execute to produce a plot.

DATA LIST FREE/MO MKF CONTR.
BEGIN DATA.

    37.1679    57.0517     2.1660
    43.7960    57.0517     2.4089
    50.4240    57.0517     2.6518
    37.1679    62.7186     2.1839
    43.7960    62.7186     2.4058
    50.4240    62.7186     2.6276
    37.1679    68.3854     2.2019
    43.7960    68.3854     2.4026
    50.4240    68.3854     2.6034

END DATA.
GRAPH/SCATTERPLOT=MO WITH CONTR BY MKF.

****************** ANALYSIS NOTES AND WARNINGS ************************

Level of confidence for all confidence intervals in output: 95.00

NOTE: All standard errors for continuous outcome models are based on the HC3 estimator

------ END MATRIX -----
```