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CEO Compensation, Share Price Volatility, and Return on Equity

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This is to certify that the doctoral study by

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Walden University
2023

Abstract

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Matthew O. Emokpae

MS, Middle Tennessee State University

BS, Grambling State University

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

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Abstract

Without understanding the implications of chief executive officer (CEO) compensation packages and share price volatility (SPV), midstream oil and gas company boards of directors could make decisions that might not positively impact shareholders' wealth building. Underpinned by agency theory, the purpose of this quantitative correlational study was to examine the relationship between CEO compensation, SPV, and return on equity (ROE) in midstream oil and gas companies operating in the United States. Archival records and secondary data were collected from 64 midstream oil and gas companies operating in the United States using Security and Exchange Commission EDGAR, Standard and Poor's 1500, NAICS, and Yahoo Finance databases. The multiple regression model results were significant, $F(2, 61) = 9.162$, $p < 0.001$, $R^2 = 0.23$. Share price volatility was the only statistically significant contributor to the model ($\beta = -.942$, $p = .001$). A key recommendation for midstream oil and gas company leaders is to institute programs and policies to mitigate fluctuation in the organizations' share prices. The implications for positive social change include the potential to increase property tax revenue used in local operations and capital projects.

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Dedication

I dedicate my study to my parents (deceased), Michael and Aruoma Emokpae, who taught me at an early age the value of formal education and to never give up when pursuing my dreams. I also dedicate this study to my wife, Laura, for her invaluable support and encouragement during this process. I also thank my children, Denice, who always called to ask how my study was progressing and provided some equipment and supplies to aid me in my academic pursuit, and Brady and Vanness for their support and encouragement. I also thank Dr. Philips Emokpae for his encouragement and support, especially at the beginning of this academic journey, and others whose encouragements were invaluable. Without all your support, this academic journey would not have been successful.

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Finally, I would like to thank God for giving me the strength and resources to accomplish this academic goal. I thank my wife, children, brothers, and friends who encouraged and supported me while working on my doctoral degree. I value your encouragement and belief in me as I plowed through this educational process, spending countless hours, days, and nights on this doctoral journey.

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Section 1: Foundation of the Study

Organization owners and investors invest in companies with the expectation of maximizing their investments from those companies' exceptional financial performance. In anticipation of the expected performance, firm owners and boards of directors (BODs) hire company executives and structure their compensation contracts and packages commensurate with the expected performance. BODs and owners expect these executives to possess the ability and experience to take advantage of market conditions to increase firm value and performance (Elsayed & Elbardan, 2018). Included with this expectation is an executive's ability to ensure that the company' stock price does not exhibit unpredictable behaviors not commensurate with investors' interest in their organizations.

Researchers have studied the relationship between executive compensation and firm performance. Some studies show mixed results (Elsayed & Elbardan, 2018; Fischer & Lindermoyer, 2020). Firth et al. (2006) showed a weak correlation between firm performance and executive compensation. Besides the relationship between executive compensation and firm performance, studies have also shown some relationships between companies' SPV and firm performance. Susanto et al. (2021) noted the existence of a relationship between share price and, by extension, SPV and net income. Firm product prices, such as crude oil and natural gas, significantly and positively correlate with firm performances (Bagirov & Mateus, 2019; Davis & Hausman, 2020; Wattanatorn & Kanchanapoom, 2012). The impact on firm performance impact volatility in oil and gas prices, and consequently, a spillover effect on oil and gas companies' stock prices (Antonakakis et al., 2021).

Background of the Problem

In the contemporary business environment, firm chief executive officers (CEOs) face increasing pressure to enhance firm performance by creating value and wealth for investors and stakeholders, partly based on their excessive compensation packages (Li & Thibodeau, 2019). Corporate boards hire CEOs to run efficient organizations and create value and wealth for shareholders by increasing firm performance. Organization CEOs' ability to use firm resources and react to the contemporary market and macroeconomic conditions impact wealth creation for shareholders. The public and organization shareholders have criticized the generous compensation packages awarded to CEOs whose performance are deemed incommensurate with their firms' performance. In some cases, CEOs with outsized compensation packages have been forced out of their organizations (Davis & Hausman, 2020).

Firm performance, generally measured by return on equity (ROE), return on investment (ROI), and return on assets (ROA), impacts executive compensation packages. Research findings on the relationship between CEO compensation and firm performance have shown mixed results (Elsayed & Elbardan, 2018). The corporate scandals of the early 2000s and outsized executive compensation packages resulted in the loss of retirement benefits and savings by corporate employees and retirees (Li & Thibodeau, 2019). In response to the corporate scandals, the U.S. Congress enacted the 2010 Dodd-Frank Act, requiring organizations to report CEO compensation compared to an average worker, including provisions allowing shareholder participation in determining CEO compensation (Earle, 2011).

Further, scholars, researchers, and investors have also identified that a company's share price and its volatility significantly affect organization performance (Susanto et al., 2021). Because SPV involves periods of erratic, unpredictable, and at times sharp price movement, some investors are reluctant to invest in companies whose share prices exhibit unpredictable behavior. The reluctance to invest could deny companies the needed financial resources for growth and expansion. Consequently, oil and gas midstream company executives must understand their responsibilities for efficient management of firm resources to achieve solid financial performance and superior returns for owners and make decisions that attract investors. In this study, I examined the relationship between CEO compensation, SPV, and firm performance measured by ROE.

Problem Statement

An increase in executive compensation, firm performance, and the effect of a company's SPV might create awareness and concerns for members of a corporate BODs of their governing roles in organizational performance and sustainability (Ataay, 2018). CEO performance vesting equity awards included in total compensation packages increased by as much as 70% between 1998 and 2012 in most U.S. organizations (Bettis et al., 2018). From 2014–2015, West Texas Intermediate (WTI) crude oil fell by 75%—from $107.3 to $26.68 (Antonakakis et al., 2021) and from November 2019 through May 2020, the average price of the WTI crude oil price decreased from $63 to $29 per barrel (Jefferson, 2020). During these periods, the stock price of oil and gas companies exhibited volatility that affected their performance (Antonakakis et al., 2021). The general business problem is that some business owners and organization shareholders

lack understanding of the implications of chief executive compensation packages and company SPV on firm performance. The specific business problem is that some owners and board members of midstream oil and gas companies have limited knowledge of the relationship between CEO compensation, company SPV, and ROE.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship between CEO compensation, company SPV, and ROE. The independent variables were CEO compensation for 2019 and SPV, using January 2019 through December 2019 share prices. The dependent variable was ROE for 2019. The target population included U.S. publicly traded midstream oil and gas companies listed in the Standard & Poor's 1500 index, of which 72 companies were initially selected. This study has implications for positive social change: local government and school districts that rely on tax revenue from midstream oil and gas companies for operations and capital projects may institute policies that enhance local communities' economic development and standard of living. Also, executive compensation committees may structure CEO compensation packages to align with SPV that increase organization performance leading to increased communities wealth building and living standards.

Nature of the Study

There are three main methodological choices in conducting research studies: quantitative, qualitative, and mixed (Saunders et al., 2016). In this study, I used the quantitative research method. Researchers use a quantitative research method to test research hypotheses and examine relationships among two or more numeric variables

(Bloomfield & Fisher, 2019). Researchers using quantitative methods focus on objectivity and structure by gathering relevant numeric data to test whether to accept or reject the study's hypotheses (Khaldi, 2017; Rutberg & Bouikidis, 2018). Researchers use a qualitative research method to explore a phenomenon, gain an in-depth understanding of an issue, and describe events involving people (Pernsteiner et al., 2017). A qualitative research method was not appropriate for this study because I did not intend to explore phenomena, gain an in-depth understanding, or describe events involving people. Mixed-methods research involves combining qualitative and quantitative research (Saunders et al., 2016). Mixed-method research was not appropriate for this study because I did not intend to combine qualitative and quantitative methods.

The primary research designs for a quantitative research study include experimental, quasi-experimental, and non-experimental. The experimental design involves determining if an event influences an outcome and the causal relationship among variables under controlled conditions (Bloomfield & Fisher, 2019). This study did not involve determining how events influence an outcome nor did I examine the causal relationship among variables under controlled conditions. The quasi-experimental design was not appropriate for this study because it is used to study cause-and-effect relationships between variables and omits participant randomization to certain conditions (Bloomfield & Fisher, 2019). In this study, I did not seek to determine cause-and-effect relationships between variables. The non-experimental (correlational) design generally include the following categories: descriptive, relational, or correlational. Researchers use this design to investigate and measure the relationship among variables or statistical

scores (Creswell & Creswell, 2018). The correlation design was appropriate for this study because I sought to examine the relationship between research variables.

Research Question

What is the relationship between CEO compensation, SPV, and ROE?

Hypotheses

Null hypothesis (H_0): There is no significant relationship between CEO compensation, SPV, and ROE.

Alternative hypothesis (H_1). There is a significant relationship between CEO compensation, SPV, and ROE.

Theoretical Framework

Researchers seek and identify theoretical frameworks from previous research to support their study. The agency theory, introduced by Berle and Means in 1932 and enhanced by Jensen and Meckling in 1976, provided the theoretical framework for this study (Bebchuk et al., 2017). The theory is one of the most used theories in corporate governance and management research in the context of business owners' delegation of decision making authority to business managers (Zardkoohi et al., 2017). Rahman and Mustafa (2018) noted agency theory's popularity in the academic study of relationships between executive compensation and firm performance. In the absence of proper compensation, agents seek to maximize their wealth at the expense of the organizations that employ them, leading to agency costs and conflict of interest between an agent and principal.

In the principal–agent relationship, the principals (shareholders or owners) delegate decision making authority to the agents (management), and the agents execute the instructions of the principals or make business decisions to benefit the owners by maximizing owners' returns on their investments (Orhan & Graham, 2017). Business owners compensate agents through various means, including salary payments, end-year bonus payments, stock options, and other types of equity compensation. In this instance, as a proxy for organization owners, BODs contracts with CEOs to manage and oversee an organization's affairs. Gerard and Weber (2014) noted that agency theory encapsulates the relationship business owners have with the managers they contract to run their business. The owners expect the CEO to align their interests with that of the organization to maximize and produce superior returns on corporate investment (Caglio et al., 2018). The agency theory applies to this study in that organizations incentivize CEOs through compensation packages to use available opportunities, such as company share price volatility, to increase an organization's performance. Consequently, the agency theory was appropriate for this study to understand how executive compensation packages and SPV correlate with an organization's financial performance measured by ROE in the midstream sector of oil and gas companies.

Operational Definitions

Chief executive officer (CEO): The CEO is the top individual hired or contracted who uses their managerial ability, takes advantage of the external environment, and uses their organizational resources to influence and enhance firm performance (Garcia-Sanchez & Martinez-Ferrero, 2018).

Common stock: This represents *security* and residual ownership in a corporation by company shareholders and generally increases with inflation and overall economic growth (Al-Nassar & Bhatti, 2019). Common stock is in the equity section of a company's statement of financial position.

Outstanding share: This is the portion of a company's stock sold to and held by all current shareholders at a particular time (Syed & Bajwa, 2018, p. 421).

Return on asset (ROA): This is the ratio of net operating income to firms' net asset book value and derived by dividing total income by total assets (Elsayed & Elbardan, 2018; Smirnova & Zavertiaeva, 2017).

Return on equity (ROE): This is an accounting performance measurement derived by dividing corporate earnings by the equivalent number of outstanding corporate owner shares (Delen et al., 2013; Smirnova & Zavertiaeva, 2017).

Return on investment (ROI): Firm executives invest in projects with potential returns greater than the investment costs. Practitioners derive the ratio by dividing the returns on the investment by the investment cost (Reizgevičius et al., 2018).

Share price volatility (SPV): A benchmark for measuring risk, deals with the statistical measurement of the fluctuations in share price of an entity over a time. SPV is generally caused by companies' dividend policies and by other financial performance measurements (Handayani et al., 2019).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are statements researchers believe to be accurate based on the research data, research variables used, and the theoretical underpinnings of their research studies that may significantly impact research findings and conclusions (Smirnova & Zavertiaeva, 2017). Loriot et al. (2020) had certain assumptions regarding the CEO, chief financial officer, and directors' influence on decision making concerning corporate risk management in the study to examine the relationship between executive compensation, corporate hedging, and foreign exchange exposure.

I assumed that SPV and CEO compensation are related to firm performance measured by ROE. Second, there are two basic methods for measuring and calculating share price volatility. Third, using ROE as a proxy for firm performance was appropriate for this study because equity investors expect their investments to grow, increase in value, and produce positive returns. Finally, I assumed agency theory was an appropriate theoretical underpinning for this study because corporate executives work as agents for owners or equity investors of entities they manage and, in the process, encounter agency costs and interest alignment challenges.

Limitations

Limitations in research studies deal with the general and potential weaknesses regarding research findings, factors that may impact the application, and implications of research findings or conclusions. Limitations include missing data, the suitability of using the research findings as an inference point, and endogeneity problems (Kaur & Singh,

2019). One of the limitations that might impact this study's results may be using incomplete or missing data beyond my control. For example, Ntim et al. (2019) noted that insufficient data on corporate governance in their study to examine whether CEO power had a moderating effect on pay for performance limited their analysis of corporate governance structure. I conducted this study on publicly traded midstream oil and gas companies in the United States. These companies' operations and management systems may be significantly different from similar entities in other countries. Consequently, the study findings may not be generalizable to similar companies in other countries or industries. Second, I used ROE to measure firm performance. Other performance metrics, such as ROA, ROI, and total revenue, could also measure firm performance. Using a combination of these metrics or anyone could also produce different performance measurement results, findings, or conclusions. A third limitation was that I did not conduct this study to determine the cause and effect between or among variables; instead, I sought to investigate the relationship between variables and the strength of the relationship between variables (Bloomfield & Fisher, 2019). Finally, the data used for this study covered January through December 2019. A longitudinal study with data covering different periods may yield different results or conclusions.

Delimitations

Delimitations involve researchers making different choices and setting boundaries, including research methods, data collection techniques, data variables to include, and the period covered by a study (Kaur & Singh, 2019). For example, Davis and Hausman (2020) delimited the information for their research data in their study

examining executive compensation for 78 major U.S. oil and gas companies. The focus of this study was limited to only U.S. publicly traded midstream oil and gas companies that have filed their annual reports and proxy statements with the U.S. Securities and Exchange Commission (SEC) and the variables of executive compensation, SPV, and ROE. Executive compensation includes real money and perquisites, but I did not include perquisites in the executive compensation. For firm performance, I used only ROE. Other corporate accounting and market-based performance measures, such as ROA, ROI, Tobin Q, total revenue, earnings before income tax, and depreciation or total earnings, were not the subject of this doctoral study and, consequently, were excluded.

Significance of the Study

Contribution to Business Practice

This findings of this study may benefit BODs and firm owners of midstream oil and gas companies through an increased understanding of how CEO financial packages and volatility in share prices impact financial performance. BOD who hire CEOs could use this study's findings to guide how they structure CEO compensation packages and employment contracts. In addition, the results may help BODs develop and implement strategies to increase firm performance.

Implications for Social Change

This study's implication for positive social change may include increasing BOD and firm executive awareness about the impact of SPV on their community's economic growth and development. Economic growth improves the quality of life in the communities where organizations operate. However, employees, the community, and

other stakeholders suffer when organizations fail due to poor financial performance. The community experiences a loss of purchasing power and decreased living standards (Frazer, 2016). Planning for profitability and sustenance allows for steady and continuing employment for people employed in the midstream oil and gas industry, thereby creating a more robust social and economic bond in the community. Steady share price growth with less fluctuation adds stability to the growth of the local economy and communities.

Review of the Professional and Academic Literature

The foundation of effective research begins with a review of published literature on the topic of interest to a researcher. A thorough research of published literature helps a researcher identify gaps and theories on the subject of interest, fill the identified gaps, or provide additional insight or connection to the work of others on the topic of interest (Ridley, 2012). The purpose of this quantitative correlational study was to examine the relationship between CEO compensation, SPV, and ROE in midstream oil and gas companies operating in the U.S. The independent variables were CEO compensation and SPV. The dependent variable was ROE.

The literature review strategy included using Walden University library to access and retrieve academic articles from databases such as EBSCO Discovery Services, Emerald Management Journals, Science Direct Journals, and Management Decision and Google Scholar. To obtain research and academic articles, I used keywords that included *executive compensation, share price volatility, stock price, corporate financial performance,* and *corporate governance theories,* emphasizing *agency and related theories*. For this literature review, 58% of articles selected were peer-reviewed articles

published within the last five years. My focus on academic journals included journals such as *Journal of Management Organization*, *Management Decisions*, *Journal of Financial Economics*, *Corporate Governance*, *Journal of Management History*, *Journal of Business Ethics*, *Academy of Management Review*, and similar journals and academy reviews.

Table 1

References Used in Doctoral Study

Type	Recent (published 2017–2022)	Older (published prior to 2017)	Total	%
Books	0	3	3	3
Journal articles (peer reviewed)	62	36	98	92
Journal articles (non-peer reviewed)	3	3	6	5
Total	65	42	107	100

Agency Theory

The agency theory is one of the most used theories by scholars and researchers to lend credence or support for business research in corporate governance involving delegating decision making authority by business owners to agents. Eisenhardt (1989) noted that the agency theory adds to organizational theory focused on designing efficient contracts between organization management and the organization's owner by delegating management authority to the agents. Many authors have used the theory in many disciplines, from economics to accounting. In accounting and business research, scholars use the theory to underpin and support research and doctoral studies in describing the relationships between business owners and those hired to run the business on behalf of

the owners. Bosse and Phillips (2018) noted that researchers and scholars use agency theory to examine the relationship between an organization's BOD and firm managers in corporate governance. Agency theory is one of the oldest and most influential theoretical frameworks in examining corporate governance since humans began to engage in various marketing and business activities to maximize profits (Yusuf et al., 2018). Raelin and Bondy (2013) argued that scholars and researchers use the theory to explain financial activisms, and it is popular due to its simplicity and conceptual explanation of the simple economic theory. Glinkowska and Kaczmarek (2015) noted that the concept of the agency theory was derived from institutional economics and that agency concepts encapsulate managerial behavior in managing organizations. Ray et al. (2018) added that the management of some family businesses falls under the auspices of agency theory because family owners and managers are generally risk-averse because of concerns about their wealth.

Adam Smith introduced the agency theory concept in *The Wealth of Nations* (Bendickson et al., 2016). In the book, Smith described a manager who managed other people's money and the manager's obligation to the people. In one instance of developing the agency theory, an organizational manager promotes their interest by maximizing their usefulness to an organization. However, in maximizing their interest, the manager creates a conflict of interest with organization's owners. Because the agent is motivated by power and financial need, there is distrust between the business managers and owners, resulting in a conflict of interest leading to an agency problem between the business managers (agents) and the organization's owners (principals) (Bendickson et al., 2016).

Scholars use agency theory for research due to its simplicity in explaining a contractual relationship between business owners and management. Raelin and Bondy (2013) noted that the agency theory is widely used in studying corporate governance because of its simplicity and application to simple economic theory and touches on maximizing firm wealth. Under this theory, one or more persons, usually the owners (principals), contract with another, usually a manager (agent), to run the affairs of an organization. The principals delegate decision making authority to the agents and compensate the agent for running the organization's affairs (Jensen & Meckling, 1976). As a result of the principal delegating decision making authority to the agents and the substantial principal absence in running the firm's operation, two main agency problems occur from the principal–agent relationship. The first problem results from the divergence of interest between the principal and the agents. The second major problem is information asymmetry (Bosse & Phillips, 2018) because both parties are interested in maximizing their wealth. Jensen and Meckling (1976) added that the principal also faces additional problems that create residual costs, which create reduced welfare that would benefit the principal. To mitigate these problems, the principal incurs some costs, generally referred to as *agency costs*.

Researchers use agency theory to focus on conflicting interests between the principal opportunistic behavior of an agent and resolving the resulting conflicts. The principal and agents undertake actions to mitigate the conflicts of interest between the two entities (Schillemans & Bjurstrom, 2020). The principal incurs agency costs in responding to and mitigating an agent's opportunistic behavior and discouraging the

agent's self-interest. The second layer of agency theory is the relationship between shareholders and societal interests in effective corporate governance; neglecting the second layer has not benefitted society (Raelin & Bondy, 2013). Corporate shareholders are society's agents; firms contract with society to create mutually beneficial relationships and mitigate firms' activities that could harm society.

Variants of Agency Problems

As with any relationship, actual, potential, and perceived problems exist, and agency theory shares this phenomenon. Agency theorists agree that one reason for agency problems is the separation of firm ownership for owners. Bendickson et al. (2016) noted that agency problems between principals and agents result from divergent interests, information schisms, asymmetry, or an agent misunderstanding their role in the relationship. Jensen and Meckling (1976) noted the agency problem caused by the separation of ownership from managers and the control of organizations' activities when the principal induces an agent to behave and make decisions to maximize principal welfare. The principal loses the ability to monitor an agent's behavior when the agent perceives an inequity resulting from the contract between them (Bendickson et al., 2016). Zardkoohi et al. (2017) added fraudulent financial reports as another agency problem that affects stakeholders and society. Other researchers argued that agency problems and costs affect third parties or stakeholders (Amiram et al., 2018). Most agency problems result from divergent interests, information asymmetry, or misunderstanding of the relationship and roles between a principal and an agent in a business setting.

One variant of agency problem results from the expropriation of a more significant amount of the firm's resources to benefit a former owner who no longer controls 100% ownership of an organization. Because the former owner no longer dedicates all their energy to maximizing firm value, a conflict of interest arises (Panda & Leepsa, 2017). Separate from owner–manager, agency problems also manifest when an agent's interest does not align with the principal's due to their aversion to taking the risk that can enhance the value of the firm they manage. Fama (1980) argued that another agency problem arises when a non-security holder manager deviates from the contract and is incentivized to consume more on the job at variance to contractual terms. Elkelish (2018) added that the agency problem results from a conflict of interest between managers and shareholders. This conflict of interest creates one version of the agency problem leading to an agency cost.

Another variant of agency problem arises when an owner who initially owns 100% of the firm’s equity and makes all operational and financial decisions that maximize their wealth and satisfaction loses total control. Even though the owner has lost total control due to reduced equity ownership, the owner may want to expropriate more corporate resources to their benefit. Another result is that the owner may not expend as much energy to increase the wealth of the enterprise as they usually would if they owned 100%. The agent with no equity interest in the firm they manage is closely related to this. Perez and Sanchez-Silva (2016) agreed with Bosse and Phillips (2018), Schillemans and Bjurstrom (2020), and Keay (2017) on the two fundamental issues that cause agency problems. The issues that cause agency problems include conflicting goals between agent

and principal, creating an adversarial relationship between principal and agent. Information asymmetry is the second problem between the principal and the agent (Bendickson et al., 2016). Here the agent has some valuable information about their capability and performance that the principal does not have. Principal access to such information allows the principal to properly examine agent performance that could impact agent employment contract negotiation.

Agency theorists assume that agents are risk-averse. However, agents and principals have different attitudes regarding the level of risks to assume. Bendickson et al. (2016) noted that agency problems occur due to a shift in sharing risk because of interest divergence between the principal and agent. An agent may prefer not to make certain decisions because of uncertainty and the possibility of a negative outcome that may impact their compensation packages or cause them to lose their jobs. Some agents become risk averse the wealthier they become, and vice versa. Eisenhardt (1989) theorized an inverse relationship of the risk level assumption between agent and principal, resulting in the principal negotiating and entering a behavioral-based or outcome-based contract based on the agent's level of risk aversion. Yusuf et al. (2018) interviewed 26 research participants on agency issues in developing countries in their case study research. The authors noted that agents, who are the actual firm owners in some situations, are more risk averse than when there is a significant separation between owners and agents and the principal due to the agents' limited resources and decreased incentive. However, Loriot et al. (2020) discovered that self-interest preservation causes

managers to participate in hedging activities because the equity awarded to them by their organization comprises a significant portion of their total compensation package.

Agency theorists acknowledge that information asymmetry is inherent in the principal–agent relationship. Principals delegate and expect agents to maximize firm value and share critical information about the firm and operating activities. However, the agents' unwillingness or failure to share some information with the principals about the firm they manage creates information asymmetry. Information asymmetry is another agency problem caused by an agent's self-interest behavior and hoarding of information unavailable to the principal. As a result, agents have information on their performance, effort, and capabilities that the principal does not have, making it difficult to monitor or assess their management capabilities and capacities (Perez & Sanchez-Silva, 2016). Bendickson et al. (2016) argued that an agency problem of information asymmetry occurs when a principal does not have or has lost the ability to monitor an agent's behavior. Sometimes, agents withhold information from the principal because of perceived or actual inequity they experience in running the business. To mitigate or minimize information asymmetry, firm owners would incur costs to protect their financial interests. Such costs include paying auditors to review financial books to ensure firm assets are appropriately accounted for and not misappropriated. Others include investment in computing equipment as a control mechanism to ensure the timely capture of corporate information that helps make decisions and implement a budgeting process to restrict or incentivize programs to maximize firm wealth and align agent interest with that of the principals.

Researchers and scholars who have used the agency theory to underpin their study of corporate governance agree that *conflicts of interest* are inherent in the principal–agent relationship. Conflict of interest is generally the result of the separation of ownership and control in running the affairs of a business leading to divergent goals that may cause an adversarial relationship between principal and agent (Perez & Sanchez-Silva, 2016). The principal may want to reach a specific goal to maximize their wealth by requiring some performance objectives from agents—performance objectives that may be at variance with the agent's opportunistic behavior to maximize their monetary wealth. Bosse and Phillips (2018) added that because agents and principals are utility maximizers, both diverge in their views on maximizing their interests. For example, the principal would want the agent to spend some effort to increase the firm's wealth, and the agent is unwilling to exert that effort.

One assumption in the agency theory is that individuals are *self-interested* and act opportunistically to enrich themselves at the expense of company owners. Researchers and theorists have discovered that humans as agents are self-interested because of their propensity to enrich themselves (Eisenhardt, 1989). Humans display bounded self-interest and are assumed to be motivated to maximize their utility and influenced by norms of fairness (Bosse & Phillips, 2018). In some situations, this self-interest creates agency costs when a manager experiences unfair treatment from the principal, consequently or inadvertently shirking their responsibility. However, when a principal incentivizes an agent, the agent exerts more effort to achieve the organization's performance goals and maximize firm wealth. Using a variant of agency theory

(behavioral agency model) to examine executive risk aversion, DesJardine and Shi (2021) found that executives are risk-averse with current wealth.

On the other hand, CEOs concerned about future job prospects involving favorable labor mobility generally take more risks with corporate resources because of the labor market's propensity to reward risk-taking (Chari et al., 2019). Loriot et al. (2020) studied equity-linked executive compensation and found a positive relationship between the number of shares owned by corporate executives and the company's exposure to movement in the exchange rate. The implication is that agents are less likely to take on a risk that is not certain to increase wealth. Bosse and Phillips (2018) noted two ways to resolve the conflicts between the principal and agent. The first is to resolve the conflict of interest of how much energy the agent would expend on running the business affairs. The second conflict comes from the level of risk the agent is ready to bear in running the business.

Agency Cost

In the principal–agent relationship, agency costs arise from the relationship between the principal and agents due to conflict of interests and their approaches and perspectives in owning and managing organizations. Agency costs include monitoring, bonding, residual loss to principal, and costs to incentivize, measure and evaluate managerial performance and devise and enforce specific behavioral policies and rules to maximize the firms' wealth (Jensen & Meckling, 1976). Agency costs also include managing the divergence of interest between the principal and the agent and the cost to mitigate or minimize information asymmetric between the principal and the agent (Bosse

& Phillips, 2013; Jensen & Meckling, 1976). Martin et al. (2019) added that basic agency costs include incentive costs to align agent interest with that of the firm or principal and monitoring costs. Incentive costs include management compensation packages and equity awards to the agents (generally the CEOs). The intent of awarding equity to an agent is to ensure the agent aligns their interest with the firm's profit maximization and sustainability goals. Bosse and Phillips (2018) argued that a CEO generates agency costs when they believe an agent has received unfair treatment from the BOD. Agents generate these costs by exhibiting irrational and counterproductive behavior detrimental to firm success. In the principal–agent relationship, agency costs are necessary and unavoidable because the principal and agents have different perspectives on managing organizations, building wealth, and creating a successful organization.

Researchers who used the agency theory to underpin their studies have similar understandings of the causes of costs. Bosse and Phillips (2018) noted that firms incur agency costs because of the conflict or divergence of interest between the principals and agents, disagreement between the principal and agent on the level of efforts agents need to exert to maximize the principal's wealth, and agents' perception of unfair treatment. However, because agents are risk averse with bounded rationality; the agents are interested in exerting enough effort to avoid organizations' failure. Another reason for the agency cost is the information asymmetry between the principal and agent about the agent's contribution to running the business. Bendickson et al. (2016) added that an honest but incompetent agent's management of an organization is another reason principal incurs agency costs. The principal incurs these costs to encourage the agent to

make decisions that benefit business owners and upgrade agents' management competence to maximize the principals' wealth.

Organizations incur costs to mitigate or minimize divergent interests and align agents' and principals' interests. One method to align management interests with principals' interests is granting partial equity ownership to agents. Elsayed and Elbardan (2018) used compensation data from 350 publicly traded firms in the United Kingdom (UK) from 2010–2014 to study the relationship between CEOs' equity ownership and firms' performance and found a positive and significant correlation between CEOs' stock ownership and firms' financial performance. Martin et al. (2019) also noted a positive relationship between equity ownership by management and firms' market performance. The result from Elsayed and Elbardan (2018) and other studies support the arguments that principals must compensate agents with partial company ownership to mitigate the divergence of principal–agent interests. When agents become part owners of an entity, agents work to avoid principal–agency problems, reduce agency conflicts, reduce costs, and improve and efficiently by using the organizations' resources.

Monitoring and bonding costs emanate from the principal–agent relationship under the agency theory of corporate governance. The monitoring costs include compensating outsiders, such as the BOD, to monitor agents' activities and behaviors and evaluate management performance. Others are costs to engage outside auditors to review an organization's books and computing and to capture performance information as they occur (Bosse & Phillips, 2018). Martin and Butler (2017) surmised that agency costs include monitoring CEOs, hiring management teams, and compensating BOD members

to monitor CEOs' efforts and responsibilities. Namitha and Shijin (2016) noted that managerial resource adjustment decisions leading to cost stickiness contribute to agency costs. Organization incurs bonding costs to set up and operate an organization. Bonding costs include the cost incurred for effective organizations' operation; agents expend organizations' resources to take action to benefit and increase owners' wealth. Jensen and Meckling (1976) noted that organization owners pay agents to ensure that agents do not take specific actions that could harm the principal or, in the event of a harmful decision, compensate the principal for the harm caused by agents' actions. Monitoring and bonding costs are essential in the principal–agent relationship to protect the principal's interests and to ensure agents' actions in managing organizations do not harm organization owners.

Other scholars added that information asymmetry leads to agency costs because the principals institute controls mechanisms to mitigate or minimize an agent's information advantage. Principals expend resources to obtain information available to agents regarding agents' performances and capabilities (Bosse & Phillips, 2018; Vitolla et al., 2020). Bendickson et al. (2016) added that information asymmetry also occurs when an agent engages in self-interest behavior that prevents business owners from monitoring the agent's behavior or an agent has information or better information not available to the principal. The information asymmetry creates an agent's advantage in running an organization due to the separation of firm ownership from organization management (Bosse & Phillips, 2018). Agents withhold certain information about the inner working of a business from the owners of the business. Mitigation of information asymmetry requires incurring costs to monitor the behaviors of agents. Cucari et al. (2018) and

Donnelly and Mulcahy (2008) examined information disclosure by an organization and found that organizations with a more significant proportion of outside members on corporate boards disclosed more voluntary information than those with fewer outside BOD members. In contrast, Bueno et al. (2018) examination of 285 Brazilian publicly traded firms to ascertain if an outsider's presence on corporate boards affects organizations' information disclosure did not observe any significant relationship between the presence of outside (independent) board members and disclosure by firms. Notwithstanding Bueno et al. (2018) findings, the implication is that for organization owners to obtain information about the inner workings of their organizations, they have to expend costs to obtain information.

Counteracting or minimizing agency costs requires multiple effective strategies. One strategy is for the principal to align an agent's and company's interests. The principal makes the agent assume some of the firm's risk through equity ownership (Bosse & Phillips, 2018). Countering information asymmetry requires the principal to employ systems that monitor the agent's actions and behavior. Mitigating this behavior causes an interest owner to incur a cost. For example, hiring auditors to review the books of the enterprise or increasing the manager's compensation to align their interests with the owners are other examples of incurring additional costs.

Mitigating Agency Problems

As a result of the separation of ownership from an organization's management, agency problems of divergence of interests and information asymmetry occur between principals and agents. Martin and Butler (2017) noted that principals face problems such

as difficulties monitoring agents, information asymmetry, and CEOs' influence over their firms' resources for self-interest dealings. The question is how to mitigate or minimize the problem from the principal–agent relationship. Effectively answering this question is a challenge to owners and shareholders (collectively called the principal) because the principal has to design strategies to motivate agents to avoid shirking their responsibilities in maximizing firm values. Scholars and researchers have suggested and provided empirical evidence on agency problem mitigation. Bosse and Phillips (2018) suggested that incentive programs, residual compensations, and monitoring mechanisms are other ways to mitigate agency problems. Martin and Butler (2017) supported Bosse and Phillips' (2018) recommendations on mitigating agency relationships. The hope is that by using these programs, the organization owners minimize or mitigate agency problems that create agency costs.

Incentive programs to mitigate or minimize agency problems include increases in CEOs' compensation packages, equity-based awards, and granting partial ownership. Because of bounded self-interest, when agents own part of the firm they manage, the agents exert more effort to increase the firm value while increasing their economic wealth. Juras and Hinson (2008) noted that the growing evidence shows that agents' equity ownership helps interest alignment and reduces agency problems. Using Pearson Correlations statistical analysis, Juras and Hinson (2008) tested hypotheses to determine whether directors' higher percentage of equity ownership resulted in higher net interest margin and ROA in the banking industry. The authors found a statistically significant relationship between directors' stock ownership, NIM, and ROA. NIM is that portion of

the gross margin not included in operating expenses resulting in higher net income and ROA and ROE. In a content analysis study, Boyd and Solarino (2016) found that inside ownership (agents owning equity in their firms) was a positive mechanism used to align agents' interests with the principals' interests. Martin et al. (2019) also examined the impact of CEO equity wealth on firms' earning management. The authors found a significant and positive relationship between equity ownership by management and increased firms' earnings. These studies' results support the assumptions that increasing CEOs' compensation through equity ownership incentivizes agents to work harder for the organizations they manage and reduce agency problems.

Incentivizing agents through equity-based awards aligns the agent's interest with the principals to mitigate agency problems. Bosse and Phillips (2018) argued that one way to align an agent's interest with that of the principal is through equity awards and stock ownership by the agent, usually the CEO or the manager of the entity. Equity ownership through equity awards, stock options, and other equity-based compensation enables agents to be part-owners of the firm they manage. Equity-based awards should emphasize outcome-based performance, including setting performance targets and measurement parameters (Bosse & Phillips, 2018). Martin and Butler (2017) added that incentivizing agents include sharing organizations' residual profit or increased compensation tied to an outcome. Residual profits are the net operating income available for capital projects. Incentivizing agents through residual profits and equity awards motivate them to work hard and align their interests with the principal's interest.

Creating a monitoring mechanism is the second solution to mitigate agency problems, and it involves enhancing the principal–agent contractual relationship, helping and ensuring that the agent's performance enhances the principal's wealth. Monitoring mechanisms include engaging independent and outside auditors, instituting BODs, and regular and scheduled information dissemination about the firms' operations and formal control systems (Jensen & Meckling, 1976). For example, hiring auditors to review the enterprise's books and implementing budgeting programs are concrete ways to monitor an agent's activities. Schillemans and Bjurstrom (2020) argued that because an agent is self-interested, a contractual arrangement between the principal and agent usually spells out what is expected of the agent. Adding an outside BOD is one of the most effective ways to monitor agents' behavior and deter the agents from pursuing courses and programs that align with principals' or owners' interests (Bosse & Phillips, 2018). The BOD assumes that agents are utility maximizers, self-interested, and prone to shirking their responsibilities (Juras & Hinson, 2008; Keay, 2017). However, some studies show that the impact of good BOD on agency problems is localized based on legal and institutional practices. For example, Elkelish (2018) examined the relationship between corporate governance and agency costs across many countries and found a robust negative relationship between the BOD's presence and a substantial insider ownership structure and agency costs in the United States. However, the same study showed that the reverse might be true in other countries. Elkelish (2018) attributed the strong negative correlation to a dispersed ownership structure and the separation of corporate ownership from organizational management. Consequently, the BOD's principal role is to observe the

CEO to ensure that they run a more productive, efficient, and ethical organization, acting as an agent and monitoring mechanisms on behalf of the shareholders.

Firms with a good governance structure provided through outside and independent BOD appointments incur lower agency costs and agency problems (Allam, 2018; Juras & Hinson, 2008). Some researchers disagree with the argument that appointing the BODs leads to reduced agency costs. For example, in the study of the effect of an outsider director on the board of a family-owned business in Lebanon, Samara and Berbegal-Mirabent (2018) found that the appointment of outside and independent directors on a corporate board did not reduce agency costs. However, Elkelish (2018) found a significant positive relationship between agency cost and corporate governance risk in some countries. The author attributed the significant positive relationship between the principal and agent to ownership concentration and stakeholder approach practices in Nordic countries. These findings support the idea that some mitigating agency problems may require localized solutions against general and well-accepted norms and beliefs.

Other monitoring costs to mitigate agency problems include payments to the outside and independent auditors, investment in computing equipment, budgeting, and debt policies. Organizations hire outside auditors to review a firm's financial books to ensure that a firm's assets are appropriately accounted for and not misappropriated (Tripathi, 2019). Investment in computing equipment ensures the timely capture of corporate information in making decisions. Organizations also use budgeting as a monitoring program to restrict corporate spending and as a guide to performance. Also,

organizations use debt policies to align principal–agent interests and reduce agency problems. Elsayed and Elbardan (2017) found that using debt as part of firms' capital structure encourages agents to decide to limit debt costs and payment defaults. Tripathi (2019) examined the relationship between debt as part of capital structure and ownership in the Indian automobile market from 2001 to 2014 and found that using debt could mitigate agency costs and increase profitability and wealth. Contracting the services of outside auditors, investing in computing equipment, instituting annual budgeting, and sound debt policies reduce agency problems. Executives in organizations that employ high debt as part of their capital structure must ensure repayment of debts when due debt repayment compels management to focus on cost reduction and minimize investments in marginal activities.

Agency Theory and This Study

Agency theory provided the theoretical underpinning for this study. Agency theory focuses on the principal–agent relationship and the delegation of responsibility and authority from a principal to agents in business management. Bosse and Phillips (2018) noted that scholars and researchers use agency theory to study organizations' governance where owners or their representatives, usually the BODs, hire agents to manage organizations on behalf of the business owners. Agency theory assumes that agents align their interests with the principal's if properly compensated and incentivized. The principals incentivize agents by crafting compensation packages comprising salaries, stock awards, stock options, and partial business ownership (Eisenhardt, 1989). When agents perceive that their compensation is robust, they are more likely to align their

interests with the principal's interest (Hiebl, 2015). Agents will likely to devote more energy to creating value for their employers with the right incentives.

I examined the relationship between CEO compensation, SPV, and ROE in this study. ROE measures organizations' financial performance, usually affected by CEOs using organizations' available resources, including changes in share prices to build wealth and maximize owners' investment returns. One way to make an entity profitable and achieve high financial performance is to use all available and necessary tools, including hiring and compensating CEOs to maximize companies' financial performance (Hiebl, 2015). Consequently, principals or their representatives engage CEOs (agents) with robust employment packages and other incentives to lead organizations on behalf of business owners to maximize shareholders' value (Rahman & Mustafa, 2018). Effective organizational leadership by competent CEO enables organizations to maximize their economic values to gain a competitive advantage. During SPV, the challenge to most organization leaders is to motivate managers to take a long-term prospect in corporate governance. In this study, the agency theory holds that the CEO's effective utilization of a company's share price movement should correlate with a firm's performance.

Agents are assumed to be self-interested, risk-averse, and information-asymmetric (Bendickson et al., 2016). Consequently, some scholars and researchers thought that agency theory might not be the best theory to study corporate governance, and therefore, began to look to other theories that could shine a different light on the relationship between an agent and a principal. The primary purpose of searching for alternative theories to the agency theory was to examine other factors that motivate an agent in the

principal–agent relationship and agents' commitment to firms' owners and stakeholders (Martin & Butler, 2017).

Alternative Theories

With evolving business strategies, practices, and corporate governance, researchers and scholars believed that the agency theory had some weaknesses and limitations in using it to study corporate governance and that a more collaborative role exists between a principal and agent. Raelin and Bondy (2013) argued that the agency theory ignores a second layer that includes stakeholders. This second layer is the association between society and shareholders. Consequently, some scholars and researchers suggested alternative theories different from the agency theory that incorporates human behaviors, motivations, and assumptions in corporate governance. Amis et al. (2020) argued that the agency theory focuses narrowly on corporate governance theory. Some of these alternative theories include stewardship theory, dynamic capability theory, resource-based view theory, and stakeholders' theory.

Stewardship Theory

Stewardship theory is one of the alternative theories to the agency theory and one of the most commonly used theories to study corporate governance. Schillemans and Bjurstrom (2020) credit Donaldson and Davis (1991) as the first scholars to introduce the concept of stewardship theory into management literature. One major criticism of the agency theory is its primary focus on the agency side of the theory and how it describes the role of an agent in corporate governance, behavior, and motivation. Martin and Butler (2017) noted that stewardship theory contrasts with agency theory and that the

stewardship theory portrays a moral and honest person as one who does not lie, steal, or honor commitments. Bosse and Phillips (2018) noted that others had suggested stewardship theory as a perfect alternative to the agency theory because of its assumption of human behavior. Based on most scholars' and researchers' viewpoints, stewardship theory is an alternative or complement to agency theory, introduced into business management as a corporate governance alternative to agency theory based on agency theory's perceived shortcomings.

Further, in describing the assumptions inherent in the stewardship theory, Schillemans and Bjurstrom (2020) argued that agents and principals cooperate to achieve a common goal and that the relationship between principals and agents is more of a collaboration than self-interest actualization. Glinkowska and Kaczmarek (2015) noted that stewardship theory is similar to agency theory in some aspects. In the stewardship theory, management's behavior and core principle are based on MacGregor's' Theory Y (TY). TY explains employees' sincerity and dedication to achieving organizations' goals and objectives and, consequently, exercise self-control and self-dedication rather than being threatened or coerced. Managers are more interested in organizational success than individual success, and stewards who manage organizations are more motivated by job satisfaction and less motivated by financial factors.

One major characteristic of the stewardship theory is that agents act collaboratively with business owners or their representatives and are more concerned with achieving the organizations' goal of creating value for owners than acting to further their interests at the expense of the principal or business owners. The theory deals with

the overlapping interests between stewards and owners, and they view their relationship as more of collaboration than self-interest (Keay, 2017). Stewards believe success and accomplishments should align with organizations' goals (Schillemans & Bjurstrom, 2020). Keay (2017) argued that stewards were more concerned with collaboration with firm owners to achieve companies' goal of maximizing value than working to accomplish their personal goals. Stewards believe that by focusing on maximizing profits, they are also fulfilling their personal needs and goals. Stewards subject their motives to the firms, are unlikely to manipulate corporate financial information for personal gains, and focus more on the long-term view of achieving a primary corporate goal of maximizing firms' value (Martin & Butler, 2017). The ability of agents to work collaboratively with business owners creates interest alignment between owners and management and is a recipe for organizations to succeed.

Most theorists believe that stewards align their interests with that of their organization and are motivated by fairness and justice for the owners' interests of maximizing performance. The stewards get satisfaction due to intrinsic rewards by doing good deeds (Keay, 2017). Most organizations reward stewards by giving them dual roles, such as the organization's CEOs and board chairperson, intrinsic satisfaction in their growth, and personal and career development (Martin & Butler, 2017). Most researchers and scholars maintain that a steward is mainly motivated by intrinsic reward (Martin & Butler, 2017). Chrisman (2019) argued that monetary rewards could have both intrinsic and extrinsic rewards for stewards; increases in salary and bonus awards usually represent evidence of accomplishments and the value firms place on the contribution of

the stewards. Consequently, the claims that most stewards are generally motivated by intrinsic rewards may not hold in all situations. Financial rewards motivate stewards because they are evidence of good performance in enhancing and maximizing corporate value.

Scholars who use the stewardship theory to study corporate governance believe that monitoring costs are lower because stewards behave in the interest of the organizations they manage. Keay (2017) argued that the cost to monitor management behavior is not as pronounced as in agency because stewards do not shirk their responsibilities but are more concerned with achieving organizations' goals of creating values for business owners. Costs incurred for instituting monitoring mechanisms as a control mechanism are lower than in the agency, and financial performance increases due to interest alignment between principals and agents. Appointing BOD members to oversee management's activities is not as essential as other corporate governing structures. Sakawa and Watanabel (2019) used a sample of 14,991 firm years in Japan to examine the effect of organizations' ownership structure on firm profitability. The authors found increased dividend payout and firm performance because of management's stewardship-oriented performance. Also, because most stewards are usually part of the BODs, their compensation packages are generally not as high as is common in other corporate governance structures. Consequently, reducing compensation packages reduces operating costs and builds organizations' wealth through positive financial performance.

Scholars and researchers have debated the benefits and importance of the stewardship theory in corporate governance. A benefit and importance associated with

agents acting as stewards in corporate governance is the focus on long-term orientation in research and development and the collaborative behaviors of stewards with principals, respectively (Martin and Butler, 2016). However, some scholars criticized the stewardship theory for not being independent but a continuum of an agency theory where the principal and agents' interests align with the corporate interests. For example, Siebels and Knyphausen-Aufseß (2012) noted that in a family business where one might expect corporate governance to possess the characteristics of a steward-owner relationship, the firm's situation in the family determines the governance structure and not the management's perceived intrinsic value; consequently, the benefits and importance of the theory might not be as apparent as some scholars believe. The debates between the benefits and importance of the stewardship theory notwithstanding, the theory plays a critical role in understanding the principal–agent relationship and corporate governance and performance.

Researchers and scholars who have studied and written about the stewardship theory disagree with the perceived similarity and differences between the theory and the agency theory in the study of corporate governance. Bosse and Phillips (2018) do not believe that the stewardship theory is a perfect replacement for the agency theory because of the significant changes to the premise of the agency theory. Others argued that there was no perfect dichotomy between the agency and stewardship governance structure because some situations overlap. For example, Chrisman (2019) argued that one could act as an agent in a specific situation or relationship and a steward in another. However, Martin and Butler (2017) added that stewards and business owners act together to achieve

a common purpose. This theory views the agent as a person with moral integrity, honesty, and commitment to achieving the owners' goals. The agent's honesty enables the organization to spend fewer resources on incentives to align agents' goals with the organization and to monitor agents. Stewards focus more on organizational structures that allow for executive empowerment and align their interests with their interests (Schillemans & Bjurstrom, 2020). Because the stewardship theory describes situations of alignment between a principal and an agent in managing a business, understanding this theory's tenets helps alleviate and avoid conflicts common in a principal–agent relationship in the agency theory.

Stakeholders Theory

In contrast to agency theory, the stakeholders' theory focuses on the interaction among business owners, agents, and the large society impacted by corporate activities. Scholars and researchers believe that the seminal author of stakeholder theory was Freeman and Reed (1983). Sternberg (2002) noted that the theory is used as an alternative theory to study and solve organizations' problems that other corporate governance theories have ignored, such as people and entities not directly involved or affected by corporate activities. The theory differs from the agency and stewardship theories by adding another layer to the two main entities concerned and impacted by organizations' corporate governance that the agency theory and stewardship theory ignored. Organizations exist, and their activities impact others beyond the management and owners of organizations. Consequently, researchers and scholars offer stakeholders' theory as an alternative to agency and stewardship theories of corporate governance. The

stakeholder theory added another dimension to the conventional corporate governance theories, and knowledge of this theory could help organization leaders and owners to consider the impact of their corporate activities on those not directly related but affected by their business activities.

Adding the stakeholders' theory to the conventional corporate governance theories enabled researchers, scholars, and management theorists to consider and study the importance, objective, and influence of corporate governance theory through different lenses. Freeman et al. (2010) argued that the primary objective of business existence is to create value, whether tangentially or directly, for everyone affected by the business activities. Therefore, researchers who use the theory as a framework for their studies consider broader economic issues related to employees and customers and how companies' activities impact societies' social and economic activities (Amis et al., 2020). Organizations' activities impact people beyond the agent and principal, as in the principal—agent relationship, and principal—steward, as in the principal–stewardship relationship (Sternberg, 2002). The stakeholders' theory allows one to view the firm's value beyond profit maximization and to consider organizations' activities' impacts on the broader society.

The stakeholders' theory has influenced corporate governance theorists and practicing managers to consider other factors in their analyses and discussions of corporate governance structures. Some theorists view the stakeholders' theory as more expansive and inclusive in discussing corporate governance and activities and their impact on society at large and firms' performance (Amis et al., 2020). Some theorists do

not accept the limited view that agents exist to maximize corporate value for the principals, nor are the steward's interests wholly aligned with an organization's interest. Amis et al. (2020) argued that firms' value maximization involves and impacts a broader society and not just the agents and stewards of the firm. Javed et al. (2019) used the stakeholders' theory to study the effect of corporate social responsibility on corporate reputation and financial performance. The authors found that stakeholders have a positive attitude towards a firm, help organizations attain lower operating costs, and view organizations as more reputable. Stakeholder theory allows one to view the value of a firm and its impact on the broader society, not just a single class of stakeholders, as in agency and stewardship theories.

An organization's financial performance increases when several stakeholders use their services or purchase products. Sakawa and Watanabel (2019) used a sample of 14,991 firm-year to examine financial performance in family-controlled businesses and found increased dividend payouts and increases in other financial metrics used to assess organizations' financial performance. Ayuso et al. (2014) used the stakeholders' theoretical framework to study the impact of stakeholder engagement and firm performance and found a positive relationship between stakeholders' engagement and firm performance as measured by ROE. Consequently, and from the results of these empirical studies, it is no coincidence that scholars and researchers regard stakeholder theory as a more effective and alternative model for corporate governance because the theory considers a broader society.

Some researchers and scholars reject the categorization of stakeholders as too broad and infinite. For example, Sternberg (2002) argued that the stakeholder theory is incompatible with business or corporate governance. The author noted that the model undermines private property ownership, and entities considered stakeholders are too broad; it is impractical to ascertain everyone impacted or impacted organizations' activities. For example, it is unfeasible to balance stakeholder benefits because of the infinite number of stakeholders and the benefits to be considered and measured. Also, the imputation of a social contract in the stakeholder theory is unworkable because; organizations should not be held accountable for some economic or societal impact of corporate activities on a group that does not have a direct relationship or performance contract with an organization.

Nevertheless, others argued that the stakeholder theory is an excellent alternative corporate governance model because organizations succeed when the larger society views and accepts their activities as the creation and production of goods and services that benefit or harm all members of society, whether directly or indirectly. Amis et al. (2020) used a stakeholder perspective to examine organizations' corporate social responsibility (CRS) on Pakistan's publicly traded firms' corporate reputation and financial performance. Using stakeholder theory allows researchers and management practitioners to study the impact of organization activities on their financial performance and the larger society, not just on the enterprise owners and agents.

Proponents of the stakeholder theory do not accept the agency theory that a CEO's participation in BODs reduces monitoring activities and costs. Some scholars

argue that organizational CEO duality increases monitoring costs (Saona et al., 2019). Saona et al. (2019) examined CEO duality on corporate behavior and found that CEO duality on the corporate board increases the opportunity to manipulate accounting data and, subsequently, financial reporting. When discovered, such manipulations have caused firms to restate financial statements; in extreme cases, the impact of financial manipulations has led to firms' collapse (Enron, WorldCom). BOD members generally increase monitoring activities by hiring outside consultants and directors to oversee or review corporate activities to reduce the opportunistic behavior of CEOs who also serve on the BOD. The engagement of consultants and the imposition of other control mechanisms increase organizations' operating costs.

In addition, stakeholder theorists disagree with the agency theory's limited view that narrowly focuses on the relationship between an agent and a principal. The central concept of the agency theory is that agents work to maximize profit for the organization and its owners and resolve principal—agent conflicts (Bosse & Phillips, 2018). Contracting with agents and instituting a monitoring mechanism to monitor agents' behavior is embedded in the principal—agent relationship. However, the stakeholders' theory and the focus on the principal—agent relationship add that organizations' activities impact people beyond the two classes (principal and agent) identified in both the agency and stewardship theories. Amis et al. (2020) did not subscribe to the notion that the focus of profit maximization for shareholders inferred in the agency theory addresses the conflicting interests among all stakeholders. Most scholars who use the theory to underpin their studies believe that the additional layer, comprised of groups

besides corporate owners and their agents, should be considered on issues related to corporate governance.

Dynamic Capabilities

Many academic researchers and scholars describe dynamic capacity (DC) to as including the capabilities of organizations to use their many resources to create a competitive advantage in the marketplace in attaining corporate goals. DC addressed business concerns rooted in behavioral theory, such as organizational growth, routine processes, and managerial decision making in infancy. No one is quite sure of the seminal DC author. Barreto (2010) believes that the concept became part of management literature on management activities in corporate governance after Teece (2018) published an article on the topic. Consequently, Barreto (2010) credited Teece as the seminal author of DC theory. The definition of DC has evolved, but it encompasses some degree of routine intentionality and predictable behavior by organizations. Teece (2018) described DC as an organization's ability to integrate internal and external resources and competencies to address changing business environments. Helfat and Peteraf (2009) described DC as an organization's capacity to use its resources to create wealth and maximize profits in response to environmental change. Krzakiewicz (2013) added that DC assumes that the derivation of long-term competitiveness results from organizations' ability to recognize and take advantage of potentially profitable businesses. Considering the definition and description proffered by these authors, DC addresses organizations' ability to use resources to create and sustain competitive advantage in response to their environmental circumstances.

DC frameworks help organization leaders understand how to accomplish a competitive advantage by prioritizing and organizing competing resources and information that entails a hierarchical structure of subunits. The resources include tangible, intangible, and human resources analyzed at the corporate level (Helfat & Peteraf, 2009), with two central foundational pillars comprised of skills and subunits used to identify new business environments and opportunities. Organizations use four foundational skills to develop business processes to manage innovation and create new business models (Krzakiewicz, 2013). The subunits include ordinary capabilities (base unit) and the processes to deploy resources in achieving organizational goals (Teece, 2018). Teece (2018) includes the micro-foundations and the higher levels that comprise three entrepreneurial activities clusters—these activities channel organizations' resources and capabilities to achieve and maintain their competitive edge. Aggregating these definitions and descriptions, one can surmise that DC is the firms' ability, using their resources, to integrate and build competencies to meet dynamic and changing market conditions. The DC views contrast with agency theory in that agency theory focuses on conflict resolution and delegation of responsibility and authority to agents. At the same time, DC is mainly concerned with employing resources to gain a competitive advantage in a dynamic market environment.

Resource-Based View Theory

In contrast to agency theory, resource-based view theory (RBV) deals with an organization's analysis and development of internal human resources and available external resources in creating an environment to achieve competitive advantage.

Researchers credit Penrose (2009) as the seminal author of the RBV, a theory enhanced and further developed by Wernerfelt (1984). Researchers and scholars use this theory to elucidate how organizations use their internal resources to create a firm's competitive advantage and profitability (Cruz & Haugan, 2019). Teece (2018) argued that the resource-based view has some commonality with the DC theory but lacks the holistic approach to building a competitive advantage. Kull et al. (2016) argued that the RBV emphasizes organizations' use of internal resources to generate a competitive advantage in the marketplace. Cruz and Haugan (2019), summarizing Barney's (1991) writing, noted that the RBV was a management theory that involves organizations' use of internal resources, not generally mobile, to gain and sustain competitive advantage in a market environment. Consequently, the RBV deals with how organizations and their management acquire and develop unique internal resources, to create, maintain, and sustain competitive advantage different and superior to their competitors.

The RBV theory's main thrust deals with what firms do with their internally developed and externally available resources to gain a competitive advantage. Firms' resources comprise organizational strengths and weaknesses: capital (tangible), intellectual, and human resources. The resources are rare, inimitable, and nonsubstitutable for their potential and competitive advantage (Dionysus & Arifin, 2020). Organizations use their internally generated resources to gain and sustain a competitive advantage over their competitors due to the uniqueness and characteristics of their resources. Organizational control of these rare resources allows an organization to engage in and drive performance and determine their industry's competitive nature market

position (Dionysus & Arifin, 2020). Maintaining and sustaining these resources requires firms to gauge and respond to current and potential market conditions and their stakeholders to maintain their competitive advantage and superior performance (Kull et al., 2016). This theory encapsulates how firms use their available internally developed and externally available resources to gain and sustain their competitive advantage. However, the RBV theory is not appropriate to underpin this study. This study deals with the relationship between corporate owners (principals), top managers of the corporation (agents), and the agents' alignments of their responsibilities and interests to generate superior performance for the organizations they manage.

CEO Compensation

For centuries, scholars and researchers have conducted research studies and debated executive compensations and their ramifications for corporate governance and firm performance. The SEC mandated that public entities disclose total remuneration packages for top executives in their annual proxy statements filed with the SEC (Maas, 2018). Fischer and Lindermoyer (2020) noted that Section 953 of the Dodd-Frank Act of 2010 requires public companies to disclose the relationship between executive compensation and firm performance. Elsayed and Elbardan (2018) noted that studies in on executive compensation generally found a close correlation between executive compensation and firm performance. In contrast, similar studies on United Kingdom (UK) companies do not find a close link (Elsayed & Elbardan, 2018). The agency theory is that properly designed executive compensation packages by a corporate BOD reduce agency problems and encourage executives (agents) to align their interests with the

organization to maximize owners' wealth (Elsayed & Elbardan, 2018). Corporate executives play significant roles in firms' lives; consequently, their performance affects corporate profitability, sustainability, and performance.

History of Executive Compensation

Executive compensation is one of the predictive variables for my doctoral study. Many scholars and researchers have conducted research and published research findings on most areas of executive compensation. From the mid-1930s through the early 1970s, researchers began to conduct research studies on executive compensation, but the studies and discussions lacked coherence due to the scarcity of information on the subject (Frydman & Jenter, 2010). However, researchers found a new interest in the topic due to the changing nature of corporate governance, environmental concerns, corporate scandals, and the complex structure of executive compensations (Frydman & Saks, 2010). Rasoava (2019) noted that before the 1960s, total executive compensation packages comprised two main components: basic salaries and annual cash bonuses. From the early part of the 1960s and 1970s, shareholders and firms' owners began to focus on firms' financial performance as a major measurement metric used to design executive compensation and, consequently, decided to include incentives such as equity-based pay tied to firm performance as part of the executive compensation package (Rasoava, 2019).

Research findings and analyses on executive compensation diverged due to some of the various components that comprise executive compensation packages. Also, there has not been a coherent analysis of executive compensation's evolution (Frydman & Saks, 2010). Davis and Hausman (2020) noted that most executive compensation articles

focused on reconciling two distinct views; rent extraction and shareholder value. Further, Frydman and Saks (2010) noted that executive pay was substantially flat from the 1940s to the early part of 1970, although corporations grew and developed during the same period. However, CEOs' compensation rose rapidly from 1970 to the middle of 2000, mainly due to using more firms' equity and stock options as compensations (Frydman & Saks, 2010). Between 1990 and 2001, the executive's equity-based compensation rose by 22%, correlated with a sharp increase in executive compensation (Rasoava, 2019). Rasoava's (2019) study on the relationship between executive compensation and firm performance observed that from 2005 through 2016, executive compensation grew for all companies (small, medium, and large). The growth was as high as 343% for large companies, 447% for medium companies, and 215% for small companies. The long-term incentive plan accounted for the highest plurality of the components of the executive (Rasoava, 2019). Executive compensation packages have grown within the last few decades, and the phenomenal growth led scholars and researchers to conduct studies on executive compensation.

Structure and Component of Executive Compensation

Practitioners and scholars agree on the general framework of the components of executive compensation. Components of executive compensation include salary in cash, annual bonuses, equity-based compensation in the form of stock options and restricted stock awards, long-term incentive plans, and other perquisites (Frydman & Jenter, 2010; Rahman & Mustafa, 2018; Rasoava, 2019). Cash salary payments, generally denominated in local currency, are paid based on agreed-upon amounts and form the primary

component of executive pay (Matović, 2019). Annual bonuses are usually determined based on the organization's attainment of agreed-up organizations' financial or marketing performance, outlined in CEO employment contracts. Before the 1960s, salaries and annual cash bonuses were the primary components of executive compensation (Rasoava, 2019). BODs incorporated incentives such as equity-based pay in stock options and restricted stocks in the CEO compensation contract structure to incentivize and motivate corporate executives to take more calculated risks in creating additional value for the organization and increasing CEOs' wealth (Rasoava, 2019). The inclusion of equity-based compensation in CEOs' compensation packages encourages CEOs' loyalty to their organization and as incentives to focus on long-term strategic planning to meet organization goals (Matović, 2019). Because of the strategic roles CEOs play in organizations' performance and the enormous responsibilities placed on them, decision makers should design their compensation packages to encourage and motivate CEOs to take calculated risks in managing organizations.

The other CEO compensation packages are equity-based compensation, post-employment payments such as pension payments, and perquisites. Equity-based compensation generally includes awards of stock options, restricted stocks, and post-employment payments to the organization's CEO to incentivize them to exert energy and resources to increase shareholders' value (Frydman & Jenter, 2010; Hoi et al., 2019). CEOs' total compensation includes perquisites. Perquisites embody the use of organizations' facilities and assets available to the CEOs' use, not generally included as part of documented compensation, and form a part of CEOs' rent extraction (Hoi et al.,

2019). For example, CEOs' provision and use of corporate airplanes, flying first class in air travel by non-profit organizations executives, CEOs' use of exercise and sports facilities paid for by the organization, and many other corporate benefits, comprise most major perquisites. Balsam et al. (2020) found that perquisites was more prevalent in larger organizations with higher executive compensation packages. This finding indicates that BODs consider perquisites when determining and negotiating CEO compensation packages. Because of the various components that make up executive compensation, it becomes complicated and challenging to determine the actual and total executive compensation packages.

Determinants of Executive Compensation

The corporate board compensation committee considers many factors in determining CEO compensation and the nature of the compensation. The major factors influencing CEO compensation include the organization's size, capital structure, type of organization, an executive's risk assumption level, and opportunity for growth (Maas, 2018). Some scholars and researchers argue that market forces, a CEO's perceived relative performance to enhance their firm's market value, and the pool of available candidates in the industry play significant roles in determining CEO compensation (Davis & Hausman, 2020; Fischer & Lindermoyer, 2020). Corporate executives decide on a matter they generally can control (corporate governance and decision making), and their compensation should be determined based on their organizations' performance. Ntim et al. (2019) found a positive relationship between executive compensation and firm performance. Many researchers and scholars believe that structuring and determining

executive compensations involve using many observable and discretionary metrics. These metrics correlate with the CEOs' and their firms' performance and others that are not easily measured and determined (Davis & Hausman, 2020). CEO's performance is critical to an organization's success, and those who formulate CEO compensation packages consider factors such as organizations' size, potential and actual risk, market conditions, and the pool of available candidates in determining CEO compensation.

In addition, factors such as inside-promoted or outside-hire, CEO discipline, firm size, the board size, duality, and companies' age impact CEO compensation. The compensation package of an executive promoted to the CEO level position within the company may differ from one hired from outside the company and consequently impact CEO compensation (Brockman et al., 2016). Further, a CEO discipline, either as a specialist or a generalist, may also play a role in determining their compensation level. Brockman et al. (2016) examination of some of the determinants of CEO compensation found that a CEO considered generalist and hired from outside a company receives a higher compensation package compared to one considered a specialist and promoted from inside the organization. A CEO who is also a generalist and hired from outside the company receives a higher compensation package because they negotiated for higher compensation (Brockman et al., 2016). A CEO's discipline, considered a generalist and hired from outside the company they manage, generally commands a higher compensation package than one promoted from within the organization.

Furthermore, there are some inconsistent findings on the effect of board size, CEO duality, firm size, and risk-taking on CEO compensations. Examining the impact of

firm performance and corporate governance on CEO compensation by non-financial entities in Pakistan, Sheikh et al. (2018) found that organizations' BODs size and CEO duality had no impact on CEO compensation. In contrast, Kaur and Singh's (2019) examination of CEO characteristics and firm performance found that CEO duality had a significant and positive impact on ROA. ROA is one of the accounting performance metrics used to measure corporates' performance. Sheikh et al. (2018) found an inverse relationship between CEO compensation and risk-taking and a positive and significant relationship between firm size and CEO compensation. These mixed results indicate that a CEO's characteristics might not be significant in determining their compensation packages.

Company Size and Capitalization Structure

Many researchers have examined whether a company's size and complexities, holdings, *and capitalization structure* have a significant impact on compensation packages offered to organizations' CEOs. Most studies conclude that organizations' size and wealth significantly impact CEO compensation packages. For example, Rahman and Mustafa (2018) used data from 249 U.S. companies across multiple industries from 2004–2012 to examine whether organizations' stock performance and total assets have a statistically significant effect on CEOs' remunerations. The authors also explored whether CEOs' compensation was too high and what relevant variables were essential in designing total CEO compensation. The findings affirmed the general belief and understanding that firms' performance positively affects executives' compensation packages. Smirnova and Zavertiaeva (2017) studied 330 European companies to examine

whether firms' age and size impact executive compensation. The authors found that organizations' size and age play significant roles in determining executive compensation. BODs and decision makers who hire CEOs could be well served to incorporate specific financial performance, capitalization structure, and other metrics to set and negotiate executive compensation.

There is a general belief that increases in firms' product prices contribute to increases in executive and CEO compensations. Davis and Hausman (2020) examined executive compensations in the energy industry and found that increases in firms' product prices, such as increased crude oil and natural gas, contribute to determining executive compensation. In a study that examined the effect of oil price increases on executive compensation, executive compensation increased by 1.3% when there was a 10% increase in price-induced spending, generally for capital projects (Davis & Hausman, 2020). This finding sounds reasonable because employees and executives seek to increase their wealth when organizations' wealth increases due to the increase in firms' product prices. They believe that their efforts and activities lead to increased organizational value.

Purpose of Executive Compensation

Organizational leaders compensate employees for the work done for the organizations and encourage them to perform other value-creation and wealth-building activities to increase firms' performance. This general belief and treatment also applies to the company's CEOs. Nevertheless, scholars, business researchers, and practitioners have conducted studies with mixed results to examine executive compensation and to determine, amongst others, the reasons for compensating organizations' CEOs (Elsayed

& Elbardan, 2018; Fischer & Lindermoyer, 2020). An organization's success or failure depends primarily on leadership, experience, access to a network, and activities of the organization's executives, led by organizations' CEOs (Conyon et al., 2019). One of the main constructs of agency theory is to ensure that agents, usually represented by the CEOs, align their interests with that of organization owners to maximize profit and create value for shareholders (Sheikh et al., 2018). Another purpose of compensation is to encourage and incentivize CEOs to align their interest with the organizations' interests. Martin and Butler (2017) noted that most CEOs are self-interested, and their compensations entail aligning their self-interest with that of the organization. Therefore, motivating them through incentives (salary, equity awards, and bonus payments) is imperative to align a CEO's interest with the organization's interest.

The assumption of a correlation between executive performance, wealth building, and financial performance by firms has led to many research studies on executive compensations. Khaled (2020) studied 25 Jordanian publicly traded industrial firms from 2010-2017 and found a positive relationship between CEOs' compensation and organizational performance. In another study on CEOs' remuneration in 330 European firms from 2009-2013, Smirnova and Zavertiaeva (2017) found that CEOs' compensation was directly associated with corporate performance. On the other hand, Davis and Hausman (2020) found that oil and gas prices usually determine firm performance in the oil and gas industry. Davis and Hausman's findings notwithstanding, most research findings indicate that company owners must compensate organization leaders to create value and maximize profit for their firms.

Executive Compensation and Firm Performance

Studies on the relationship between corporate governance and executive compensation have produced mixed results. Most studies on corporate governance found some significant and positive relationship between executive compensation and firm performance, while others did not observe such a relationship (Sheikh et al., 2018). The research findings indicate that firm performance determines most executive compensation packages. This result aligns with the agency theory, supporting how corporate owners incentivize agents to maximize firms' wealth. For example, Elsayed and Elbardan's (2018) examination of the correlation between executive compensation and firm performance, using data from 350 UK firms and covering 2010–2014, found a positive and significant relationship between executive compensation and firm performance. Elsayed and Elbardan also found that a 100% percent increase in firm performance led to a 4.1 percent in executive compensation. Davis and Hausman (2020) used data from 78 oil and gas companies to examine executive compensation and found that a 10% increase in firms' value leads to a 2% increase in executive compensation. It is safe to assume that because of the diverse research findings on the relationship between executive organizations' performance and executive compensation packages, researchers and scholars will continue to study and explore the topic for some time.

CEO *characteristics* such as education level, equity ownership, service tenure, age, gender, and CEO dualism, impact their effectiveness, total compensation, and corporate performance. For example, Kaur and Singh (2019) used panel data from 500 Indian firms from 2012-2016 to examine the relationship between CEOs' educational

level, share ownership, gender, tenure, and corporate performance. The author found a statistically significant and positive relationship with ROA, a corporate performance measurement metric, and, thus, their compensation package. Also, Saidu (2019) conducted a similar study on 222 Nigerian firms in the financial sector to examine the relationship between CEOs' characteristics and firm performance. The author noted that CEO ownership in a firm positively and negatively impacted the firm's performance. Further, CEO with longer tenure received less criticism than those with lesser tenure from the BOD due to their familiarity and closeness with BOD members (Kaur & Singh, 2019). Consequently, it is essential to note that those responsible for hiring firms' CEOs must consider a broad range of characteristics in contracting with a potential CEO to manage an organization.

Pay-for-performance, a variation in determining executive compensation, significantly impacts designing a CEO's compensation packages. Some scholars find that pay-for-performance is exogenously sensitive to some industry characteristics due to product price volatility (Davis & Hausman, 2020). In contrast, others believe that a firm's characteristics, such as a company's growth opportunities and management of derivative instruments exposure, play a significant role in determining executive compensation structure (Loriot et al. 2020). Frydman and Saks (2010) examined the growth and changes in executive compensations and found that pay-for-performance was more sensitive in firms with more significant growth opportunities than those regulated by governmental regulatory agencies. Loriot et al. (2020) examined companies' use of foreign hedging in managing their financial structure and found a link between CEOs'

equity holdings and their organizations' exposure to foreign exchange hedging. One could assume that CEOs' performance, equity holdings, and organizations' capital management impact their compensation structure.

CEO Compensation Measurement

Components and measurements of executive compensation include cash and non-cash-based compensation. While some researchers categorized the measurement of executive compensation into distinctively cash or non-cash-based, others do not include non-cash-based performance measurement in their determination of total executive compensation (Frydman & Saks, 2010). Some researchers use performance and time-based vesting to measure CEO compensation (Bettis et al., 2018). For example, Davis and Hausman's (2020) study of executive compensation of major U.S. oil and gas companies did not categorize the various aspect of executive compensation into cash-based and non-cash-based. Bettis et al. (2018) included performance vesting (PV) and time-based vesting (TV) as part of measurement metrics on equity compensation. Because of the various components used in measuring and determining executive compensation, researchers choose which components to include in their studies based on their research hypotheses, industry, and the nature of their research.

While most scholars and researchers have studied the financial aspects of CEO compensation measurements, others added that CEO compensation should also be measured and evaluated on nonfinancial performance metrics. For example, Cho et al. (2019) included nonfinancial measurements such as increased corporate efficiencies, annual report claims, and employee satisfaction. In their study, Cho et al. (2019) use

financial and nonfinancial performance measures to explore CEO bonus pay and power. The authors found a stronger sensitivity to CEOs' bonus pay and shareholders' returns when organizations emphasized using nonfinancial performance as a CEO performance pay determinant. Corporations' financial and nonfinancial performance measurements are significant in designing and measuring executive compensation packages.

Share Price Volatility

Understanding SPV and its characteristics and impact on investment decisions and corporate performance are critical in research studies. Pelcher (2019) described SPV as a rapid or slow share price movement, either high or low, over time. The movement is unpredictable and dependents on many factors. In statistical terms, volatility is the standard deviation or the rate at which share price increases or decreases compared to its average value (Lasisi et al., 2020). Share price exhibits high volatility when it moves or fluctuates rapidly, indicating a higher risk within a short period, and volatility describes a slow or relatively stable price movement or fluctuation over a longer period, indicating a lower risk (Pelcher, 2019). Understanding price volatility and its impact on corporate financial performance are critical to investors and stakeholders interested in equity ownership.

Many factors determine SPV and investors' assessment of an organization's SPV in investment decisions and measurements. Some of the determinants of an entity's SPV include financial performance, dividend policy, accounting information, capital structure, political situation, market or industry conditions, firm size, and news about a product or a company (Pelcher, 2019; Pongsupatt & Pongsupatt, 2019). Orlitzky (2013) also noted

corporate social responsibility as one of the determinants of SPV. Mehmood et al. (2019) argued that an entity's dividend distribution rate impacts the entity's share price and, consequently, the entity's SPV. Investors and researchers use various approaches to calculate price volatility. The two primary methods involve using historical market prices over a period (annually or monthly). The second, generally implied, use an underlying asset's expected future price, such as an option or market-traded derivatives. Mehmood and Mehmood (2019) noted the two basic approaches in their study that examined the determinants of stock price volatility in Pakistan's cement industry. Investors and those interested in assessing firms' performance could benefit from understanding the factors determining SPV, its measurement, and its impact on a corporate's performance and growth.

Determinant of Share Price Volatility

Many factors impact or play significant roles in determining SPV. Some of the SPV's determinants include corporates' dividend payout policy, companies' performance, accounting information, organizations' capital structure, and corporate social responsibility. Scholars and researchers have studied the impact of organizations' dividend policies on SPV. For example, in their study to examine the impact of dividend payout policy on SPV in the Indonesian manufacturing industry, Handayani et al. (2019) found that the dividend payout rate was a major determinant of SPV. The authors noted that higher dividends payable signified a potential increase in future earnings. Knowledge of the expected future earnings heightens interest in owning a piece of a company through stock ownership could lead to a surge in SPV. Using the dividend relevance

theory and signaling theories, Kengatharan and Ford (2021) studied how dividend policy on some non-financial firms in Sri Lanka impacted firms' SPV. The authors found that dividend yield and dividend per share significantly impacted SPV. In contrast, dividend payout had no statistically significant effect on SPV. Mehmood et al. (2019) also found a positive relationship between stock price volatility and dividend payout ratio. From these empirical research findings, one can assume that a company's dividend policy significantly impacts its share price volatility.

Another factor that impacts price volatility is a company's financial performance. Investors evaluate companies' financial performance by many measurement metrics, including ROE, EPS, and ROA. A company with an excellent positive past or projected financial performance attracts investors interested in maximizing returns on their investment. Investors' increased interest in companies leads to more stock trading, which affects price volatility (Handayani et al., 2019). For example, Lasisi et al. (2020) examined the effect of dividend policy on the SPV of listed money deposit banks in Nigeria. They found a significant relationship between EPS and SPV, indicating that a company's financial performance influences current and potential investors' investment decisions. Pongsupatt and Pongsupatt (2019) examined the factors that affect stock prices in the Thailand Stock Exchange and found a positive and significant relationship between ROE and SPV. Understanding the impact of SPV on firm performance could help investors make investment decisions regarding an entity of interest.

Firm accounting information significantly impacts companies' share prices and, consequently, SPV. Companies derive accounting information from financial transactions

and provide the information to third parties such as investment communities, regulatory agencies, and stockholders. For accounting information to be useful to investors and stakeholders, the information must be timely, relevant, and reliable. Public organizations provide financial information that could aid in determining book value per share as part of the financial statements information included in their annual reports. Corporate annual reports contain external auditors' opinions on the reliability and credibility of the financial information included in the annual reports (Blanco et al., 2021). A company's accounting information impacts its share price movement and, thus, its SPV. For example, Asif et al. (2016) conducted a study to investigate the relationship between accounting information provided by companies and their impact on share prices. The authors found that the accounting information companies released to the public significantly influenced a company's share price. Özlen and Ergun's (2012) used the OLS (ordinary least square) method to study the determinants of the stock price movement. The authors found that companies' book value, an accounting valuation of an entity's total net assets, significantly impacted companies' stock prices. Consequently, investors and others interested in investing in an entity review an entity's financial information as part of the information relevant to making an investment decision.

A company's capital structure, such as leverage (short-term and long-term debts), and equity, impacts its SPV. A company's liquidity, an essential part of its capital structure, significantly impacts its ability to meet its financial obligations, such as debt repayments and operating activities. Azrak et al. (2020) noted that a company's investments in revenue-generating activities or assets, which is also a part of an

organization's capital structure, impact its SPV. Regarding a company's capital structure impact on its SPV, Nenu et al. (2018) examined the impact of capital structure on risk and firm performance for companies listed on the Bucharest stock exchange. The authors found that SPV positively correlated with leverage and debt structure. Investors understanding of an organization's capital structure is critical in making investment decisions because a highly leveraged company might not have the financial resources to pay shareholders dividends and make loan repayments.

Measurement of Share Price Volatility

Researchers and scholars view SPV through various lenses and measure and calculate SPV to test their research hypotheses. Some of these measurements are in absolute terms, while others use statistical methods for measurement. Alterman (2012) noted that the two basic approaches to measuring price volatility include measurement in absolute terms and the return method. Measurement in absolute terms deals with changes in price between two measurement periods or the change in price from the initial period to the measurement date or from a predetermined measurement point (Alterman, 2012). The return measurement method measures the change in price to the initial measurement point (Alterman, 2012). No matter the measurement method, researchers generally use a two-step calculation approach to measuring price volatility. The first step includes dividing the annual range by the share price average, high and low and then using a square root transformation to calculate the price’s standard deviation (Hashemijoo et al., 2012). Other measurements include dividing the difference between the highest and lowest stock price in a stated measurement period by the average price and squaring the

result (Kengatharan & Ford, 2021; Mehmood et al., 2019). In their study of the determinants of stock price volatility in the cement industry in Pakistan, Mehmood et al. (2019) found a positive association between stock price volatility and dividend payout ratio. Researchers use the SPV measurement method familiar to them to understand SPV's phenomenon and usefulness in research studies.

There are various statistical approaches and methods in SPV measurements. Rafiq et al. (2009) noted parametric and non-parametric measurement methods, including stochastic volatility, historical volatility, and realized volatility (RV). However, they believe that the RV is the most prominent method. Rafiq et al. (2009) used realized volatility in their study to examine the impact of crude oil price volatility on economic activities in the Thai economy. Other scholars use the volatility index overview (VXO). The VXO is the market volatility measurement method primarily used by the Chicago Board of Exchange (Robays, 2016). For example, Robays (2016) used the VXO to analyze the impact of macroeconomic uncertainty on oil price volatility. Because of the availability of various SPV measurement approaches and methods, researchers could use an approach or method they understand that aligns with their research studies.

Decision makers, scholars, and researchers use the measurement metrics familiar to them in their research study. Alterman (2012) used the absolute and return methods in their study of natural gas volatility in the United Kingdom (UK) and North. Rafiq et al. (2009) used the RV measurement method because most researchers used this method to examine price volatility. Robays (2016) used the VXO measurement method because of its close relationship with financial market uncertainty. Kengatharan and Ford (2021) and

Mehmood et al. (2019) employed the square and the square root measurement approach in their studies of the impact of corporate dividend policy on SPV. The nature of the study, research methods, and the researchers' familiarity and comfort level determine the price volatility measurement methods used in a research study. No matter the methods researchers use, SPV's measurement enables researchers to include it as a useful variable and determine its impact and relationship with other variables in research studies.

Effect of Share Price Volatility on Investment

There are scant research studies on the impact of SPV on investments or other market and corporate performance. However, a handful of existing research points out that SPV's existence could cause systematic risk in investing in organizations' shares. Such has influenced scholars to conduct studies on the impact of SPV on issues such as futures markets because of researchers' assumption that SPV influences stock index futures (Meng et al., 2021). This risk may impact many aspects of organizations' operations and investors' interests in maximizing their wealth through investment in .companies' stocks. Some government and regulatory agencies instituted policies that limit trading on stock index futures to avoid SPV that may negatively impact stock market indexes. However, the impact of limited trade on the stock futures market is not clear-cut (Meng et al., 2021). The impact of SPV on investment and futures markets might influence investors in making investment decisions on corporate ownership and regulatory entities to make rules that could protect investors and equity markets.

The importance of price volatility has influenced scholars and researchers to include it as a research variable in their studies. Including the SPV variable in research

studies allows researchers and scholars to understand their impact on firms' performance, economic development, and investment decisions. For example, Bugshan et al. (2021) included the impact of price volatility on non-financial, Shariah-compliant, and non-Shariah-compliant firms listed in the Gulf Cooperation Council stock exchanges (GCCSE). Jedi and Nyan (2018) included price volatility in their study of firm performance in some listed companies in Iraq. Pelcher (2019) included SPV in her study of dividend policy's role in investment decisions. Perifanis and Dagoumas (2018) found an asymmetrical relationship between volatility in oil price and natural gas prices of the volatility spillover between the two commodities covering a period from 1990-2017. Understanding the importance and implications of SPV and its impact on general economic conditions and investment decisions is of great interest to researchers and the business communities.

Return on Equity (ROE)

ROE is one of the most commonly used accounting and financial performance metrics. Financial analysts and investors calculate ROE by dividing total net income (NI) by the average number of outstanding shares or owners' equity (Ataay, 2018). Financial analysts and equity investors monitor and are concerned about how organizations' management uses equity owners' resources to generate profit for the firms (Spiceland et al., 2011). Many scholars favor using ROE as a measurement metric to determine CEO compensations due to its prominence in assessing organizations' profitability and performance. Cho et al. (2019) included ROE in their study to explore how organizations in the UK use financial and non-financial measurements in CEOs' bonus pay. Including

ROE to measure an organization's financial performance is essential in determining an organization's profitability and management's effectiveness in generating returns on owners' investments.

Investors, corporate management, and researchers view firm performance through various lenses. Arora and Sharma (2016) indicated that scholars and investors view firms' performance through two lenses of accounting-based performance and market-based performance. Accounting-based performance measures include ROE and ROA, while market-based performance includes Tobin's Q and stock returns (Rahman & Mustafa, 2018). Elsayed and Elbardan (2018) noted that Tobin's Q is a performance measurement metric that compares a company's capitalization with its book value. A higher level of Tobin's Q indicates a firm's worth is higher than the underlying assets (Elsayed & Elbardan, 2018). Kaur and Singh's (2019) included ROE as a variable in examining the relationship between CEO characteristics and firm performance of some Indian firms. Rahman and Mustafa (2018) used stock returns and ROE to explore factors determining total CEO compensation in 249 U.S. public companies and found that both performance measurements impact CEO compensation. Fischer and Lindermoyer (2020) used ROE and Tobin's Q to examine CEO compensation to workers' ratio and firm performance and found mixed results. The ability to assess firms' performance through various perspectives could help formulate and negotiate CEO compensation packages commensurate with firm performance.

The purpose of this quantitative correlational study was to examine how executive compensation and SPV in the oil and natural gas industry impact ROE. Researchers and

scholars interested in the relationship between executive compensation and firm performance include ROE as part of the study's variables. The focus of agency theory is that to mitigate agency problems caused by self-interested CEO (agent), a principal designs compensation contracts and packages to align a CEO's interest with an organization's interest to maximize shareholders' wealth (Jensen & Meckling, 1976). As one of the essential financial accounting metrics used to measure firms' profitability and performance, most organizations use ROE to design CEOs' compensation contracts. Using financial measurement performance metrics such as the ROE is one of the ways to assess an agent's effectiveness in interest alignment. Omoregie and Kelikume (2018) used publicly available secondary data on 12 commercial banks in Nigeria from 2005-2012 to conduct a study to examine the relationship between the relatively high banks' (financial firms) executive compensation and firm performance. The authors found a weak and negative relationship between executive compensation and ROE. Arora and Sharma (2016) used data from 20 manufacturing Indian firms to study the relationship between corporate governance and firm performance. The authors found a weak but positive relationship between corporate governance and ROE. Corporate governance structure and characteristics impact ROE and, by extension, CEOs' compensation.

Some researchers and scholars who conducted studies to examine CEOs' compensation sensitivity to firms' performance using accounting performance metrics found a statistically significant impact of ROE on executive compensation. Sheikh et al. (2018) conducted a study on 260 publicly traded non-financial Pakistanis firms covering 2005-2012 to examine the impact of firm performance and corporate governance on CEO

compensation. The authors found that CEOs' total compensation positively correlated with accounting-based performance, such as ROE and ROA. Also, Ataay's (2018) study of the relationship between corporate performance and executive pay in publicly listed firms in Turkey noted that a firm's ROE positively impacts executive compensation. Ataay's (2018) study result was notable in that a one percent increase in firms' ROE resulted in a 14.7% increase in executive compensation. Buachoom's (2017) study of the relationship between executive compensation and firm performance on some Thai-listed non-financial entities included ROE as part of the study's financial performance measures. Using ROE in research studies allows researchers and investors to understand its importance and relevance in assessing companies' performance and making investment decisions.

Measurement

Measuring variables is essential to a literature review in research and doctoral studies. I used CEO compensation, SPV, and ROE as my doctoral study variables in this study. Researchers use various metrics in the measurement of these variables. Scholars, researchers, investors, organizations, decision makers, and other stakeholders, use financial and non-financial measurements to measure and assess CEO compensation, SPV, and organizations' performance. The measurement metrics include ROE, ROA, and Tobin's Q (Cho et al., 2019; Elsayed & Elbardan, 2018). The process also allows for comparing an entity's performance against an industry's benchmark or one unit's performance against another within the same company (Delen et al., 2013). Comparing entities' performance against a benchmark or other entities is essential to an organization

because the process enables principals and other stakeholders to evaluate and judge how CEOs' (agents) risk-taking and their use of the organization's available resources create value for the owners (Black, 2020). The process also gives organization owners insight into how effectively agents align their interests with those of owners and the broader organizational social responsibility (Chen et al., 2019). On a broader level, Ndlovu and Alagidede (2018) examined how the structure of listed firms in the financial industry in emerging markets (BRICS countries) industry and other macroeconomic indicators impact firm performance as measured by ROE. The authors found wide variability of ROE in highly concentrated financial industries and a stable ROE in less concentrated financial industries. Measuring an organization's performance using multiple variables and processes is essential in determining how well it performs and comparing an entity's performance against a benchmark and its peers.

Firm Performance Measurement

Assessing corporate performance requires using measurement metrics to evaluate corporate governance and organizational and executive performance. Most scholars have written on the multidimensional measurement of firm performance composed primarily of financial and non-financial measurements (Gentry & Shen, 2020). The two basic measurements to evaluate firms' performance are financial and non-financial. A firm positive performance, attained from good corporate governance, ensures investors or owners attain a positive return on their investments (Bhagat & Bolton, 2019). The principal performance measurements evaluators use are accounting measurements such as ROA, ROE, ROI, and EPS and market performance measurements such as Tobin's Q

(Gentry & Shen, 2020). Makhlouf et al. (2018) noted that scholars and stakeholders use Tobin's Q to measure the future perception of organizations' market value. Non-financial measurements include customer satisfaction, employee satisfaction, safety, environmental factors, and other challenging factors to measure in financial terms (Cho et al., 2019). Consequently, potential equity and debt investors use these metrics in assessing the future financial performance of organizations they might be interested in evaluating.

Accounting-Based Performance Measurement

As noted above, some accounting performance measurements used to assess organizational profitability include ROA, ROE, EPS, RI, and other profitability evaluation metrics. Researchers use these metrics as the most direct and significant ways to review lagged or prior years' performance measurements (Elsayed & Elbardan, 2018). Organizations and interested parties use ROE as one of the primary accounting measurement metrics to assess organizations' performance. Nguyen and Nguyen (2020) included ROE and ROA as two primary firms' performance measurements to examine the capital structure and firm performance of non-financial listed companies in Vietnam. The authors found an opposite relationship between ROE and the capital structure of non-financial publicly listed companies in Vietnam. In their study of how CEOs' characteristics impact the firm performance of selected Indian companies, Kaur and Singh (2019) included ROE as part of their measurement of firm performance. The authors found a positive relationship between ROE and CEOs with outside directorship, CEOs who serve as board directors in other organizations. This correlational study uses ROE as the dependent variable that measures firm performance.

Market-Based Performance Measurement

Researchers use various performance metrics to measure an entity's market-based performance. One crucial metric in market-based performance measurement is Tobin's Q, introduced into the business lexicon in 1969 by James Tobin, Tobin's Q (TQ) is another financial measurement metric used to measure a firm's performance (Tarigan et al., 2018). Most investors rely on it when acquiring firms' equity (Tarigan et al., 2018). Some scholars argue that TQ is strictly a market-based performance measurement metric. In contrast, others believe that because it compares the market value with net book value, an accounting measurement, it is an accounting-based performance measure (Elsayed & Elbardan, 2018). Elsayed and Elbardan (2018) noted that a positive ROA and TQ indicated a firm's achievement of profitability. Makhlouf et al. (2018) included TQ as a controlling variable to examine the impact of family control businesses on the relationship between the BOD and firm performance. The presence of family members on the BOD weakened the relationship between the effectiveness of the BOD and TQ (Makhlouf et al., 2018). Consequently, in addition to other firm performance measurements, most organizations include TQ to measure firms' performance and determine CEOs' total compensation packages.

Many other factors could impact a firm's performance, executive compensation, and SPV, the variables used in this study. CEOs' characteristics, such as education level, duality, gender, power, ownership, and tenure, could impact an organization's performance. For example, Kaur and Singh (2019) noted that CEO characteristics significantly influence organizational structure and firm performance. Exogenous factors,

such as changes in weather, and economic and political sanctions, causing uncertainty in companies' product supply and demands could lead to SPV. The volatility could lead to an inflationary condition on a macroeconomic level and consequently impact firm performance. Exogenous factors, such as the ongoing COVID-19 (C9) pandemic, could impact an organization's performance. In their study of the impact of the C9 on corporate performance in China, Gentry, and Shen (2020) found that the C9 outbreak negatively impacted firm performance on the macro level. However, on the industry level, Atayah et al. (2021) found that the C9 pandemic positively impacted logistics companies' financial performance. However, the purpose of this study was to examine the relationship between CEO compensation, SPV, and ROE.

Summary and Transition

In section one of this, I provided the background of the problem, including the limited knowledge that some owners and members of midstream oil and gas companies have about CEO compensation, SPV, and firm performance as measured by ROE. I restated the purpose of this study which was to examine the relationship between CEO compensation, SPV, and ROE. I also specified the research question, study hypothesis, literature review, and a discussion of the theoretical framework underpinning this study. To help readers understand some of the terms used in this study, I included some operational definitions, assumptions, limitations, delimitations, and the significance of the study.

The significance of the study includes benefits to BODs and organization owners and their ability to understand how CEO financial compensation and the impact of

exogenous events affect their organization's performance. Also, a positive social change includes awareness of the need to plan and make organizations profitable in the face of share price uncertainty to keep people employed and maintain or enhance community economic and social development. Employment enhances the local economy, increases tax revenue used to build public facilities, such as roads and recreational parks, and provides financial resources for local public schools that enhance the quality of life. Employment also adds to the economic welfare of the citizen in the community housing these companies.

In section two, I enumerated the research method, design, and the study's research population and restated the purpose of this study. In addition, I discussed ethical considerations in research and explained the data collection instrument, data collection technique, and analysis. Section three contained the study's result, recommendation, and conclusion.

Section 2: The Project

This section begins with the restated purpose statement, followed by the role of a researcher in research data collection and research participants in conducting a study. I described the research method and design and the reasons for using a particular research method and design. Other topics discussed in this section include research sampling methods, ethical research, data collection instruments, data collection techniques, and data analysis. This section concludes with a discussion of research validity, including the steps researchers take to ensure the reliability of research findings.

Purpose Statement

The purpose of this quantitative correlational study was to examine the relationship between CEO compensation, SPV, and ROE. The independent variables were CEO compensation and SPV, using 2019 share price data from S&P 1500 and Yahoo Finance for historical monthly share prices. The dependent variable was the company's ROE for 2019. This study's target population included U.S. publicly traded midstream oil and gas companies. The results of this study may positively impact local communities and school districts' economic development that rely on tax revenue from midstream oil and gas companies for operations and capital projects.

Role of the Researcher

Researchers play a significant role in society by creating new knowledge, confirming existing knowledge, discovering and presenting behavior patterns, or introducing new information and concepts. Successful research or doctoral study is one of the optimal accomplishments of doctoral students. As a doctoral student, my role was

to explore and fill a gap and present or confirm existing knowledge by collecting, analyzing, and synthesizing publicly available financial information published by some midstream oil and gas companies in the United States. Cumyn et al. (2019) argued that researchers are reflective practitioners and participants who begin their research by exploring gaps in research topics, formulating research questions, and presenting research findings. During this period, a researcher must effectively collect and use the research data, present new information, or support earlier research findings (Cumyn et al., 2019). Clark and Veale (2018) added that researchers' major roles include advancing, confirming, and refuting existing knowledge or introducing new information. In my doctoral study, I identified gaps in the literature, asked research questions, and presented and added knowledge that might not have been available while at the same time confirming existing knowledge.

A researcher must be familiar with ethical research codes before conducting a research study. Cumyn et al. (2019) warned that for the efficacy of a research project and outcome, a researcher must observe and comply with the *research's ethics* code, view their role as an operator, and apply the rule of research as outlined in the Belmont Report. All researchers should be familiar with *The Belmont Report* for its usefulness in conducting research primarily involving human participants. In response to various cases of abuse in research practices, especially research on human beings, the U.S. Congress created the Belmont Report commission in July 1974. The commission's primary task was to create a general framework and regulations to govern research on human beings (Beauchamp, 2020). The framework included principles governing research ethics,

delineating the boundaries between research and ethics, conducting risk-benefit analysis, and the appropriateness of research involving humans. The guidelines also covered the selection and participation of humans in research studies, especially biomedical and behavioral research (Beauchamp, 2020). Familiarity with *The Belmont Report* and the researcher's ethic code help researchers avoid unethical research.

The Belmont Report, which serves as ethical guide rails for research on humans, has three major components to guide researchers and protect the research participants. The components include respect for the research participant, beneficence, and justice (Miracle, 2016). Respect for human participants includes informed consent from participants and those making decisions on behalf of participants (Beauchamp, 2020; Earle, 2011). Beneficence deals with the principle of research not harming research participants or for those involved in the research project to conduct a risk-benefit analysis of the research project or study (Beauchamp, 2020). Justice requires equal treatment for all people, and the purpose of research involving human participants should be for the human good (Earl, 2020). Researchers should adhere to the guidelines espoused by the Belmont Report to avoid injuring research participants in conducting research studies.

The principles covered by the Belmont Report should guide a researcher in using human participants in research studies. I used secondary and archival data in this study and did not involve human participants in an experiment. Consequently, the principles and guidelines enumerated in *The Belmont Report* did not directly affect this study. Nevertheless, and where applicable, I complied with the rules stipulated in the report that require researchers to respect research participants, not harm research participants, and

observe justice for all the entities included in this study. A quantitative researcher focuses on the relationship among research variables and relies on statistical significance in interpreting their research findings (Bloomfield & Fisher, 2019). I used stored secondary data in the SEC and publicly available databases for this doctoral study. I did not involve human participants nor harm any humans in collecting data for this study.

I am a certified public accountant (CPA) licensed in two states. I have held various leadership positions over many years, both at corporate and subsidiary levels. My personal or professional positions and relationships in the oil and gas industry did not conflict with my data collection process, topic, or participants because I used secondary and not personal data from participants. Guillemin and Gillam (2004) warned that discussing sensitive issues may create a moment of ethical consideration for a researcher. Because I used the quantitative research method in this study, I did not discuss sensitive research issues or have a personal relationship with the research participants.

Participants

The target population for this study included all publicly traded midstream oil and gas companies on the S&P 1,500 index and who filed their annual reports with the SEC. The S&P 1,500 index database contained approximately 90% of the market capitalization of U.S. stocks, with integrated databases containing companies' financial information and other significant financial data such as executive compensation and significant announcements (Gillan et al., 2018). Most researchers and scholars use S&P data and the SEC's EDGAR database for conducting research studies. For example, Davis and Hausman (2020) used data compiled from the S&P Compustat database and the SEC

EDGAR database to examine the relationship between CEO compensation, crude oil prices, and firm performance as indicated by the firm value in 78 oil and gas companies, January 2014 to January 2016. Rahman and Mustafa (2018) also used data from the S&P Compustat database and the SEC EDGAR database to explore the effect of numerous financial variables on CEO compensation for 249 publicly traded companies covering 2004–2012. I pulled names of midstream oil and gas companies from the initial list of publicly traded companies provided by the S&P 1,500 database. I then proceeded to the SEC's EDGAR database to obtain detailed company financial information, including annual reports (Form 10K) and proxy statements (DEF 14A). I pulled companies' share price information from the SEC's EDGAR and Yahoo Finance databases.

Additionally, I requested and received midstream oil and gas companies listing information from the North American Industry Classification System (NAICS) Association LLC (NAL). The NAL maintains a database containing all companies listed by their Standard Industry Code (SIC) and NAICS. The listing identified all the midstream oil and gas companies as defined by the SIC 1311 and their NAICS. NAL lists and categorizes midstream oil and gas companies under NAICS 4861, 4862, and 4869 codes. I used the companies' listing that identified all the midstream oil and gas companies to identify the midstream oil and gas companies in the SEC's EDGAR database for financial information to pull. Using the NAL listing to identify companies' data to pull enhanced the study's external validity, reduced costs to gather research data, and impacted the generalizability of the research findings to other industries with similar

operations. The listing and data used for this study could be effective in longitudinal studies (Barnes et al., 2018).

Publicly traded companies must file annual, quarterly, and special event reports and proxy statements with the SEC. These reports are freely available in the SEC EDGAR database to anyone interested in reviewing their reports. The majority of the reports that companies are required to file with the SEC include proxy statements (form DEF 14A), annual reports (10-K), quarterly reports (10-Q), and those that inform the public and shareholders of special events (8-K) filed within four business days of the events (McMullin et al., 2019). I used data from annual reports, proxy statements, and share price information to calculate SPV as the study's predictor variables to compute ROE (Davis & Hausman, 2020). Companies included in this study's sample must have filed annual reports with the SEC. I pulled companies' share price information from the Yahoo Finance database for historical share prices and the period covered in this study.

Research Method and Design

Research Method

There are three main methodological choices for conducting research: quantitative, qualitative, and mixed (Saunders et al., 2016). In this study, I used the quantitative research method. Researchers use quantitative research methods to test hypotheses and examine relationships among two or more numeric variables (Bloomfield & Fisher, 2019). Researchers using quantitative methods focus on objectivity and structure by gathering relevant numeric data to test whether to accept or reject the study's hypotheses (Khaldi, 2017; Rutberg & Bouikidis, 2018). Researchers use a qualitative

research method to explore a phenomenon, gain an in-depth understanding of an issue, and describe events involving people (Pernsteiner et al., 2017). A qualitative research method was inappropriate for this study because I did not explore phenomena, gain an in-depth understanding, or describe events involving people. Mixed-methods research combines qualitative and quantitative research (Saunders et al., 2016) and was inappropriate for this study because I did not combine qualitative and quantitative methods.

Research Design

The primary research designs for quantitative research include experimental, quasi-experimental, and non-experimental. The experimental design determines if an event influences an outcome and the causal relationship among variables under controlled conditions (Bloomfield & Fisher, 2019). This study did not involve determining how events influence an outcome, nor did I examine the causal relationship among variables under controlled conditions. The quasi-experimental design was not appropriate for this study because the design is used to study the cause-and-effect relationship between variables and omits participants' randomization to certain conditions (Bloomfield & Fisher, 2019). This study did not determine the cause-and-effect relationship between variables. The non-experimental (correlational) design generally consists of descriptive, relational, or correlational. Researchers use this design to investigate and measure the relationship among variables or statistical scores (Creswell & Creswell, 2018). The correlation design was appropriate for this study because I examined the relationship between research variables.

Population and Sampling

Researchers design their research to answer their research questions by identifying the population they wish to study or understand (Rahl, 2017). The target population for this study was midstream oil and gas companies publicly traded and in the S&P 1500 index in the United States. I chose these publicly listed companies to answer my research question to examine the relationship between CEO compensation, SPV, and ROE. In their study of how nonfinancial information has been defined and expanded in recent years, Stolowy and Paugam (2018) used data from companies listed in the S&P 1500 because the companies in the indexes influence other companies' practices and behaviors. Davis and Hausman (2020) used data from Compustat which included data from S&P 1500, for their examination of executive rewards. Researchers used sample data from the entire population because they assumed that the sample represented the population where data was collected.

Researchers use various sampling methods in their research for the appropriate sample size. Probability or representative sampling and nonprobability sampling methods are the two most common and primary methods used in quantitative research (Rahl, 2017). Each of the methods has its categories. I used the probability sampling method because the method allows for an equal chance of selecting a case or element from the target population. Also, the probability of selecting each member from the population is known, and the probability sampling method allows a researcher to generalize their findings to the entire target population (Acharya et al., 2013; Bhardwaj, 2019). Some advantages of probability sampling include reducing sampling time, ease of sampling,

and the cost to sample (Acharya et al., 2013). The nonprobability sampling method results in each member of the population not having an equal chance of being selected from the target population (Bhardwaj, 2019). I did not use the nonprobability method for this study because of an unequal chance of selecting a sample from the research population. Consequently, the nonprobability method was not appropriate for this study.

There are different categories of probability sampling. The categories include simple random, stratified random, systematic, cluster, and multistage samplings (Bhardwaj, 2019). Researchers use simple random sampling because the process does not impact the sample quality, and each member of the target population is a potential candidate to be included in the sample (Bhardwaj, 2019). Researchers generally use the stratified sampling technique when the population is less homogenous to give each group its representation in the sample (Bhardwaj, 2019). The systematic sampling technique involves determining the total items included in the sample and selecting items after a regular or fixed interval (Rahl, 2017). Cluster sampling is most useful in a research study on a large and scattered population by dividing the target population into clusters and randomly choosing a cluster (Acharya et al., 2013). A multistage sampling includes creating a cluster sampling, dividing the cluster into smaller units or clusters, and selecting a sample from the smaller unit (Acharya et al., 2013). For this study, I used a simple random sampling method to select companies from this study's population based on the number of firms in the industry. The simple random sampling method was appropriate for this study because the process did not impact the sample quality (Acharya

et al., 2013). Each member of the target population had an equal chance of inclusion n the study's sample.

Determining and using an appropriate sample size for research depends on various factors. A study's sample size and a researcher's confidence level significantly affect the validity and reliability of research findings. Suresh et al. (2011) argued that not using an appropriate sample size for research may lead to not answering the research question, being costly to conduct research, and losing the accuracy of research findings. Using an appropriate sample size for a doctoral study affects the statistical power, reduces sampling errors, and increases the confidence level in research findings (Sink & Mvududu, 2017). Researchers use statistical methods, formulae, and computer programs to determine an appropriate sample size and confidence level for research in testing variables included in multiple regression and correlation analyses (Sink & Mvududu, 2017). Estimating a sample size requires researchers to use priori power analysis to determine the appropriate sample size before conducting their research (Suresh et al., 2011). I used the G* Power statistical analysis to determine the appropriate sample size for this study.

The G* Power statistical analysis is a major statistical tool used to estimate sample size in conjunction with the required confidence level in a research study. The G*Power statistical analysis tool is a free, readily available, and robust statistical analysis package many researchers use to conduct a priori samples. Conducting a priori sample helps arrive at a predetermined significance level in a study's sample for most correlation and regression analyses (Faul et al., 2009). The software enabled me to determine this

study's appropriate sample size and confidence level. I used the G*Power Version 3.1.9.7 software for a sample size selection to determine this study's appropriate sample size. A priori power analysis assuming a power of 80, with medium effect size (f2 = 0.15), p-value (a = 0.05), and two predictor variables, netted a minimum sample size of 68 participants for this study (see appendices A and B).

For this study, I used a random sampling method to select midstream oil and gas companies publicly traded and listed in the S&P 1500 index using North America Industry Classification Sector (NAICS) 4861, 4862, and 4869 and Standard Industrial Classification Sector (SICS) 4612 and related executive compensation packages. Random sampling was appropriate for this study because each member of the population had an equal chance of being selected for the required sample size (Rahl, 2017). The initial sample for this study included 72 companies. After removing companies with outlier data, I arrived at a final sample size of 64.

Ethical Research

A researcher should adhere to ethical guidelines in collecting, analyzing research data and reporting research findings. Most educational institutions require doctoral students researching to adhere to ethical guidelines and have an approved study proposal from their study committee and institutional review board (IRB) (Saunders et al., 2016). Before collecting research data for their doctoral studies and dissertation, a doctoral student's chair and committee members recommend the study to move to the next process, and the IRB approves the student's doctoral study proposal. The IRB approval ensures that a researcher adheres to a research protocol of protecting research participants

from harm, especially in research that involves collecting data on human participants (Vitak et al., 2017). Lipid et al. (2019) noted that an IRB's role is critical in standardizing protocol for conducting research involving humans. After I received an approved proposal from my chair and the second committee member, I obtained the required approval from the IRB before I commenced the data collection process.

Ethics in research requires that researchers obtain informed consent from research participants when a researcher intends to collect and use data during the research process (Fotrousi et al., 2017). I collected publicly available data from information provided and filed by the companies selected with the Security and Exchange Commission (SEC). I obtained other publicly available information, including historical share price information from the SEC's and Yahoo Finance's websites. Because this study did not require collecting data on humans but only used secondary, archival, and publicly available data, the ethical procedure of collecting human data or data on research participants did not apply to this study. Researchers who use human beings in their study require human consent in conducting research (Lipid et al., 2019; Manchaiah et al., 2019). Because I did not use humans for this study, I did not require participants' consent.

Nevertheless, I observed and abided by the ethical directives that require researchers to be honest in their data collection process, report research results, and inform readers of challenges encountered during the research process (Maula & Stam, 2020). Saunders et al. (2016) recommended that researchers maintain an objective stance during the data collection, aggregate data to avoid identifying an organization or individual and avoid misrepresenting data and statistical analysis. Finally, I will store all

the data collected for this study on a password-protected computer. The data, only available to me, will be destroyed five years from my graduation date.

Instrumentation

I collected information on executive compensation and data used to calculate ROE from the companies' annual reports (10K) filed with the Security and Exchange Commission (SEC) EDGAR database, supplemented with a standardized Yahoo Finance website database. Publicly traded companies must use eXtensible Business Reporting Language (XBRL) reporting technology to file annual reports with the SEC (Chychyla et al., 2019). I collected data from the SEC's database for companies' share price information. I supplemented it with data from companies' databases, such as Yahoo! Finance, which stores historical share price information. Boritz and No (2020) noted Yahoo! Finance as an alternative source for historical data obtained from SEC's EDGAR database. Finally, I used Microsoft Excel® software to process, analyze and store the gathered basic information.

Researchers use various instruments and tools to collect and measure data for their research study. Some of the most popular research instruments include questionnaires, surveys, experiments, archival records, case studies, and history (Rahl, 2017). Because I used archival and secondary data for this study, there was no need to use a questionnaire or survey to collect data. Archival records from the SEC's EDGAR and the Yahoo! Finance databases containing publicly available information were the primary data sources used in this study. The SEC maintains a database containing annual

financial and proxy information provided and reported by publicly traded companies (Wouters et al., 2020).

The Yahoo! Finance database, in addition to other companies' financial information collected from financial reports companies filed with the SEC, contained historical companies' share prices, dividends payments, and other related information. Researchers and scholars use these complementary data to conduct and complete their research studies. For example, Boritz and No (2020) used different sources in their research study that compare the differences in the financial data provided by different data sources. The authors concluded that Yahoo! Finance and similar financial information providers were alternative sources of firm data. These providers often reclassified and aggregated financial information in the SEC's filings to make this financial information more comparable across companies and industries.

The variables for this study were CEO compensations, SPV, and ROE, which are parts of the input components analyst and scholars use in determining firms' performance based on information collected from the annual reports filed with the SEC. In their study, Rahman and Mustafa (2018) used data from corporate filings with the SEC to determine the total CEO compensation of selected U.S. public companies. I determined that the annual information (Form 10-K), including financial statements corporations filed with the SEC, is reliable for this study because the SEC requires publicly traded entities to include their audited annual report and statements in their 10-K.

The reliability and validity of these measurement instruments play significant roles in conducting research and the quality of the research results (Souza et al., 2017).

Heale and Twycross (2015) noted that validity deals with an accurate measurement, and reliability involves consistency in concept measurement. The firms' independent auditors have audited companies' financial statements, which comprise part of the information in organizations' annual reports filed with the SEC. Annual reports contain the auditing firms' audit opinion confirming that financial data used to prepare the financial statements accurately and consistently measured firms' financial performance. Consequently, the variables used for this study and pulled from firms' financial statements have met the quality of validity and reliability.

Assessing the scale of measurements for reliability and validity is an essential step in research using the quantitative method. Saunders et al. (2016) noted four measurement scales in statistics; nominal or descriptive, ranked, ratio, and interval. Nominal or ordinal data can be categorized, and their occurrences explained in terms of frequency of occurrence (Green & Salkind, 2017). The nominal or ranked values are presented in relative terms by the number of occurrences of an event presented in tabular or graphical forms (Green & Salkind, 2017). Quantitative variables such as numbers and ratios have a more precise data point. Each data point can be assigned a value and analyzed for more useful and numerous applications (Saunders et al., 2016).

Data Collection Technique

The research question for this study is the relationship between CEO compensation, SPV, and ROE. I used archival and secondary data from the SEC EDGAR, Standard and Poor 1500, and Yahoo! Finance databases for this study. Using archival and secondary data to research and answer research questions has many benefits

and limitations. Siddiqui (2019) noted that one of the major benefits of using secondary data is that the data has already been collected, linked to other or similar data, and used by other researchers to answer research questions or conduct longitudinal research. Another benefit of using secondary data is the costs and time saved in collecting data for research. In addition, because of the time and costs involved in collecting a large volume of data, using a targeted sample from the collected data reduced costs and time (Siddiqui, 2019). Some of the limitations of using secondary data include missing data, the potential of inclusion of unverified data in the data set, bias risk associated with the method of data collection, and the possibility of data manipulation for other research purposes (Siddiqui, 2019; Sun & Lipsitz, 2018). The limitations notwithstanding, the advancement in technology to collect and store a vast volume of data and the ability to use Microsoft Excel® software to synthesize and analyze secondary data have made it very economical for researchers and scholars to use secondary data and other studies.

Publicly traded companies and organizations must file annual reports and proxy statements containing CEO compensation with the SEC. However, Yahoo Finance and other similar entities collect, store, rearrange and synthesize these data in its database. Researchers assess these databases to collect the information they need for their studies. I used the SEC's EDGAR database to collect and verify companies' annual reports and proxy statements filed with the SEC for CEO compensation. I used the SEC's EDGAR and Yahoo! Finance databases to collect company shares information to calculate SPV. For example, Davis and Hausman (2020) used the CEO compensation data from the SEC EDGAR and Compustat database in their study to examine executive performance-based

equity compensation. Evans et al. (2018) used sample data from S&P 1500 for firms that granted their CEO performance-based awards between 2009 and 2013. Choi and Suh (2019) collected cash flow information (part of metrics used in examining firm performance) from the COMPUSTAT database to examine the effect of financial reporting quality on CEO compensation structure,

I used Microsoft Excel as my primary source to store and rearrange the data collected for this study. Microsoft Excel® software is one of the most powerful and easy-to-use computer software to store, manipulate and rearrange quantitative data for research. For example, Mustata (2014) used an application for data analysis to research the e-learning potential for business administration for business. Using the MS made it easier to synthesize, arrange, and rearrange data collected for this study**.**

Data Analysis

The purpose of this quantitative correlation study was to examine the relationship between CEO compensation SPV and ROE. This research answered the following research question:

What was the relationship between CEO compensation, SPV, and ROE?

The hypotheses for the research question were:

Null hypothesis (H_0): There was no significant relationship between CEO compensation, SPV, and ROE.

Alternative hypothesis (H_1): There was a significant relationship between CEO compensation, SPV, and ROE.

I used SPSS software for the multiple regression model to test the significant relationships between CEO compensation, SPV, and ROE. Liang et al. (2019) used the SPSS software for various normality tests in their description of the use of appropriate analytical software in medical research studies. I could have used other regression analyses for this study. For example, one-way analysis of variance (ANOVA) was used in some studies to test the relationship between variables. Most researchers use ANOVA when one independent variable exists in a research study (Bluman, 2019). This study had more than one independent variable. The multiple regression model was the best model to test the relationship between the predictor and the dependent variables for this study because there was more than one independent variable.

Researchers use multiple regressions to examine the relationship between more than one independent and dependent variable. Davis and Hausman (2020) used multiple regression analyses to examine the relationship among variables that included executive compensation in 78 U.S. oil companies. Kline et al. (2017) used a multiple regression model to examine how executive compensation influences managerial efficiency. Davis and Husman's and Kline's studies used more than one independent variable in their research. Using multiple regression analysis models in the correlational study allows researchers to test the strength of a relationship between more than one predictor variable and a response variable.

Data Cleaning and Missing Data

Researchers use data cleaning procedures to detect invalid, incomplete data, errors, and outliers in collected data and take the necessary actions to ensure that the

research data is appropriate and complete before using them in their study. Remediation of data is critical because missing, invalid, or incomplete data might impact a study's findings. Cai and Zhu (2015) noted that to improve the quality of data used in research and obtain valid research results, data errors, missing or incomplete information, and inconsistent data must be removed, cleaned, or transformed from the research data. It is also critical to remove outlier cases from samples used in research because of the possibility of getting erroneous findings (Ley et al., 2018). A critical aspect of data cleansing is checking for outliers and replacing or transforming them to minimize their impact on the research findings. SPSS has a robust data cleaning functionality, and I used the application to identify, transform, and remove cases from the data set used to answer this study's research hypothesis.

In some cases, data or a subset of data required for a research study may not be available, and the absence of such data could impact the generalization of research findings. Missing data could provide essential and meaningful insight into research and may lead to biased results and erroneous conclusions in research findings (Richardson & Simmering, 2020). I manually collected and used archival records and secondary data verified and certified as reasonable and complete by external auditors before being included in companies' annual reports filed with the SEC. Archival data and records are information purposely collected for a different objective or audience other than its current use (Fisher & Chaffee, 2018). Because I manually collected data used for this study, I removed cases that did not have the required records or information from the data used for this study.

Study Validity

Users of research findings judge the quality of research based on the two essential criteria of validity and reliability. Validity deals with the accurate measurement or impartial observation of a concept or phenomenon (Haseski & Ilic, 2019). Research quality depends on accurately measuring the concepts or the data used (Heale & Twycross, 2015). Validity can also be viewed dichotomously as internal and external. When a research finding demonstrates a causal relationship between two variables or the relationship of one instrument to another, internal validity is presumed to exist (Heale & Twycross, 2015; Saunders et al., 2016; Tang, 2015). External validity deals with research findings generalizable to other groups, situations, or settings (Cor, 2016; Tang, 2015). For this study, external validity applies because the result of the study could apply to firms in other industries affected by executive compensation and changes in companies' share prices. Numerous threats may threaten research validity, ranging from data classification to the conclusion or generalization of research findings (Ampatzoglou et al., 2019). Threats to research conclusion include statistical errors common in statistical analysis that may impact research conclusions and findings. These are Type I and Type II errors. A null hypothesis that is true but rejected is a type I error, while a Type II error means accepting a null hypothesis that is false in the population.

Internal Validity

Judging the research quality and findings' applicability is critical if the researcher demonstrates causal relationships between research variables. The quality and evaluation of research findings that could apply to real-world situations or practices depend on the

belief and attribution of causal interpretations of the variables used in the research's conclusion or findings, with the absence of systematic research errors (Cor, 2016). I used a non-experimental correlational design, relying on secondary data archival records in this study. Consequently, threats to internal validity, where it exists, were minimal. However, a few potential threats still exist. One of the threats was the possibility that the explanation of the relationship between the study's predictive variables and dependent variables could be influenced by confounding variables in the study. One way to minimize this threat is to use a hierarchical or sequential regression. Using sequential regression by examining the effect of confounding variables on dependent variables allows a researcher to examine the effect of a set of independent variables on a dependent variable (Yap et al., 2019). However, this study did not require sequential regression because there were no confounding variables.

Another way to mitigate the threat to internal validity is to review previous studies that used similar data or variables for their study. I reviewed prior studies on the oil and gas industry that included variables such as CEO compensation and ROE while working on this study. Another method of mitigating internal validity is to select an adequate sample size for the research study (Taylor & Spurlock, 2018). I used the G*Power statistical software to determine the required sample size for this study. Using multiple years of data for the study was another way to address the threat to internal validity. For example, Davis and Hausman (2020) used multiple years of data to examine compensation data for 78 major U.S. oil and gas companies. For this study, I collected

data covering multiple years (2017–2020) but used data that covered 2019 since 2019 had the complete set of available data.

External Validity

External validity deals with the generalizability of research findings or results to other settings or participants (Cor, 2016). Publicly traded midstream oil and gas companies that filed their annual financial information with the SEC were the participants in this study. I retrieved share price data from the SEC's EDGAR and Yahoo Finance databases. Because the participants were from one industry, the research conclusion may be generalizable to other industries with similar share prices and executive compensation characteristics. However, midstream oil and gas companies' operations in other countries might differ from those in the United States. Consequently, the conclusion of this study may not apply to those companies.

Statistical Conclusion Validity

Statistics is the primary vehicle used in quantitative research to make inferences about the relationship between variables in a research study and the appropriateness and rationale of the statistical techniques used (Cor, 2016). Using inappropriate statistical techniques could lead to errors in confirming or not confirming a research hypothesis and research. Numerous errors exist in statistical analysis, but the two primary errors are Type I and Type II. Type I error deals with a researcher rejecting a correct null hypothesis. Type II error exists when a researcher accepts an incorrect or false hypothesis and should have rejected the null hypothesis (Mohajan, 2017). A reader of research

studies and researchers judges the validity of a statistical research inference used on multiple criteria, including the instrument's reliability, data assumptions, and sample size.

Research Instrument Reliability

Researchers use appropriate and reliable instruments to collect data to test the hypothesis and answer their research questions, expecting to minimize or mitigate errors (Kimberlin & Winterstein, 2008). The reliability of research data collection and measurement instruments depend on the instruments' internal consistency used in a research study (Petterson et al., 2018). I used secondary and archival data that I collected, audited, and was reported by companies, as required by the SEC, and deemed reliable (Rahman & Mustafa, 2018). I checked for internal consistency in the collected data and used a Microsoft Excel worksheet for data synthesis. Consequently, instrument reliability was not an issue for this study.

Data Assumptions

Researchers using statistical methods, such as multiple regression analysis, have some assumptions about the variables used in their research study. The violation of these assumptions can lead to erroneous research findings or conclusions. One of the major assumptions in a research study using multiple regression analysis includes multicollinearity (Shrestha, 2020; Weaving et al., 2019). Other assumptions include linearity, normality, and homoscedasticity. Multicollinearity deals with independent variables that significantly correlate with other research studies' independent variables or are mutually dependent, thereby generating erroneous conclusions from research findings or results (Cohen et al., 2003; Kliestik et al., 2018). Researchers detect multicollinearity

using scatter plots to detect strong and significant variable relationships in research data (Gotay & Thatte, 2017; Shrestha, 2020).

A multicollinearity problem exists using Pearson's correlation when the correlation coefficient exceeds a certain level. Orazalin (2019) noted that a correlation coefficient greater than .700 indicates multicollinearity. To mitigate multicollinearity in data for a research study, a researcher uses one or several methods. One way is to re-specify the model to reduce highly correlated variables and to collect additional data to help improve the regression estimate (Cohen et al., 2003). In the case of linearity, research using multiple regression for statistical analysis assumes a linear relationship between the independent variables and the dependent variable (Anser et al., 2018). Researchers detect the absence of linearity by using one or any of the three major methods. The methods include using previous research methods, producing and observing scatterplots showing the relationship between the study's variables, and running nonlinear regression analysis (Cohen et al., 2003). The absence of linearity can overestimate the relationship between the independent variables, resulting in a Type I error (Taylor & Spurlock, 2018). I used the SPSS statistical software to produce Pearson's correlation coefficient and a scatterplot to observe the relationship between the independent and dependent variables and the residual values.

The normality of data variables is another researcher's assumption when using multiple regression analysis in research studies. Normality indicates the normal distribution of research variables or residuals from the model. The absence of normality distorts the observed relationship between the study's variables (Cohen et al., 2003).

Detection of normality and outliers includes physical and visual observation of the data plot graph. I visually inspected the data plot produced from the regression model to detect the absence of normality from the study variables.

Further, homoscedasticity is another researcher's assumption when using multiple regression analysis in a research study. Homoscedasticity indicates that the variance of each residual value is relatively constant or equal at each instant of the independent variable (Kliestik et al., 2018). Generally, researchers use physical and visual observation to detect the residual variability from the model and plot a special scatter plot graph. I used the SPSS statistical analysis software for this analysis.

Transition and Summary

In Section 2, I restated the purpose, the research method, and some of the key points of this study. This quantitative research study examined the relationship between CEO compensation, companies' SPV, and ROE. I also identified the study population to include the midstream oil and gas companies in the U.S. and the sources I used to collect the data for this study. The sources comprised the SEC's EDGAR database, S&P 1500, and Yahoo Finance database. Finally, I discussed the statistical analysis I used for this study and its validity. In Section 3, the final section of this study, I presented the study's result, application of the theoretical framework, the implication for social change, recommendations for action, and suggested areas for further research. I concluded this study with a reflection on my doctoral journey and a summary of my doctoral study.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this quantitative correlational study was to examine the relationship between CEO compensation, SPV, and ROE. The independent variables were CEO compensation and share price volatility. The dependent variable was ROE. The null hypothesis was that there would be no significant relationship between CEO compensation, SPV, and ROE. The alternative hypothesis was that there would be a statistically significant relationship between CEO compensation, SPV, and ROE. The statistical analysis results satisfied the alternative hypothesis of a statistically significant relationship between the predictor and response variables; there was a statistically significant relationship between CEO compensation, SPV, and ROE.

Presentation of the Findings

I use this subsection to discuss the statistical tests of the study's assumptions, describe both descriptive and inferential statistics, present the results of the findings, and conclude with a summary of the study. I selected the multiple regression model to examine the relationship between CEO compensation, SPV, and ROE. Multiple linear regression analysis was appropriate for this study because it allows researchers to examine relationships when there exists more than one predictor variable in a research study research variables (Yap et al., 2019). I used the G*Power Version 3.1.9.7 to determine the sample size for this study. G*Power recommended 68 participants as the sample size for this study for companies listed on the S&P 1500. In addition, I subscribed to and received from the NAL a list of companies listed under NAICS codes for

midstream oil and gas companies. The list includes 486110 (pipeline transportation of crude oil), 486910 (pipeline transportation of refined petroleum products), and 486210 (pipeline transportation of natural gas). The combined records from these sources were more than 2,000. However, due to mergers, acquisitions, and companies going private due to financial report filing requirements by the SEC, only 72 companies met the selection criteria for this study. Of the 72 companies, 67 filed their annual reports (Form 10-K) and proxy statements (Form DEF 14A) with the SEC for the periods covered by this study. Six of these 67 companies did not provide the required CEO compensation information because of the SEC's Rule 12b-2. Rule 12b-2 allows certain entities not to disclose CEO compensation information in their proxy statements. I used the outside directors' compensation as a proxy for CEO compensation for those companies. Because of cases with outliers, 64 companies met the requirement for this study.

Tests of Assumptions

A primary goal of a researcher is to obtain high-quality data for a study (Corrales et al., 2018). Before data analysis, a researcher performs a preliminary analysis of the collected data to ensure the data are of high quality (Corrales et al., 2018). Consequently, my first objective was to review the histogram of the variables used in this study. If necessary, researchers review histograms to observe and remove outliers from the data. Leys et al. (2019) noted that outliers in research data could distort the outcome of analyzed data by exerting an outsized influence on the substantive interpretation of a research variable relationship. A researcher must examine outliers, assess their impact on the total interpretation of the research result, and remove them from their research data if

they conclude the outliers will distort the data analysis and results and might distract from the focus of the research subject. For this study, I removed four companies whose data presented as outliers for this study.

Multicollinearity

Multicollinearity occurs when two predictor variables are highly correlated. Researchers observe multicollinearity in their study when independent variables expected to be independent in assessing the relationship are not independent (Schreiber-Gregory, 2018). The presence of multicollinearity in research can lead to an erroneous conclusion in research findings because of the difficulties in obtaining a reliable estimate of the coefficient between the independent and dependent variables (Schreiber-Gregory, 2018). A high degree of linear correlation between independent variables in a research study using a multiple regression model could lead to erroneous regression analysis (Kim, 2019). To avoid the risk of multicollinearity, researchers inspect the bivariate correlation and their coefficients among the predictor variables to determine the existence and extent of the correlation. For example, Schober et al. (2018) indicated that a correlation coefficient between 0.7 and 0.89 shows a strong correlation. Kim (2019) noted tolerance and variance inflation factor (VIF) as a diagnostic tool to detect multicollinearity in a research study. A tolerance value of less than 0.1 and a VIF greater than 10 indicate the presence of collinearity (Kim, 2019). One way to generate the bivariate correlation is to conduct a Pearson correlation coefficient between and among research variables. To address the risk of multicollinearity in this study, I inspected the bivariate correlation between the variables to determine the existence and extent of their correlation. As shown

in Table 2, the correlation coefficient was -.227, less than .700. This result indicates that multicollinearity was not present or a significant issue in this study.

Table 2

Correlation Coefficients Between Independent Variables

Variable	CEO compensation	Share price volatility
CEO compensation	1.00	–.227
Share price volatility	–.227	1.00

Note. N = 64

I also evaluated the absence of multicollinearity by reviewing the collinearity statistics. A tolerance of less than 0.1 and a VIF of greater than 10 indicate the presence of multicollinearity (Kim, 2019). As shown in Table 3, the tolerance is greater than 0.1, and the VIF is less than 10, indicating the absence of multicollinearity. The absence of multicollinearity indicates that the model met the multicollinearity assumption.

Table 3

Collinearity Statistics

	Collinearity statistics	
Variable	Tolerance	VIF
(Constant)		
Shprvol (%)	.948	1.055
CeoComp	.948	1.055

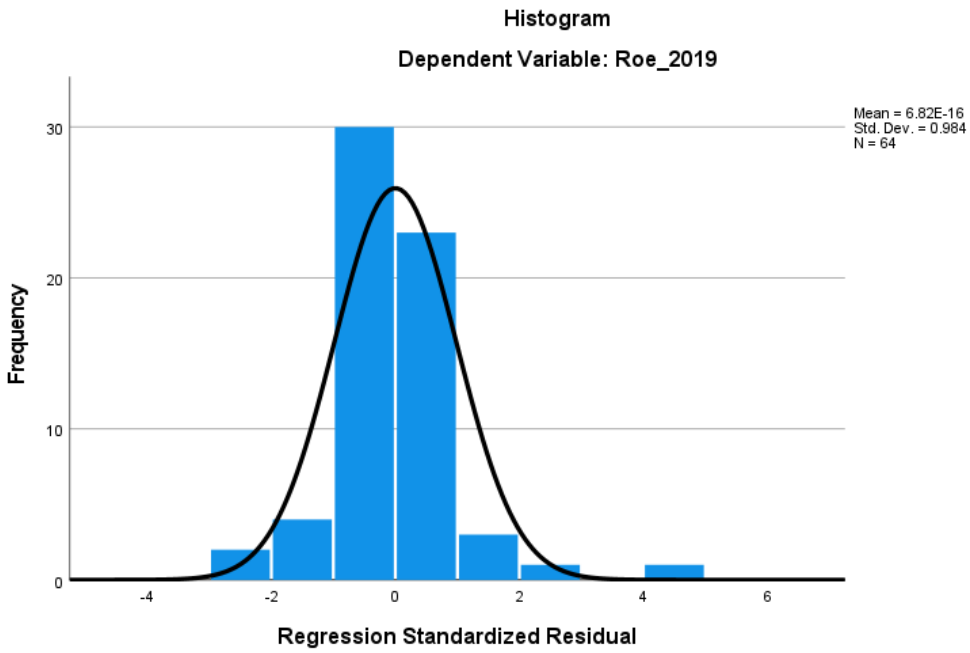
Normality

Most researchers assume that statistical data used in regression analysis have a normal distribution for a specific sample size (Vetter & Schober, 2018). Other researchers argue that non-normally distributed residuals have negligible or no impact on research with a large sample size (Schmidt & Finan, 2018). Some argued that variables

lacking normal distribution (skewed or with significant outliers) could distort the relationships among research variables. Bluman (2019) noted that a standard normal distribution has a mean of 0 and a standard deviation of plus one or minus 1(+1/-1). Distribution is highly skewed and not normally distributed when data skewed are less than –1 or greater than +1. Some researchers contended that one could test for normality by visually inspecting data plots, P-P plots, and scatterplots. For example, Seligmann et al. (2020) used visual inspection and estimation for their study's data plot of the inverted covariate effects for Sweden's first mutated and second wave of COVID-19 spread. For this study, I assumed normal distribution for the variables used. I examined residuals to test for normality. Researchers and scholars regard residuals as the differences between the actual and predicted values, which should have a normal distribution, usually represented by a histogram or a histogram with a superimposed normal bell-shaped curve (Mishra et al., 2019). A histogram of the standardized residuals showed normal distribution (see Figure 1).

Figure 1

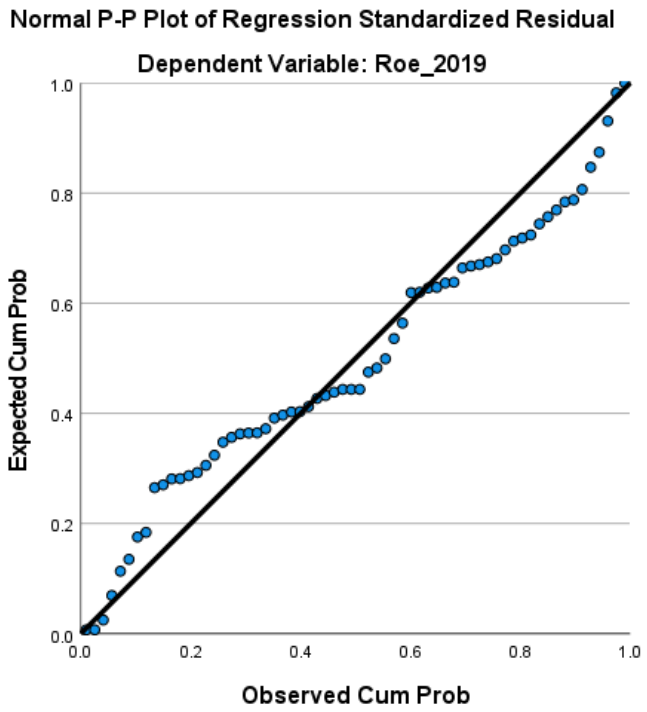
Histogram of Regression Standardized Residuals



In addition, I examined the normal probability plot (P-P; see Figure 2) of the regression standardized residual to confirm the findings. Normally distributed residuals align along a diagonal line, indicating that the residuals meet the assumption of normality. As shown in Figure 2, the residuals aligned approximately along the diagonal line. This alignment satisfied the normality assumption.

Figure 2

Normal P-P Plot of Regression Standardized Residual

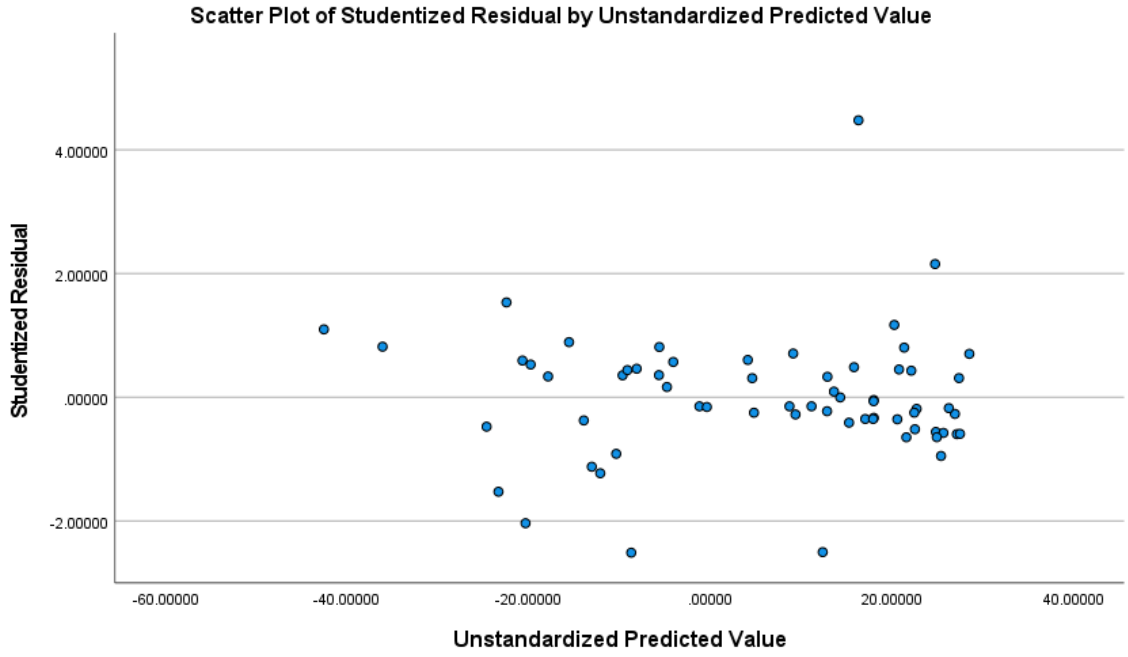


Linearity

Another assumption in using multiple regression analysis for a research study is the linear relationship between the dependent and independent variables. Researchers and scholars use various methods, including scatterplots, to test the linear relationship assumption (Cohen et al., 2003). Research variables meet the linearity assumption when the residuals form a horizontal band in the scatterplot diagram. Based on the scatterplots (see Figure 3), the residuals roughly form a horizontal band, indicating the linear relationship between the dependent and independent variables collectively used for this study.

Figure 3

Scatterplot of the Dependent Variable and Independent Variables of the Residuals

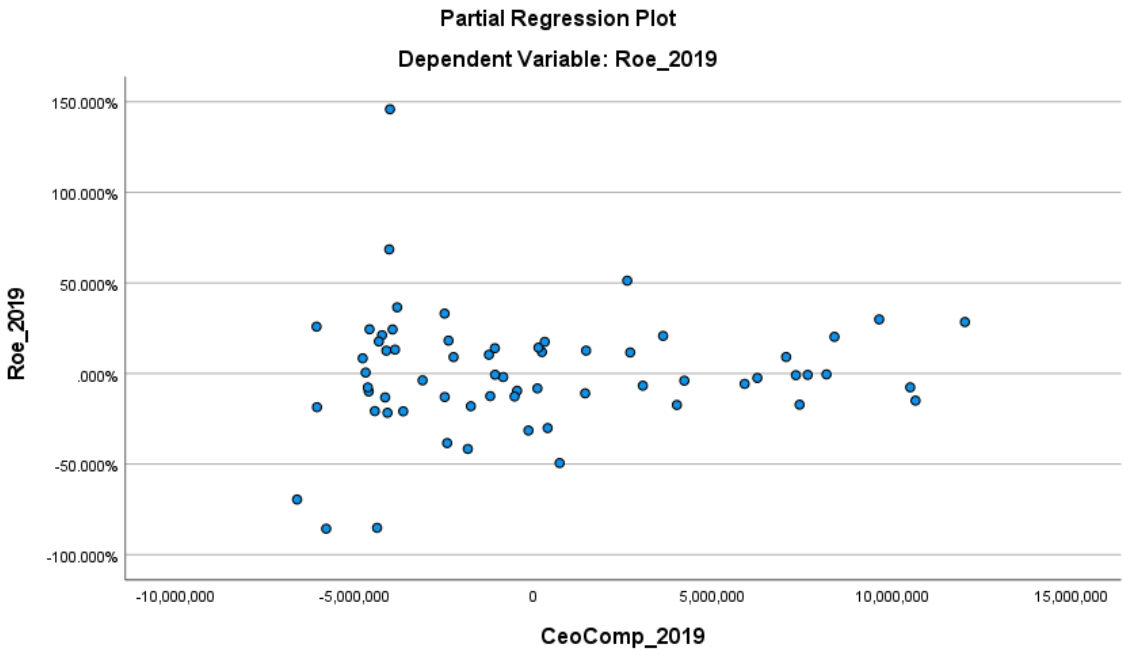


Homoscedasticity

The assumption for homoscedasticity is that the residual variation is similar at each point, equal for all values, or error terms have constant variance in the model of the predictor variables (Flatt & Jacobs, 2019). Researchers check for this assumption in a research study by examining scatterplots. A lack of a clear or systematic pattern in the standardized residuals' scatterplot indicates the assumption of homoscedasticity. In Figure 4, there does not seem to be a clear pattern in the scatterplot.

Figure 4

Scatterplot of the Dependent Variable and Independent Variable of the Residuals



Independence of Residuals

Normally distributed residuals are another assumption. Researchers test this assumption by inspecting the P-P plot of the regression standardized residual (Alita, et al., 2021). Dots that lie closer to the diagonal line usually indicate normally distributed residuals. As shown in Figure 3, the dots roughly lie close to the diagonal line. Consequently, this study's data meet the independence of the residuals assumption. Additionally, Uyanto (2020) noted that Durbin-Watson is another most frequently used statistical tool for testing normality. The values range from 0 to 4, with a test value approximating two, indicating a relatively normal or equal to the mean. For this study, the Durbin-Watson was 1.906, approximating 2 (see Table 4). Consequently, this study met the assumption of normality of the independence of residuals**.**

Table 4

Model Summary[b]

Model	R	R^2	Adj. R^2	Std. error of the estimate	Durbin-Watson
1	.481a	.231	.206	33.63%	1.906

a. Predictors: (Constant), CEO compensation, SPV; b. Dependent variable: ROE

Outliers

In a research study, outliers are anomalies in data that do not match the general character of the research data set. Anomalies have data points that are extremely distant from other data points, can affect the outcome of research findings or conclusions, and are a source of bias in a research study (Ley et al., 2019). Leys et al. (2019) and Leys et al. (2018) noted three types of outliers that impact research studies: error outliers, interesting outliers, and random outliers. Most researchers suggested statistical methods to determine when an observation is an outlier. An observation is an outlier when an observed data set is more extreme than the mean plus or minus the standard deviation multiplied by a constant of between 3 and 3.29 (Tabachnick & Fidell, 2013). Researchers who detect outliers in their study's data must inspect them through various means, including visual inspections of histograms and boxplot graphs generated from research data. I used SPSS to determine outlier cases in my study's data set.

Descriptive Statistics

Researchers use descriptive statistics to summarize data in tables, charts, figures, and graphs. The population for this study included publicly traded midstream oil and gas companies in S&P 1500. I used the G*Power statistical package to select a sample size for this study, and the analysis recommended a sample size of 68 companies. Because of

mergers, acquisitions, and companies going private due to the inability to meet public companies' filing requirements by the SEC and companies not providing CEO compensation because of the SEC's rule on providing CEO compensation, only 58 companies met the requirement for this study. I expanded the requirements to include oil and gas companies with some downstream and midstream activities. With this expansion, the initial sample size grew to 72 companies. However, some of these companies either had data that were outliers or did not have the complete data needed for this study. Consequently, I removed those companies to arrive at a final number of 64 companies.

Table 5

Descriptive Statistics of the study Variables

Variable	Mean	Std. deviation	N
ROE	6.062	37.736	64
CEO compensation	5,773,260	4,994,943	64
Share price volatility	25.908	19.700	64

Inferential Results

I used the standard multiple linear regression, with a= 0.05, for this study to examine the relationship between CEO compensation, SPV, and ROE. The independent variables were CEO compensation and SPV. The dependent variable was ROE. The null hypothesis was that there was a statistically significant relationship between CEO compensation, SPV, and ROE. The alternative hypothesis was that there was no statistically significant relationship between CEO compensation, SPV, and ROE.

The first step was to analyze and assess whether the data met the assumption of multicollinearity, normality, outlier, linearity, homoscedasticity, and independence of

residuals. The initial analysis showed that four observations possessed high outliers' characteristics. An outlier is an observation of plus or minus three standard deviations in a data set. There was no discernable violation of assumptions after eliminating three observations from the study's data set.

The study prediction model shows a significant statistical relationship between CEO compensation, SPV, and ROE. Overall, the model was able to significantly predict ROE, $F(2,61) = 9.162$, $p < 0.001$, $R^2 = .231$. The R^2 of .231 indicated that approximately 23.1% of variations of the dependent variable (ROE) were explained by the two independent variables of CEO compensation and SPV. Decoupling and assessing the impact of the two independent variables on the final model, SPV was the only statistically significant variable (beta -0.492, $p < 0.001$) at 0.005. CEO compensation did not show a statistically significant relationship with ROE (beta = 0.608, $p < 0.545$) at the 0.005 level. Shown below is the study's final predictive value.

ROE = b0 +b1(SPV) + b2(CEO compensation)

ROE = 36.823 – .942(SPV) + (5.300e-7) CEO compensation.

Table 6

Model Summary and Coefficients for Standardized Multiple Regression

	Unstandardized coefficients		Standardized coefficients					95.0% Confidence interval for B			
Model	B	Std. error	Beta	T	Sig.	R^2	Adj. R^2	Lower bound	Upper bound	Tolerance	VIF
Constant	36.823	9.366		3.932	0.000	0.231	0.206	18.0896	55.551		
SPV	–0.942	0.221	–0.492	–0.4265	0.000			–1.383	–0.500	0.948	1.055
CEO comp.	5.30E-07	0.000	0.070	0.608	0.545			0.000	0.000	0.948	1.055

CEO Compensation

The positive slope of CEO compensation (5.300e-7) as a predictor of ROE indicated that there was less than a 1% increase in ROE for a 1% increase in CEO compensation. Stated differently, ROE tended to increase as CEO compensation increased. The standardized coefficient for CEO compensation (.070) indicated that CEO compensation contributed less than SPV in the predictive model and is not statistically significant because the *p* (.545) value is greater than .05.

Share Price Volatility

The coefficient of SPV was negative (-.942) as a predictor of ROE. This negative slope coefficient represents the change in the dependent variable (ROE) for a change in the independent variable (SPV). The slope coefficient indicated that an increase of 1% change in SPV is associated with a decrease in ROE of .942. This slope is statistically significant because the *p-value* is .001. A coefficient is statistically significant when *the p*-value *is less than* .05.

Analysis and Summary

The purpose of this quantitative correlational study was to examine the relationship between ROE, CEO compensation, and SPV. To study the relationship between these variables, I used multiple regression analysis. After removing some observations that were outliers, assessing the multiple regression assumptions was successful. Overall, the model was able to significantly predict ROE, $F(2,63) = 9.366$, $p < 0.001$, $R^2 = .231$, and was statistically significant.

Based on the study's result, there was a negative and significant relationship between firm performances as reflected by ROE and SPV. This part of the overall result of this study was consistent with some prior research findings and inconsistent with others. For example, Pongsupatt and Pongsupatt (2019) found a significant association between ROE and firms' stock price changes that create or lead to price volatility. Handayani et al. (2019) found a relationship between SPV and ROE. However, a positive but not statistically significant relationship existed between firm performance, as measured by ROE and CEO compensation. This result is inconsistent with some studies and consistent with others. For example, Rasoava (2019) found a mixed relationship between CEO compensation and firm performance measured by ROE. Using time series data, Rasoava found a linear but weak relationship between CEO compensation and firm performance; in others, there was no significant relationship. The mixed results from other studies indicate that factors other than the variables used in this study might significantly impact firms' performance.

Application to Theoretical Framework

I used the agency theory as the theoretical framework for this study. This theory was useful in explaining the relationship between CEO compensation, SPV, and firm performance as measured by ROE. Based on the result of this study, I accepted the null hypothesis of the statistically significant relationship between this study's variables. The combined variables have a statistically significant relationship to ROE. The agency theory supports the results because the theory's primary focus is on the principal–agent's interest alignment and reduction and mitigation of agency costs and increases in

organizations' financial performance. Business owners (shareholders or principals) engage agents (generally the CEOs) to manage the affairs of the principals' business in exchange for compensation (Raelin & Bondy, 2013). A successful CEO increases business wealth through superior performance, which affects share performance and price movement or SPV. Superior performance generally translates to increased ROE and wealth building through SPV's movement aligned with the principal's interest.

Application to Professional Practice

The purpose of this quantitative correlational study was to examine the relationship between CEO compensation, SPV, and ROE within a single industry, the midstream oil and gas companies in the United States. I used the agency theory to underpin this study. The findings from this study may be helpful to companies in understanding the impact of executive compensation and the volatility on their companies' share price and their firm performance. Scholars, researchers, and investors use numerous variables to assess companies' performance. For example, Handayani et al. (2019) noted that ROE was one of the performance measurement factors affecting stock price volatility and used by investors to assess companies' financial performance. ROE is one of the significant variables used in evaluating corporate performance, which dovetails into share performance and volatility.

Understanding the significant relationship between SPV and ROE may prompt organizations and companies' BODs to institute programs and policies to mitigate fluctuation in the organizations' share prices. Some BODs believe that SPV will negatively affect their companies' performance and vice versa. One of the determinants

of price volatility is the company's dividend policy (Handayani et al., 2019; Mehmood et al., 2019). Consequently, understanding the relationship between corporate dividend policy and SPV will give organizations the knowledge to craft a good dividend payout or yield policy.

Investors generally prefer predictable returns on their investments. Companies with high price volatility (share price fluctuation over a short period) might not interest and attract investors because investors prefer investing in assets with less risk. Investors would explore factors enabling them to build sustainable wealth through company share price investments. Hussainey et al. (2011) noted that a higher dividend payout ratio reduces SPV. Consequently, less risk-averse investors may seek out and invest in companies with low SPV. Such investment decisions may not build the type of wealth investors might seek. Avoiding investments in organizations with unpredictable share price movements (high SPV) denies such organizations some of the financial resources they need for investments and growth.

Implication for Social Change

The result of this study may contribute to positive social changes by building confidence in financial analysts and investors in making investment decisions in capital markets. Investors and potential equity owners use the company's past and projected performances, represented by ROE and other performance metrics, as a major input in investment decisions. Investing in companies located in local communities leads to economic growth, which results in economic development in the communities. Investee companies use the additional investment resources to generate additional returns.

Awareness of share price movements and their determinants is valuable information to investors looking to maximize their investments. It also helps strengthen and develop capital markets, especially in developing countries (Kengatharan & Ford, 2021). In addition, one of the significant determinants of SPV is the dividend payout policy. Understanding this determinant gives management the knowledge to devise ways to enhance their companies' performance leading to improved dividends payout, which enriches and contributes to community development and improvement (Lasisi et al., 2020). Understanding share price movements help organizations' CEOs formulate strategies and policies to mitigate unpredicted movement in the stock markets and local communities and government institutions to implement policies to mitigate downward fluctuations in tax revenue used for investment and community development.

Finally, the requirements to disclose CEO pay and its ratio to average workers' pay might give shareholders and stakeholders an understanding of compensation disparities. Knowledge of compensation disparities could incentivize interested parties to push for more equitable compensation among all workers. A more equitable compensation could enhance community wealth building, welfare, and social and economic development. Increased local wealth is a potential avenue for increased revenue for local government to invest in local public schools, public health, and recreational facilities. These investments increase the community's standard of living.

Recommendation for Action

This study's results indicated a significant relationship between SPV and ROE but no significant relationship between CEO compensation and ROE. The result of SPV and

ROE was consistent with the result obtained by Sharif et al. (2015). Sharif et al. examined the factors that affect share prices in the Bahrain stock market and found a positive relationship between SPV and ROE. However, this study's result may not be consistent among all companies because of the many determinants of price volatility. For example, Handayani et al. (2019) did not find a positive and significant relationship between ROE and SPV. Potential investors should review the result of this study and other studies in making an investment decision. In addition, the non-significant or weak relationship between CEO compensation and ROE was consistent with the study conducted by Omoregie and Kelikume (2018) who found a negative and weak relationship between CEO compensation and ROE. However, exogenous factors such as economic levels, the pool of potential hires, the political landscape, government regulatory policies, and other factors influence the CEOs' compensation. The BOD, compensation committee and others deciding CEOs' engagement and hiring should review this and other research studies in determining CEOs' compensation packages.

Further, doctoral students and scholars may use this study to examine share price movements and its determinant in other industries. I plan to publish a refined final version of this study in the ProQuest dissertation database and other business and accounting research publications. Finally, I plan to present this study at business and professional conferences and workshops when the opportunity presents itself.

Recommendation for Future Research

The results from this study indicated a significant relationship between SPV and ROE and a non-significant relationship between CEO compensation and ROE. In this

study, I focused only on the publicly traded midstream oil and gas company subsector in the energy industry in the United States, using 2019 data. The limitations of this study provide opportunities for future research. I recommend that future studies focus on the relationship between CEO compensation, SPV, and ROE within other subsets of the energy industry, such as the upstream, downstream oil and gas, and emerging renewable energy sectors. New research could cover a more extended period and use data points to provide information about the relationship between the predictors and response variables used in this study.

Further, I used ROE to measure firm performance within the publicly traded midstream oil and gas industry in this study. Future studies into the relationship between CEO compensation and SPV could focus on other firms' performance measurement metrics, such as ROA, ROI, EPS, Tobin Q, and other sectors, industries, and geographical locations. For example, Elsayed and Elbardan (2018) used ROA and Tobin Q in their study of the relationship between executive compensation and firm performance for 350 publicly traded UK companies from 2010 to 2014. Future researchers could use similar performance measurement metrics to examine the relationship in the midstream oil and gas sector in the energy industry in other countries covering different periods. In addition, I recommend that future studies focus on the relationship between CEO compensation and firm performance in the same industry but for private companies. Such studies may yield different results using private and non-publicly traded midstream oil and gas data. Societal and shareholders' performance expectations, corporate citizenship pressures, resource allocation, and the coexistence of

economic and non-economic goals in publicly traded companies may differ for privately held entities (Massis et al., 2018). The dynamics covering private and non-public entities are different from publicly traded companies.

Reflections

Though this research process was time-consuming, challenging, and required astute time management, it was also very humbling. I had to adjust my work, family schedules, and other activities to accommodate the time and resources required to complete my academic work. I forsook some of my social interactions and activities for the time required to complete this program. During the process, I learned to listen to and accept suggestions from classmates, professors, and my doctoral study committee members. I also enhanced my ability to prioritize competing responsibilities that I needed to accomplish and attain significant academic, professional, and personal growth. After completing this program, I plan to use my experience and knowledge to advise others contemplating pursuing advanced degrees, especially those that involve online learning. Also, I plan to share my knowledge and experience in a classroom setting.

In my study on the midstream oil and gas industry, I learned more about the industry within the last three years than I had in the previous 25 years I have worked in the industry. For example, I always assumed the energy industry comprised only oil and natural gas companies. I also assumed that gas gathering and processing made up the energy industry's midstream oil and gas sector. During this study, I discovered that the traditionally assumed oil and gas companies (fossil-based) and the non-fossil based, such as solar and wind, make up a large portion of the energy industry. I also discovered that

the midstream oil and gas industry, in addition to the gas and oil gathering and processing activities, encompassed oil and natural gas terminally, oil and natural gas storage, and oil and gas pipelines. This understanding allowed me to consider including other companies I had not thought of as midstream oil and gas companies during the preliminary stages of my doctoral study journey.

Summary and Study Conclusions

The purpose of this correlational study was to examine the relationship between CEO compensation, SPV, and ROE in midstream oil and gas companies operating in the United States. Scholars and researchers conduct research studies to create new knowledge, discover and present behavior patterns, introduce new information, confirm existing information or knowledge, and in some cases, translate developed business theory into actual practice (Donthu et al., 2020). Before conducting this study, I reviewed the literature on the academic research of midstream oil and gas companies. Few studies existed on the midstream oil and gas companies, and a few that existed, including a study on whether oil and gas companies are rewarded for luck by Davis and Hausman (2020), tangentially addressed the relationship between executive compensation and oil. However, there were not many studies on the relationship between CEO compensation, SPV, and ROE in the midstream sector of the energy industry. I believe that the result of this study will add to and extend the existing knowledge in this critical economic sector. The findings from this study will aid organizations' BODs, owners, and local taxing authorities in making informed and knowledgeable decisions in dealing with companies

in midstream oil and gas companies in the United States and, possibly, in comparable industries in other countries.

Before conducting a specific statistical analysis for a research study, researchers perform a preliminary analysis of the data to ensure the study's quality (Corrales et al., 2018). To ensure the quality of this study, I conducted statistical tests to evaluate the study's assumptions. Further, I confirmed that the data used for this study were data that have been verified for accuracy and completeness by external entities (independent financial auditors) to the organizations who filed their required financial and other information with the federal regulatory authorities (SEC). Consequently, the data used for this study were valid, readily available, and verifiable.

The agency theory was the theoretical framework that underpinned this study. Conducting a study that links the interests of agents, principals, and firm performance as measured by ROE is a vital consideration of agency theory because organization owners want to maximize their investment and increase firms' performance (Buachoom, 2017). Consequently, a researcher should consider factors or variables that affect organizations' management and results. For this study, I used CEO compensation, SPV, and firm performance, as determined by ROE, as variables relevant to understanding the principal and agent relationship regarding their interest alignment and cost mitigation. In addition to compensating CEOs for firm performance, it is also essential to quantify and consider how CEOs maneuver or respond to some of the major components affecting firm performance. One such component is the volatility in their companies' share prices. SPV influences shareholders' and potential investors' decisions to invest their financial

resources in organizations of their interest in profit maximization (Handayani et al., 2019). Consequently, the result of this study will aid investors in their investment decision. From the result of this study, there is a statistically significant relationship between SPV and ROE.

The result of this study indicated that the combination of SPV and CEO compensation showed a significant relationship with organization performance measured by ROE. However, evaluating each predictor variable showed a weak and non-significant relationship between CEO compensation and ROE. The finding of a non-significant relationship between CEO compensation and ROE is similar to the results observed by Carson and Bussin (2020) and Deysel and Kruger (2015). Also, other studies have had mixed results on the relationship between CEO compensation. While Smirnova and Zavertiaeva (2017) found a significant and positive relationship between CEO compensation and firms' performance, Omoregie and Kelikume (2018) found a weak and negative relationship between executive compensation and ROE. The difference in findings from various studies could be related to factors such as industry characteristics, location, components of CEO compensation used, and the period covered by the research studies. However, researchers need to conduct additional studies using a subset of CEO compensation as different variables to determine the impact of each component on firm performance.

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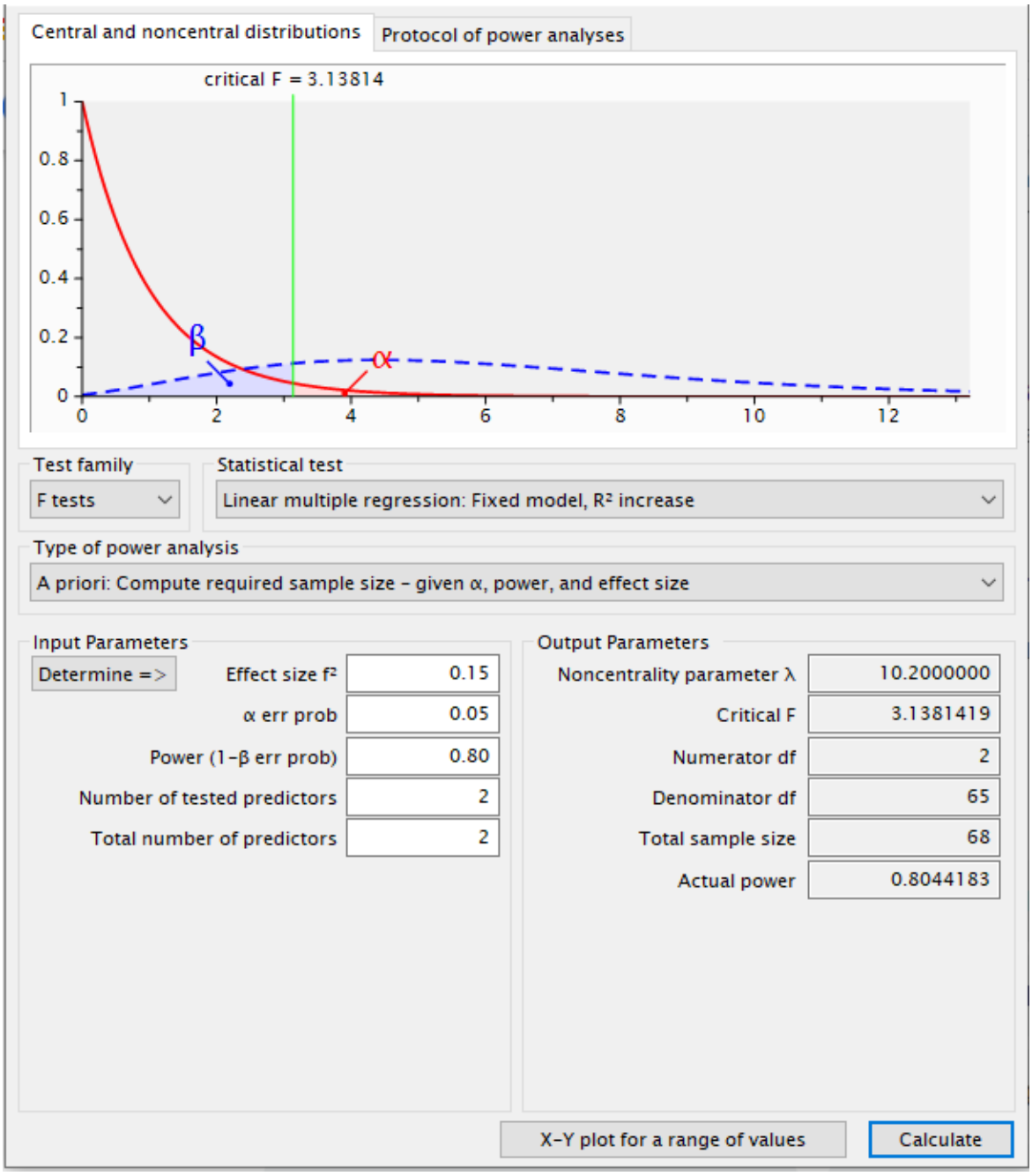
Appendix A: G*Power for A Priori Analysis for a Linear Multiple Regression Model



Appendix B: G*Power for A Priori Analysis Showing Range of Values