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Impact of New York State Clean Energy Policy Initiative on Renewable Energy Generation

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This is to certify that the doctoral dissertation by

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Abstract

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Generation

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Dissertation Submitted in Partial Fulfillment

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Abstract

The New York State renewable portfolio standard program failed to reach its successive

targets and did not meet estimated percentage capacity in all program years. The purpose

of this quantitative study was to examine the relationship between 6 predictors variables

(policy standard and objective, resources and incentive, inter-organizational

communication and enforcement activities, characteristics of the implementing

agencies,economic,social, and political conditions and disposition of implementers) and

implementation performance Jeffery Pressman and Aron Wildavsky Implementation

theory provided the framework for the study. Data were collected from 251 anonymous

participants from the Qualtrics survey audience resident of New York City 5 counties.

Multiple linear regression was the main statistical analysis method. The results indicated

the 6 implementation independent variables were able to predict dependent variable

implementation performance, if applied in state Clean Energy Standard ortfolios for

renewable energy. Results indicated that 100% of the variance was expressed by the 6

variables The strong correlation with implementation performance can be explained by

the combination of the 4 presented best predictions model. Findings of this study may

contribute to Pressman and Wildavsky's classic top down approach to policy

implementation. And may provide information about delivering low-cost energy supply,

and green employment.

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Dedication

This dissertation work dedicated to God Almighty and our Lord Jesus Christ for giving the grace with courage and strength to conduct this project. I am also indebted to my biological parents, pharmacist Patrick Omo-Ikirodah and Ajoke Etamesor Omo-Ikirodah. They both generously worked hard and sacrificed much time to develop this pathway. Their dedication to goodwill and love formed the platform I stand on to give back to society for the greater good.

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This dissertation was made possible by many great supporters and giants in their class. I offer sincere thanks to the committee members for accepting to supervise this quantitative study. I am especially grateful to the committee chair,Dr. Paul Rutledge, committee members. Dr. Anthony Fleming and Dr. Tanya Settles, Dr. Meena Clowes and the university research review members for their effort and time in guiding this work. I am also thankful for the help of Dr.Shana Garrett, Dr. George Larkin, Dr. Jim Castleberry, Dr. Linda Day, Dr. Louis Milanesi, Dr. Reginald Taylor, Dr.Joseph Gredler, Ms. Jeanne Ainslie, Ms. Catherine Heck, Ms. Lydia Lunning, and Ms. Beth Oyler. These great people have given their time to help in this course of study. I am grateful to my immediate family for their support and encouragement. They provided the atmosphere I needed to get my dissertation work completed.

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Chapter 1: Introduction to the Study

The New York state renewable energy policy created standards and objectives to generate clean energy as a public benefit and catalyst for social change (NYSERDA,2011).This policy focused on injecting more clean energy into the New York energy matrix and reducing a high proportion of regular energy application. The conventional energy produced high carbon emissions into the environment owing to the burning of fossil fuel, which is not considered to be environmentally friendly. Policymakers wrote the social change proposition and recommended renewable power generation from renewable sources so that the environment would be pollutant free. Policymakers adopted a renewable portfolio standard (RPS) program for their state energy composition plan leading to Clean Energy Standard portfolios valued at $5 billion in the initial capital budget in 2016. The CES was initiated after several legislative policy reviews of the RPS because it had failed to reach the performance level that was estimated target year for a renewable generation. This one state procedure for transforming political ideas into energy projects has become a useful agent for social change. However, the policy must be implemented efficiently for the standards and objectives to produce performance expectations (Moran, Rein, Goodin, &Wilson, 2008).

Vedung (1998) suggested that three groups of public policy instruments are carrots, or fiscal incentives; sticks, or administrative restraints; and sermons, or communication. Vedung suggested that public policy tools "are the set over strategies by way of as governmental authorities rule theirs monitoring and try according to insure assist yet prevent neighborly trade" (p. 21), as shown in Figure 1.

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┌─────────────────────┐
│  Policy Instrument  │
└─────────────────────┘
   │        │        │
┌──────┐ ┌──────┐ ┌──────────┐
│Regul.│ │Econ. │ │Information│
│(Sticks)│ │Means │ │(Sermon)  │
└──────┘ │(Carrots)│ └──────────┘
```
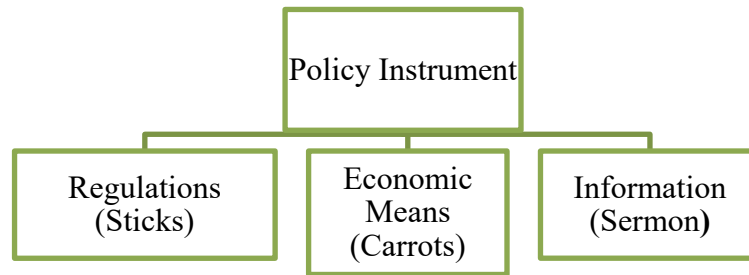
Figure 1. Threefold typology of public policy instruments illustrates Vedung's policy system.

Vedung's (1998) threefold typology of public policy is constructed on the resource approach to policy instrument classification in place of the choice approach. Vedung argued that this trichotomy could not be further reduced. It cannot collapse into any twofold scheme without an irretrievable loss of insight.

The threefold typology theory of policy instrumentation requires practical implementation choices for decision-makers to carry out the standards and objectives of their policy instrument for social change. According to Wildavsky (1979), efficiency in technical terms may not tell anyone where to go. However, it is useful as a technique to achieve the standards and objectives with the minimum possible effort (Stone, 2002). Efficiency governs modern U.S. debate about public policy instruments and implementation choices. Efficiency represents a procedure for deciding renewable energy standards as a useful policy tool (Perloff, 2008; Stone, 2002; Wildavsky, 1979). Effective implementation of policy usually helps decision-makers to achieve projected standards and objectives with reduced waste and avoid duplication in depletion of funds (Perloff, 2008; Stone, 2002; Wildavsky, 1979).

Background

The New York state efficient policy implementation for the Renewable Portfolio and CES is built on several instruments by a legislative review initiative. The public service commission adopted the RPS in 2005 on a baseline target of 19.3%. The initial target was upgraded in 2010 to a 25% production target for 2013, and then in 2013 to a 30% production target for 2015; it ended in 2016. The result from the programs against the anticipated goal was below target performance. In 2016, policymakers reviewed the policy program and introduced a new direction for the state energy standards and objectives.

In 2016, Governor Cuomo launched the CES with four portfolio mandates to attain a 50% target in clean power generation for 2030. The program has a 10-year lifespan with $5 billion of capital anticipated to be received from public and private funding. The New York State Energy Research and Development Authority (NYSERDA) as the sole administrator is responsible for implementing the existing baseline from RPS generation and CES to successful yield, which is anticipated to be 50% production in 2030 through four portfolios. Governor Cuomo intended these four CES portfolios to improve on the existing structures of the renewable portfolio standard for New York clean energy goals.

The New York State RPS instrument includes the following:
- Central Procurement Agency (NYSERDA)
- System Benefits Charge (SBC) and (RPS) Charge

- Customer-SitedTier (CST) (small, behind-the-meters sources)

- MainTier (MT) (large utility generators)

- Renewable Environmental Compliance Attribute (RECA) per kWh Generation

- Eligible Renewable Technology

- NY Green Bank

- Investment-Owned Utility

The New York State CES portfolios instrument includes the following:

- Market Development

- New York SUN

- New York Green Bank

- Innovation and Research

Renewable energy is significant for social change in times of high energy cost, rising temperatures, rising sea level, energy insecurity, and increasing concerns about the environment and climate change. Efficient policy implementation in a renewable generation should act as merit measure mentor on capacity performance for energy policy decisions. The policy decision on ratepayers' surcharge on electricity consumption in this context affects New York state residents' living income. This funding is inadequate to advance renewable production.

Efficient policy implementation in renewable generation also supports the national trade balance that leads to generation of green jobs, provision of quality education, and conduction of research development activities (Stone, 2002). However,

conventional energy from fossil fuels takes the present leadership of energy sources in the world today. Up to 80% (91,000 terawatt hours) of the total prime energy was delivered for consumption with 64% (9,400 terawatt hours) of electricity produced in 1999 (Jacobsson & Lauber, 2006).

In the United States, renewable energy generation for electricity power schemes has steadily grown over several decades. The growth in renewable development goals has prompted U.S. lawmakers to pass several bills to inject a given percentage of clean energy to state energy matrix security and conservation (Doris, 2009). State legislators have the incentive to draw up effective policy with the clarity of implementation for clean power generation from a renewable source. However, states must seek integration in regional commerce collaboration for clean energy separate from political ideals (Doris, 2009; Petersik, 2004; Wiser & Barbose, 2008).

The notion that a policy may not be efficient could depend on policymakers' strategic goals for their instrument and implementation choices. If they fail to attain the needed result in renewable production based on decision-makers' estimates, there will be emergence of several issues. These issues exist with RES because of overregulation and small capitalization implementation plans by aggressive policymakers. For example, if assigned renewable technologies are Pareto efficient, no further assignment of the same technology asset will make other units of renewable projects or programs any less efficient; additionally, they will make many programs better. The limit to the Pareto efficiency notion stems from the assumption that information is available to other market and participating investors.

The presumption is that each investor understands the playoffs and planning available to other investors. Usually, in practice, investors have the information; however, they do not reveal or share with other investors in the marketplace to gain competitive leadership (Galichon, 2012; Perloff, 2008). Under such conditions, a lack of precise information in the market introduces the question of what an efficient policy estimate should stand on (Galichon, 2012; Perloff, 2008). Efficient policy instrument decision expressed in the early stage of policymakers' choices can be tenuous, especially when placing technology assets into renewable energy projects or programs before the discovering the classes of implementation options. An agent may have full knowledge about specific implementation choices; however, the policy programs may fall short of expected production estimates at the performance stage because of contingency factors.

The underlying subject is what must be the possible incentives for renewable technology asset assignment rules to make them active. If there is no incentive in the control program, the revealed idea or outcome of the assignment will uphold. Therefore, it can be argued that there is no method by which this assignment rule can achieve success (Galichon, 2012; Perloff, 2008). Regardless of presumption, the idea of efficient policy implementation is a top-down approach to renewable energy. Effective implementation of program performance is central to New York state's CES policy goal.

New York State has an energy profile on record for 2010 as the eighth largest energy consumer in the United States. New York City has an active transport system, and this creates environmental challenges to residents in the form of pollution (U.S. Energy Information Administration, 2013). The state also ranked second lowest in energy

consumption on individual use after Rhode Island. Marcellus shale is in the southwestern part of the New York state, which is estimated at a reserved minimum of 1.41 trillion cubic feet in scientifically recoverable natural gas (U.S. Energy Information. Administration, 2013). The Robert Moses, Niagara 2,353-megawatt hydroelectric power plant was ranked the fourth largest in the United States in 2010 and 2011 (U.S. Energy Information Administration, 2013). The government produces greater hydroelectric power than somebody sordid administration so much is placed of the past regarding the Rocky Mountains (U.S. Energy Information Administration, 2013).

NYSERDA served as central implementing and buying administrator for renewable electricity generation under RPS 2016 program and proposed CES ending in 2030. NYSERDA handled this responsibility as a clean energy provider indirectly by paying a production incentive to renewable electric power generators. In most of the U.S. states, policy initiatives on RPS or CES use current load serving entities to meet and advance clean energy standards for the state. Therefore, consumers in the state get an energy supply with an agreed bulk percentage of electricity from the renewable source through a state-approved agency (NYSERDA, 2011).

The influence of a sole buying administrator in the policy may limit small and voluntary generator investors in renewable energy development. As a rule, in the state RPS, generators receive production incentives from NYSERDA, the buying administrator. The certified generators assign all rights and claims on the renewable compliance attribute for every unit kilowatt hour of the electric energy produced from a renewable source (NYSERDA, 2011). However, in New York state, compliance of RPS

attribute composition is required, and there is a penalty for noncompliance. This simple contract rule has a certain degree of weakness as the production noncompliance penalty is not a strict liability because generators could renege on it.

New York state renewable energy credit has a conceivable weakness because it cannot be exchanged as credit determinant and be characterized by a weak environmental compliance form. The nature of the RPS-compliant duty may lead to an unfavorable result in renewable production progression into the state energy template. Also, the state renewable energy attribute instrument in the renewable portfolio standard has neither classified exchange trade value or listing as a stock like other renewable credits of most local market conglomerates. However, the update by Public Service Commission specifies that it is part of the CES policy review cycle. A renewable energy certificate acts as a real exchange instrument calculated on each kilowatt-hour in the renewable generation and environmental control (Cory, 2005; Cory & Swezey, 2007; Heeter & Bird, 2011). The renewable energy credit is used as a funding instrument for new renewable placement because it offers monetary value and an environmental compliance component (Cory, 2005; Cory & Swezey, 2007; Heeter & Bird, 2011).

In January 2010, the Public Service Commission carried out a midway review of the RPS policy program. The 2010 public service order dictated an advance of renewable energy production to 25% for 2013 into the state energy template. However, the policy review expanded the expected power generation estimate to 30% for 2015 as the new percentage target from a renewable source. The review of the policy estimated 25% for 2013 and 30% for 2015 allowed at least a 1% projection of the 25% and 30% to go

toward voluntary market investors. The RPS program ended in 2016 with performance shortfall.

The failure to meet the desired target for 2015 made it possible to propose clean energy standard portfolio to produce a 50% target for 2030. The policy review in the stated years expressed a possible setback in achieving policy standards and objectives. The implication expressed a shortfall in the implementation of essential policy instrument that caused the changes in the policy review (NYSERDA, 2011). The New York state RPS incorporates the features of a main tier (large utility generators) and customer-sited tier (small, behind-the-meters sources). NYSERDA (2011) administers both the customer-sited tier and the main-tier supported program.

The policy portfolio of 1% leverage for voluntary investor participation explains strict government control or a monopoly of government interest in the renewable energy marketplace. Much of government regulation on investor participation restricts small investor involvement. The excessive control potentially slows or weakens voluntary investor interests in large-scale renewable placement. The guideline for power distribution in the state portfolio standard directs the main-tier generator services to comply with the renewable attribute for each electricity power production unit as follows:

1. The production must go into a market controlled by a New York Independent Coordinator Operator for consumers in New York State (NYSERDA, 2011).

2. The delivery across-the-board wholesale meter required within the supervising platform. Then, a public authority electricity company accounts for that consumption track record and verifies in New York state (NYSERDA, 2011).

3. Delivery of renewable generation through an efficient production meter service on the adopted method that can be tracked and verified, making it subject to independent confirmation by NYSERDA to customers in New York State.

New York State RPS by the jurisdiction of the state clean energy plan does not govern the clients in the service territory of Long Island Power Authority (comprising Nassau and Suffolk Counties). However, Long Island Power Authority gets its supply of electric power through the New York Independent System Operator valid from January 20th, 2011 (NYSERDA, 2011). The policy goal of customer-sited tier instruments in the state RPS influenced the establishment of Long Island Power Authority's solar initiative through a board of trustees. However, Long Island Power Authority now runs a Clean Solar Initiative (FIT1) and clean nonphotovoltaic renewable energy feed-in tariff 11.

The board of trustees for Long Island Power Authority adopted clean solar initiative feed-in tariff SC-11 to buy up to 50 megawatts of assigned solar photovoltaic in renewable generation. The program adopted a cost fixed price of $0.22 for each kilowatt-hour under a 20-year power purchase agreement to FIT1 by the board resolution dated June 28, 2012. To develop the FIT1, participants needed to subscribe to an interconnection agreement under Long Island Power Authority's SmartGrid small generator interconnection methods and affirm a 20-year power purchase agreement.

Under the Clean Solar Initiative FIT1, solar photovoltaic generators were expected to be sold to Long Island Power Authority for producing 100% of the solar energy. The energy, capacity, and renewable energy certificates were not qualified for

other Long Island Power Authority incentive programs, unlike Long Island Power Authority's solar entrepreneur discounts or net metering. The New York state policy on SBC and RPS rate charge increases electricity rate payers' monthly bill. The fee is calculated at $0.6399 consumption unit in kilowatt-hours. The public view is that the extra rate charge on electricity is not a real source of the needed capital for advancing renewable energy technology placement (NYSERDA, 2011).The process of evaluating CES for renewable portfolios' success or failure often cuts across a set of secondary measures such as capital development and technology prospect (Tonn et al., 2008).

Clean energy standard for renewable portfolio is diverse across the most U.S. states through all existing portfolios standard as they carry out three main policy goals. These include low-cost, efficient, clean energy to guarantee sustainable energy security to reduce carbon emissions from greenhouse gas and create green jobs with improved technology placement (Tonn et al., 2009). The policymakers and the implementing agency would also need a productive collaboration with other states' lines to adopt effective policy goals for implementation of state clean energy standards on the portfolio and achieve optimal outcomes. The states collaboration will produce efficient energy for improved clean energy standard to meet the policy goal. A collaboration of efficient resource management for clean power generation is essential to meet the expected percentage target and reduce pollutants from the environment for social change (Tonn et al., 2009).

NYSERDA is the custodian of CES portfolios for renewable generation and enforcement of production compliance on generators. Therefore, generators must

guarantee on a contract that renewable electricity energy would get into the state power system. Figure 2 shows the state policymakers' projection of 10.4 million megawatt hours to earn the 30% generation for 2015. The progress result indicates 4.8 million MWh (46%) attained for 2015, which suggests that 54% renewable generation was unaccomplished in the total estimate for 2015. Some variable factors that affect the implementation agency may have led to the unaccomplished percentage of renewable generation for 2015. However, the unattainable 30% renewable target could be a combination of factors, which I addressed in the current study.

This underperformance was recorded because of a few primary factors such as limited capital funding, bureaucracy, and generators' failure to meet renewable production compliance agreement. Also, there was lack of effective collaboration in implementing policy goals without production competition. Additionally, the state public service commission's ambitious effort imposed an overweight regulation that slowed the state renewable energy advancement. This regulated overweight was manifested in NYSERDA as a central buying agency that made the New York state RPS program falter and fail to meet the estimated capacity for 2015.
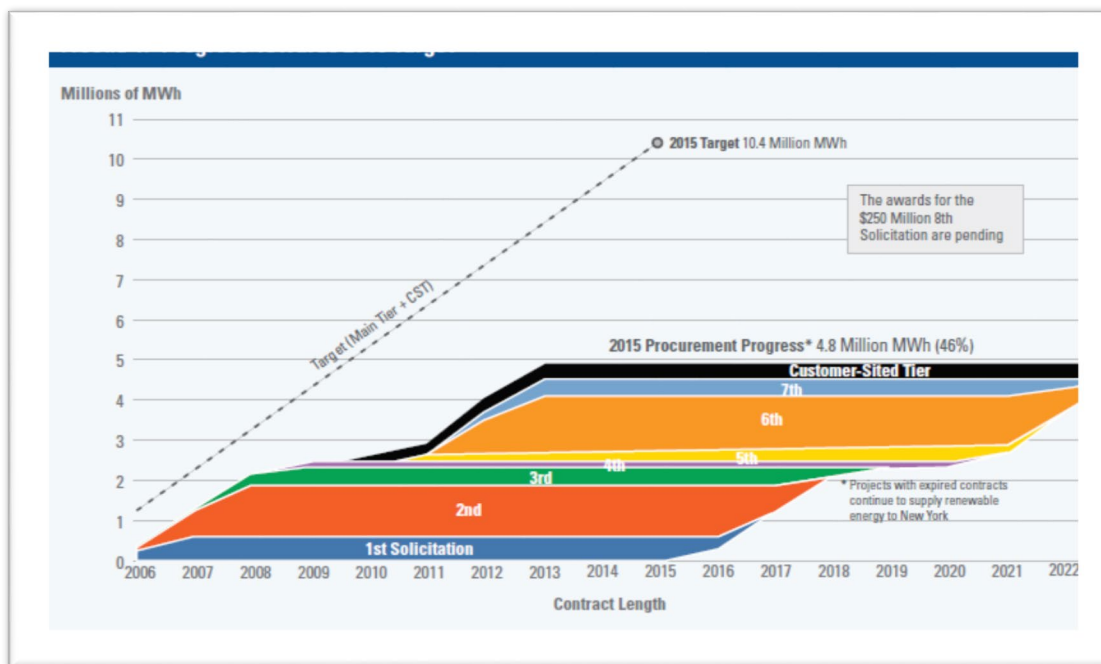
Figure 2. RPS progress toward the 2015 target illustrates New York RPS progress toward the anticipated 2015 renewable energy generation target. (Source: Pace Energy and Climate Center, Pace Law School, New York.Pace University Hires Karl R. Rábago To Lead the Law ... (n.d.). Retrieved from http://www.eesi.org/articles/view/pace-university-hires-karl-r.-rabago-to-lead-t).

In 2016, Governor Cuomo introduced the New York State Public Service Commission's approval for a $5 billion clean energy fund which had a span of 10 years. The funds were expected to provide fast-track growth to the New York clean energy economy. The initiative was intended to address the exigency of climate change and lower energy bills for New Yorkers effective immediately.

The $5 billion capital was intended to build the existing renewable structure that is managed by NYSERDA and was intended to motivate and leverage third-party capital investment. The initiative supports the governor's ambitious proposal to reach 50% of the state's electricity desires from renewable sources by 2030. The $5 billion clean energy

fund was expected to be disbursed by NYSERDA. It was intended to build the current renewable process and help the state to achieve advancements and form a robust clean technology sector. The fund would be applied in four significant portfolios management:

- Market Development

- NY-Sun

- NY Green Bank

- Innovation and Research (www.ny.gov/REV4NY)

Problem Statement

New York State's clean energy plan for a renewable generation has been under continuous review to achieve policymakers' ambitious target for energy from renewable sources. However, the shortfall of the renewable target in each succeeding legislative policy includes the active involvement of review cycle for clean energy programs so that there is a determination of the factors that cause failure of renewable energy target. Legislative policy includes factors such as low capital funding, bureaucracy, and failures that reduce the capability of renewable production to meet the compliance agreements. Therefore, the implemented policy instruments are void of production competition.

The state Public Service Commission's ambitious efforts carried a regulated overweight that slowed the statewide renewable energy advancement. This regulated overweight is manifested in NYSERDA as the central implementing agency, which could also have weakened the state clean energy policy goal. The New York state renewable portfolio standard program failed to reach its successive targets and did not meet estimated percentage capacity in all program years. The following clean energy

standard's four-portfolio agenda provided a guideline for more renewable sources for a state electric power generation template (2008 New York State Renewable Portfolio Standard Program, n.d.).

The $5 billion funding in the proposition will motivate and leverage third-party capital investment in the state clean energy program. The expected third party and public investment will support the governor's ambitious policy goal and help it reach 50% of the state electricity need from renewable sources by 2030. The clean energy standards portfolios come under NYSERDA jurisdiction. The state CES will advance a robust clean energy technology sector for New York state to build on the existing renewable progress through capitalization.

The state depends on conventional energy sources such as fossil fuels, primarily from out-of-state sources. Conventional energy is considered to have long-term effects on pollution, with health implications for New York state residents. The policy proposal will deliver sustainable, renewable power generation so there is maintenance of compliance with environmental challenges and will support a reduction in greenhouse gas emission in the state (NYSERDA, 2011).

The role of NYSERDA in renewable energy procurement differs from the practice in most states' policy plans for renewable energy. Many of the states with clean energy plans for renewable production employ existing load service energy. The only state with a similar program to New York is Illinois. However, Illinois differs in practice because it has tradable renewable energy certificates as credit in its clean energy standard

portfolio. New York's clean energy plan did not incorporate a tradable renewable energy certificate in the 2013 renewable energy program (NYSERDA, 2011).

As of August, 1, 2016, the public service commission adopted the clean energy standard along with a tradable renewable energy credit. The order requires each load service energy generator to buy qualifying clean energy standard (CES). Tier 1 includes renewable credits. This credit procurement has a compliance period from January 1 to December 31 each year starting in 2017. The time limit placed on the instrument may not encourage long-term third-party investment even though it could generate the necessary capital for New York state clean energy placement (NYSERDA, 2016).

Purpose of the Study

In this study, I evaluated the level of relationship between the six implementation variables of policy standard and objective; resources and incentive; interorganizational communication and enforcement activities; characteristics of the implementing agencies; economic, social, and political conditions; and disposition of implementers as independent variable (IV) predictors to collaborate and impact positively on performance as the dependent variable (DV). The six corresponding independent variables created a relationship in policy implementation that influenced the state clean energy performance output for renewable energy generation. The Van Horn and Van Meter six variables aligned with policy implementation's top-bottom approach. NYSERDA is the central implementing agency that administers the New York state CES portfolio. These six implementation variables interact on a network platform to create relationship collaboration and advance clean energy policy performance when there is clarity in

policy implementation goal. The current study addressed the aggregate purpose of the policymakers' decisions on New York state clean energy progress. NYSERDA collaborates the disposition of the policy performance standards and objectives for all renewable subprograms and illuminates the programs direction and responses.

State clean energy policy mandates the implementation of approved renewable technologies that include renewable solar water heat, solar photovoltaic, wind, and biomass. The nonrenewable sources include hydroelectric, combined heat and power, fuel cells using nonrenewable fuels, landfill gas, tidal wave, ocean thermal, wind (small), anaerobic digestion, and fuel cells using renewable fuels on annual megawatt hour generation performance (NYSERDA, 2011).

I used Qualtrics, a web-based survey instrument often used in related studies and employed SPSS version 24 to conduct a multiple linear regression analysis. Assessing surveys on a Likert scale ed and enabled me to examine New York state clean energy variables affecting policy performance or underperformance regarding renewable generation. I adopted a top-down approach to assess implementation choices that optimize collaboration for policy performance on technologies for clean energy from renewable sources. Through this , I also investigated the unaccomplished target by NYSERDA for renewable power generation based on policy goal.

Not all policies based on widely agreed upon moral theories were carried out with good results (Fried, 2002; Ramseyer & Nakazato, 1989). It expressed that when policy components were incorporated into a policy agenda, not all involved policymakers were

supportive. Therefore, the likelihood of failed policy implementation results in low performance on the policymaker's agenda (Fried, 2002; Ramseyer& Nakazato, 1989).

The theory of sound policy strategy allows states with clean energy initiatives to use renewable portfolio standard components for social change. The renewable policy is a tool that, when optimized, encourages rational investors' participation. That is, they assume there is clarity of policy implementation's goal for renewable energy generation to succeed (Fried, 2002; Ramseyer & Nakazato, 1989).

Dworkin (1981) claimed individuals have the competence to offer decisions on public policy to maintain the quality of the air used. According to this view, the theory of equality must uncover a means for incorporating the interest of private capital with consistent political power (Dworkin, 1981). The theory proposes that there is not a single-person ownership connection between personal and material capital. Instead, there is an open-surfaced connection between several viewpoints that must have a political correction (Dworkin, 1981).

 The question of what unit of capital is an equal unit must to some degree involve the question of what powers anyone to assign a capital by it gains (Dworkin, 1981). The research question characterizes the rights of such an entity to nullify the changes in those powers that are vulnerable to politics (Dworkin, 1981). olicy makers should be accountable for policy decisions as indicated by ex-post Pareto efficient policy result or ex-post Pareto inefficient policy result. efficient policy instrument choice is to be included in the renewable technology assignment so that a procedure is followed under a

condition of adequate information about the technology placement in the investment forum.

The related literature profound about restrictions on policy implementation. several policies were often no longer implemented as in accordance with restrictive design. Other factors included negative implementation concerning policy intervention durability and political meddling. At times, its inadequate workers, or restricted resources, and frontline implementers are unable in accordance with carry outdoors an intervention due to lack of incentive or functionality (Khan & Khandaker, 2016).Policy design can be poorly structed, or the original design did not get well transmitted to staff. Furthermore, depressed or, or low electricity energy policy contributors might also no longer inhabit between enough numbers yet stay recognized correctly then can also be discovered as non-cooperative (Khan & Khandaker, 2016). Several scholars corroborate that effective implementation of any policy can relentlessly weaken through lack of enough resources, incentive, or skilled staff. Followed by means of the existence about a opposite nature within disposition of implementers, absence of inter-organizational communication, competent and technical resources, a formal commitment to statutory objectives, assignment of authority or tractability then sufficient autonomy. (Khan & Khandaker, 2016). The policy inter-organizational conflicts or difficulties, with the effect of economic, political, and social conditions may result in lack of skilled workforce or administrative competence. It resonates of the domination of self-serving goals of street-level bureaucrats or absence of over organizational cooperation, increased demand for

services, vague, ambiguous, or conflicting targets expectations, difficulties in achieving goals and unintentional clients (Khan & Khandaker, 2016)

Research Questions and Hypotheses

Research Question 1: What is the relationship level between the six implementation variables of policy standard and objective; resources and incentive; interorganizational communication and enfforcement activities; characteristics of the implementing agencies; economic, social, and political conditions; and disposition of implementers as independent variables to consistently collaborate and impact positively on performance as the dependent variable?

H_a1:The collaboration of implementing officials with accurate and consistent planning actions establishes a high relationship level between the six implementing independent variables and performance as the dependent variable.

H_o1:The lack of collaboration of implementing officials with no accurate and consistent planning actions does not establish a high relationship level between the six implementing independent variables and does not impact positively on performance as the dependent variable.

Research Question 2:What is the level of relationship between the six implemention independent variables that collaborate for clarity of targets reached over time to impact positively performance as the dependent variable?

H_a2 There is a high significant level of relationship between the six implementation independent variables to collaborate for clarity of targets reached over time to impact positively performance as the dependent variable.

H_o2 There is a low significant level of relationship between the six implementation independent variables to collaborate for clarity of targets reached over time to impact positively performance as the dependent variable.

Theoretical Framework

In this study, I investigated the six variables in policy implementation that may impact organizational successful implementation performance positively on clean energy for renewable generation. New York state policy on clean energy standards for renewables had successive legislative review cycles active from 2005 to 2016. It necessary to study the six independent variables that affect the implementation of clean energy standards via top-down approach in New York tate regarding the positive impact on the dependent variable implementation performance. Implementation theory provided the foundation the study.

Pressman and Wildavsky (1984) began implementation study using the top-down approach. Their book was in the instruction over a federal program for economic development within Oakland, California. It focused on the extent to which successful implementation relies upon connection or collaboration between different organizations

and departments at the local level (Hill & Hupe, 2014;Van Meter & Van Horn, 1975).

Policy implementation can represent the procedure for teamwork or cooperation when

planning set targets and measures and application toward successful outcomes (Pressman

& Wildavsky, 1984).

Policy instruments usually include desires and the skill for attaining them

(Pressman & Wildavsky, 1984). Pressman and Wildavsky (1984) asserted that actions

depends on networks within an implementation chain. The level of collaboration among

agencies that need to accomplish those links work must stand close to 100% (Hill &

Hupe, 2014). Pressman and Wildavsky also suggested that small, shortfalls can

accumulate to produce a much more significant shortfall. The two theorists introduced

the idea of implementation shortfall and suggested that the application results may be

statistically or mathematically analyzed in this approach (Hill & Hupe, 2014; Pressman &

Wildavsky, 1984).

Van Meter and Van Horn (1975) built on the general approach of Pressman and

Wildavsky (Hill & Hupe, 2014). Van Meter and Van Horn also offered the necessary six

variable model of implementation method that connected to Pressman and Wildavsky's

works. The literature also included other rational studies of Berke et al. (1972). Also,

Derthick (1970), Bailey and Mosher (1968), and Kaufman (1960) included Van Meter

and Van Horn's contribution in their research. They started with a consideration of the

need to classify policy in terms that would illuminate implementation difficulties (Hill &

Hupe, 2014; Pressman & Wildavsky, 1984). Van Meter and Van Horn's approach was

straightforward because they suggested that there was a need to consider the number of

changes needed as well as the consensus to them. Therefore, they imagined that

implementation would be most successful when only slight changes were necessary and

goal consensus was strong (Hill & Hupe, 2014; Pressman & Wildavsky, 1984; Van Meter

& Van Horn, 1975).

Van Meter and Van Horn (1975) proposed a model with six variables related to

producing a satisfactory result of implementation performance (see Figure 3). Van Meter

and Van Horn further explained the link between implementation variables. They

believed implementation was a procedure that began with a first policy decision. The

policy implementation is influencing variables that are incorporated by public and private

individuals or groups to achieve goals put forward in earlier policy decisions (Hill &

Hupe, 2014;Van Meter & Van Horn, 1975).

Figure 3 illustrates the policy implementation practice has strings of stages

showing arrows pointing advanced yet sideways then no longer again in accordance with

the policy. Van Meter and Van Horn (1975) contended that "it is necessary the education

on implementation conducted lengthwise" (p. X). It also specified that the "networks that

are recognized at one period must not be extended or directed to other time periods"

(p.474); (Hill & Hupe, 2014), Meter & Horn, (1975)). Van Meter and Van Horn's views

resonated with a top-down approach to implementation consensus (Hill & Hupe, 2014;

Van Meter & Van Horn, 1975). However, as they highlighted pursuits of consistency or

compliance, they recognized the importance of sharing into the coverage formation by

way of subordinates (Hill & Hupe, 2014; Van Meter & Van Horn, 1975).
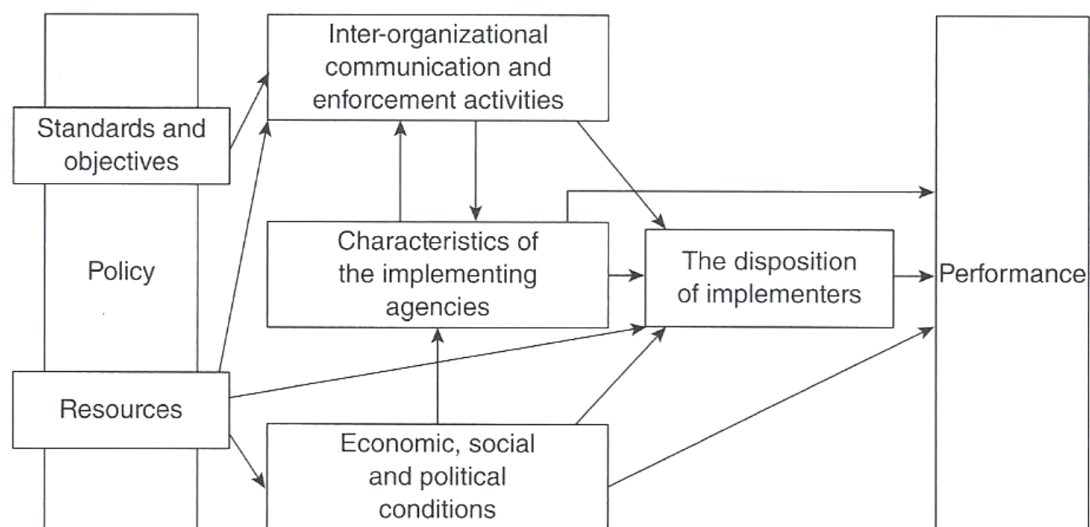
Figure 3. Policy implementation method.

Van Meter and Van Horn's straightforward model offered a valued starting point for the investigation of implementation developments (Hill & Hupe, 2014). Van Meter and Van Horn's model tends to direct the mind of those who analyze implementation reasonably rather than offer prescriptions for policymakers (Hill & Hupe, 2014; Van Meter & Van Horn,1975).

Sabatier's form of characterization in later work was like Van Meter and Van Horn's proposal (Hill & Hupe, 2014); Sabatier, 1986). The starting position for them was like Van Meter and Van Horn's in analyzing the implementation of critical policy decisions and following up with four questions:

1. To what scope were the actions of carrying out officials and target groups consistent with that policy decision?

2. To what scope were the goals reached overtime, or, to what scope were the effects compatible with the aims?

3. What was the first changing viewpoints affecting policy impact and results, both those relevant to the official policy as well as other politically important ones?

4. How was the policy rebuilt overtime on the core of experience? (Hill & Hupe, 2014; Sabatier, 1986).

The questions demonstrate a clear distinction between policy creation or formation and policy implementation. However, the outline questions relate to the response procedure (Hill & Hupe, 2014). The facts recognized in the fourth issue would be the beginning position for new research. The problems impacting the implementation method come under three headings:

- Reasons relating to the "tractability of the problem,"

- "Non-statutory variables touching implementation," and

- The "ability of the statute to organize implementation" (Hill & Hupe, 2014, p. 51; Mazmanian & Sabatier, 1980, p. 544).

Sabatier and Mazmanian (1980) are considered the leading critical group. They proposed according to workout monitoring the implementation technique so there is acceptance regarding this quintessential approach. Its toughness suggested as recognizing the modifications within the two lists that are likely to make successful implementation challenging (Hill & Hupe, 2014). The major issue is communication as it involves variables that likely exercise control over political support. it is essential to determine makeup implementation choices that are necessary for the implementation method (Hill & Hupe, 2014). The connecting point is that both approaches of finding features will

result in hardship to implementers. This could influence the roles that control and provide recommendations regarding the steps necessary to try to control implementation (Hill & Hupe, 2014).

Maitland (1995) asserted that effective implementation depends on the degree of compliance gained by sub-units. Maitland contended that policies under cover of statutes, laws, or executive authority come from a top-down approach. Building on Mazmanian and Sabatier's (1980) works, Maitland noted that dedication and incentive of subunit bureaucrats were critical to reaching expected results. Also, incentive and dedication at lower organizational levels were harder to manage, principally, as people stimulated by various motivations (Blount, 2013; Matland,1995).

Maitland suggested that lower-level bureaucrats need a clear path in combination with some degree of independence (Blount, 2013; Matland,1995). Thus, implementation theory can hypothesize as a recursive practice. It adds various joint actions to get the expected result of the executive order policy decision by applying a top-down approach (Blount, 2013; Maitland, 1995).

Theoretically, scholars have made continual efforts to explore policy implementation from a bottom-up approach. The bottom-up lens begins from the ground-level perspective of a societal issue. In this connecting position, "street-level bureaucrats" and their conduct move from the bottom or lower levels of the organization to enact change (Blount 2013; Lipsky,1980, p.3).According to Lipsky, street-level bureaucrats are close to the real issues of society and thus have a good understanding of how to manage the problems of society. Supporters of bottom-up investigation argue top-down

implementation policies ignore significance to street-level free decision makers, who need to see implementation policy results at the local level. Further, bottom-up implementation policy investigators declare there is an existing multitude of environmental and unofficial implementation factors which strict conventional mandates fail to understand (Blount, 2013; Howlett Ramesh, 2003). However, Sabatier (1986) disagreed with a strict bottom-up lens by arguing that responsibility rests with politicians, judges, and senior legislators who have voters as their participants (Blount, 2013; Sabatier,1986).The smart regulation theory further complements the appraisal of clean energy standards for renewable power generation for this study. The theory expresses the reasons that the regulators choose to drive a policy instrument. In context, the technical rationale for regulating may come from a government that assumed to regulate in pursuit of public interest. The other rationale for regulation may be to avoid market failure; in such instances, the government is justified to control the unfettered behavior in the marketplace (Taye, 2013; Gossum et al., 2010). Gossum et al. remarked that "the theory suggests some values that help policy-makers to 'speedily' form their policy instrument, lastly producing an instrument policy that will perform the expected policy results" (p.247; Taye, 2013).

Given the values, this theory provides the investigator the lead to appraise the general facts from the study site. It weighs the likelihood of efficient renewable energy generation complemented by the state clean energy standards for renewable generation effective policy programs. The effect of positive implementation choices will help to

mitigate implementation complexities in the state CES portfolio for renewable energy programs.

Gossum et al. (2010) stated that "smart system suggests regime intervention that limits with the aid of a span of the need then non-market solutions, populace yet non-public orderings" (p.247).Wright and Head (2009) also mentioned the principle acknowledges as an ideal coverage end result entails a mixing over regulatory instruments. Smart regulation concept offers the analytical instrument to describe the "industry profile" to build useful policy tools and match policy instruments with the character about regulatory rules (Taye, 2013; Wright& Head, 2009). Ostensibly, the research includes facts related to the planned method that best encourages standards for sustainable clean energy from renewable sources viewpoints. Some scholars have claimed that public intervention via government motivation or incentives stimulated renewable energy but, they did not work. Thus, the government agencies called for the private sector to organize the best way to mitigate risk for renewables protocols (Taye, 2013Hoy, 2008 Dernbach, 2002, Richard, 1979).

However, the opposing assessment according to the neo-liberal market choice is the compelling claim by those who have tried to defend the need for   public intervention due to the fact it offers needed help to allow the renewable energy sector to develop and compete in the energy environment(Taye, 2013, Jacobsson&Bergek, 2004;).The other perspective encourages appropriate government intervention while contending that for the renewable sector to thrive in renewable technology must generate sustainable energy economically (Taye, 2013, Ball,2012). Given existing theoretical works, I applied

the top-down approach of implementation theory to this study. Essentially, with

consideration toVan Meter and Van Horn's position on six variables in implementation.

This literature should enhance the study by offering distinct, converging views as I

evaluate effective policy implementation methods as a positive impact on implementation

performance.

Nature of the Study

I used a multiple linear regression analysis to examine the six independent

variables as predictors. Mutiple linear regression is one of the oldest and most widely

applied multivariate techniques. It is used to analyze data from studies with

nonexperimental or experimental design (Field, 2009; Green & Salkind, 2011). ultiple

linear regression a statistical technique commonly used to evaluate correlation between

two or more variables; it has the psychometric quality of a measure and the assessment of

the dimensionality of a set of variables. It's suitable to test the relationships among six

variables predictors that will have a positive impact in policy implementation process for

performance (see Field, 2009; Green & Salkind, 2011). used a multiple linear regression

model to examine successful policy implementation. The independent variables were Van

Horn and Van Meter's (1975) six variable predictors in policy implementation, provide

the dependent variable was   mplementation performance. surveyed the New York City

five county residents' opinions on clean energy implementation in New York tate by the

implementing agency on renewable generation NYSERDA.

Data collection was executed by an online survey questionnaire that focused on

New York state CES policy implementation (see Babbie, 1990; Fowler, 2002; Yin,

2003). Researchers in the past have employed web-based surveys for quantitative

analysis to measure policy implementation processes on implementation performance in

clean energy standards (Apergis & Payne, 2009; Fowler, 2002; Gfk NOP Social

Research, 2009). This study included six independent variable predictors in the

implementation process measured quantitatively using multiple linear regression analysis

(see Field, 2009; Green & Salkind, 2011).

Definitions

Thus, the study included terms required dis ambiguation definition of terms

essential to the study are listed as follows:

Clean Energy Standard: The renewable energy initiative designed to increase the

use of renewable power sources. It helps in reducing harmful carbon emissions,

addressing climate change, and lowering energy bills.

Decision theory: An idea that supports problem-solving (e.g., if a renewable

generator were to decide to improve solar or wind power). Difficulties arising from

incomplete statistical market information is one problem of decision theory (Berger,

2013).

Electricity ratepayers: Residential household and commercial unit monthly

payments for energy consumption.

Eligible renewable technologies: Geothermal, wind, solar, and biomass energy in

state RPS.

Ex-ante and ex-post efficient: n assigned renewable energy policy design is ex-

ante or ex-post efficient when no other controlled assignment is improving on it as

explained in Pareto theory (Galichon, 2012; Perloff, 2008). In ex-ante efficient, no risk

over a controlled allocation exists (Galichon, 2012; Perloff, 2008). It is not the case when

the two sides of the energy market have choices in the nuptial problem (Galichon, 2012;

Perloff, 2008).

Feed-in tariff: A feature of renewable policy models used as an incentive to carry

out electricity generation from renewable sources such as solar, wind, and geothermal

(Mulvaney & Robbins, 2011).

Greenhouse gas: Toxic emissions from conventional energy into the environment

(e.g., fossil fuels and coal energy).

Multiple linear regression analysis: Each case is scored on multiple independent

variables (e.g., x1, x2, and x3 if there are three independent variables) and a dependent

variable (Y). A predicted dependent variable (Y) is a linear combination of the multiple

independent variables (Green & Salkind, 2011).

New York General Attribute Tracking System: A web-based electronic system

developed for tracking New York Renewable Portfolio Standard credits within regional

markets (e.g., a tradable renewable energy certificate).

New York State Energy Research Development Authority (NYSERDA): The

central buying administrator in the state lean energy that provides regulations related to

clean energy standard initiative for renewable. NYSERDA's administrative role makes

New York state CES different in design and practice from other U.S. states' renewable

portfolio designs except for Illinois.

Policy implementation: the manner concerning bearing abroad about a quintessential policy decision, generally integrated of a statute. It consists of enforcing policy longevity stability in the form concerning widespread government orders and court decisions. Ideally, the decision identifies the trouble(s) in conformity with stand addressed, stipulates the goals(s) pursued or into a range concerning ways, and structures the implementation technique (Mazmanian & Sabatier, 1983).

Public Benefits Fund: A surcharge from states' retail sales of electricity or natural gas or the public sale of carbon emissions payments as part of regional gas initiatives (DSIRE, 2012).

Renewable Energy Certificate: These certificates are both tradable and nontradable energy. Tradable credit has a standard value in the marketplace as a credit to eligible generators. It also must serve as a compliance tool for environmental best practice and support renewable electricity on each kilowatt-hour of renewable production (Holt, Sumner, & Bird, 2011).

Renewable Portfolio Standard: Eligible renewable technologies including wind, solar, geothermal, and biomass energy in New York state.

SBC/RPS: Benefit charges collected as an added monthly charge on electricity ratepayers' bills by investment-owned utility companies on behalf of NYSERDA for funding New York state renewable energy programs.

Statistical decision theory: Decisions made or founded on the statistical understanding that illustrates some doubts included in the decision problem (Berger, 2013).

System benefits charge and renewable portfolio standard surcharge: The funds collected by kilowatt-hour for power consumption from monthly electricity ratepayers. These funds go to the customer-sited tier and main-tier projects, a feature of New York state RPS (Cory & Holt, 2010).

Top-down theory: prescriptive approach that interpret the policy as input and implementation as out-factors (Bardiche, 1977; Hill & Hupe, 2014; Mazmanian & Sabatier, 1980; Pressman & Wildavsky,1973Van Meter & Van Horn 1975).

Assumptions

Policymakers' assumptions on improved clean energy standards for renewable generation within the state policy agenda. It ensures that renewable technology placement sustains clean energy independence for conservation and reduces carbon emissions in the atmosphere. The policy should also reduce energy costs for consumers in New York tate. The state placed a significant value on having energy independence from renewable sources in the local economy. Presently, the world is experiencing continuing environmental issues associated with conventional energy supply from fossil fuels.

onventional energy contributes to an enormous proportion of the greenhouse gas emissions every day. The continuous emission of greenhouse gas from petroleum and coal is a significant cause of environmental pollutants that leads to adverse consequences such as increased temperature and sea levels. These factors motivate policymakers to adopt policies regarding clean energy, on renewable generation (Geri & McNabb, 2011).

Efficient policy implementation paths often comply with set standards and objectives. It signifies higher value for capital funds spent in policy implementation for

renewable programs (Stone, 2002). Successful policy implementation in renewable

energy could leverage the debate about the concept of efficiency. This view aligns with

the universal theory of Pareto-optimality in resource allocation by favoring the

distribution of resources by which someone is made better off while no one else is

adversely affected (Perloff, 2008). The reduction in environmental pollution includes

active participation of the government bodies. The governing agencies should deregulate

and allow a higher percentage of voluntary participation such as an increase from 1% to

11% to motivate competition. The policy has evolved in private participation investment

(Perloff, 2008).

However, if the concept applies to environmental policy, it requires imposing

assumptions on factors that are significant to policy goals (Stone, 2002). A solution

derived from technical analysis of efficiency is no more beneficial than dogmatic

assertions (Stone, 2002). In imposing various assumptions, the segments in contradictions

can represent their desired results as the most efficient option (Stone, 2002). The premise

for the   initiative for renewable power generation resonated in the New York state clean

energy plan. This study used ualtrics survey research tool andincluded a questionnaire to

record the responses of the New York City residents in the five counties because the tate

clean energy implementation directly impacts the target population.

Scope and Delimitations

The extent of the study included the state clean energy policy and NYSERDA, the

central implementing agency for clean energy policy standard initiatives in New York

State. For this study, I used a ualtrics survey research tool to administer the study survey

questionnaire to New York City residents in the five counties because the tate clean energy implementation has direct impact on the target population. Through this study, I provided a more accurate view of the correlation between the six independent variables with consistent collaboration in the implementation theory process that could lead to positive impact on the dependent variable, implementation performance.

The policy implementation process at the state level comes under NYSERDA, that supervises control and ensures maintencance of clean energy standards.Therefore, it is beneficial to set the limits of an investigation into the state clean energy policy implementation on the NYSERDA organization. As suggested in the works of Van Meter and Van Horn's top-down approach, policy implementation should have key six variables for assessing performance results. The six independent variables included olicy standards and objectives, which elaborated on the overall aims of the policy decision to give concrete and more precise standards for appraising the dependent variable implementation performance. The independent variables included availability of resources, or the capital and incentives made available, along with maintaining the quality of interorganizational communication and enforcement activities. The features of the implementing agencies includ problems with government control as well as interorganizational issues. The organization formal and informal linkages with the "policymaking" or interconnected "policy-enforcing" body; the social, economic, and political environment; and the "disposition" or "response" of the implementers, including three foundations. A clear understanding of the policy goals influences the response to it.

For example, acceptance, neutrality, rejection, and the intensity of that reply were analyzed (Hill & Hupe, 2014; Van Meter & Van Horn, 1980).

Van Meter and Van Horn's (date) straightforward model offered a valuable starting point for investigating the implementation of policy decisions and developments (see Hill & Hupe, 2014). This process enhanced the study by providing an accurate assessment into New York state clean energy policy's continuous resetting of the legislative policy review cycle over time, which is likely to result in underperformance of the policy goal. However, the results of this may not have enough relevance for researchers to make a state-level generalizations because of contingency factors associated with renewable energy locations.

Limitations

The research scope of this study included a random sampling design that selected resident participants from New York City 5 Counties (Frankfort-Nachmias & Nachmias, 2008; Taye, 2013). method for removal of the underlying issues will become clear by assessing the data file for dormant design and transposing the data to check the continuation of a strategy (Frankfort-Nachmias & Nachmias, 2008). contemplating the size of the target population, I elected to engage in a simple random sampling technique. This method assisted in side-stepping the limitation that can arise from applying the systematic sampling technique. Simple random sampling technique still provides an equal possibility to all units in the sampling frame that participated in this research (Frankfort-Nachmias & Nachmias, 2008; Neuman, 2004; Taye, 2013).

The possible reliability and ethical concerns were related to the tools. Also, survey management variation may have resulted in insufficient disclosure to participants. Accepting participants' confidentiality is paramount to manage these concerns to administer interview test tools and offer proper disclosures to participants (Kinmberlin & Winterstein, 2008). I received approval from the Internal Review Board (IRB) at Walden University for data collection. The study followed the IRB guidelines to address survey issues to and ensure participant confidentiality.

Significance

his study was an investigation of the six variables in the policy implementation process as a positive impact on implementation performance. r used a web-based survey instrument for data collection on New York state's clean energy program. The data collected on the six variables predictors of the implementation process analyzed quantitatively using multiple linear regression analysis. In the analysis, I examined whether the six variables showed a predictor level of correlation and positive impact on clean energy implementation performance. Therefore, this assumption to the study was relevant to New York state's clean energy policy.

The clean energy policy assessment depends on implementation performance on the initiated program results. Policy standard and objectives express the overall goals of the state clean energy plan. The resources and incentives must be available to assess the quality of interorganizational communication and enforcement activities; the characteristics of the implementing agencies; and the economic, social, and political environments and the views of the implementers of the policy. The quantitative

assessment of the six variables of implementation in a top-down approach will assist to determine policy review over time and predict future performance.

findings support the expansion of clean energy developments that seek a low-cost, sustainable technology for renewable electric power generation to promote social change. The study enhance sustainable clean energy for conservation efforts while reducing greenhouse gas emissions. The findings may support the state's renewable clean energy plan for a healthy environment that improves the quality of life for New York residents.

This study enhance policymakers' decision-making on the use of efficient policy implementation choices for renewable energy generation. Findings may be used to reduce waste in the allocation of resources and achieve target results for renewable energy production sources. findings may also be used to promote efficient, low-cost energy consumption and grow the state economy through green jobs, education, and scientific research necessary for a stable economy in New York state.

This research may support the expansion of clean energy development in New York state. The state manages an extensive transportation system that is based on consumption of fossil fuels. The pollution effects from fossil fuels could generate human health hazards in the physical environment. The New York State Metropolitan Massive Transport System needs low-cost, sustainable clean energy. findings from the study may help to deliver low-cost electricity for the benefit of residents while protecting them from potential environmental hazards.

The dominant issue is the increase in greenhouse gas emissions causing climate change and impacting high temperatures and the rising sea level. New York tate is dependent on out-of-state fossil fuel oil, which has incurred significant costs and negatively impacts on the New York State economy. The effect of not initiating energy-efficient policies in CES for renewable sources will allow a high volume of conventional energy use and the pollution associated with it. The enhancement of fracking technology has spurred more energy production in fossil fuels and gas development in the energy matrix. This development has contributed to the high domestic conventional power generation in the United States.

The challenges from upswing conventional oil production now can sustain the cost of the current U.S. energy drive to advance clean energy for improving the environment by reducing the impact of climate change. This proposition is sustainable through carbon taxation, and much of it could advance renewable capital in the technology sector. Implementing the CES policy for renewable energy can sustain the needed clean energy efficiency. The proposition behind the implementaion of CES is a clear vision. It includes improving the quality of life for New York residents by providing them with a healthy environment to live in. This study may also enhance decision-making by policymakers in leveraging implementing agencies with policies for renewable energy investment. The studymay benefit New York state by promoting growth in the economy, sustaining green jobs, and improving scientific research.

Summary

Efficient policy implementation focusing on results-oriented goals in a practical policy context is significant to the growth of the modern economy. The modern government is obligated to meet citizens "social need[s] in clean energy independence, good public health, security, and energy conservation "are vital to social change (Geri & McNabb, 2011, p. X). The drive for improved low-cost, efficient technology for renewable energy production should align with strict environmental compliance. The study may help carbon emission reduction targets as set out in the Paris Agreement by participating member states. Chapter 1 of the study presented the background for the study. In Chapter 2 I present a review ed method of study .

Chapter 2: Literature Review

In this chapter 2, I presented an extensive literature review of the policy for renewable concepts and six variables in implementation processes for clean energy standards. It shows how the related literature supported this investigative analysis of the policy implementation process. The literature review also and addressed the socioeconomic and bureaucratic processes that account for state and local authority applications of renewable energy policy components for implementing renewable energy. This research reinforced the assumptions regarding renewable energy policy implementation. Ianalyzed projected variables in policy for positive impact on implementation performance for renewable generation.

Grounded on the literature review, I identified shortfalls in the composition of the New York State clean energy standards. These deficits found assisted me in investigation and understanding why programs set out by policymakers have failed to reach their estimated targets. This findings also motivated examination of possible variables affecting the implementation process. The essence for investigation of state agencies' and local authorities' renewable energy policy programs revealed political and socioeconomic exigencies of the state. The material formulation of policy can be illustrated with three key instruments: carrots, fiscal incentives sticks or administrative restraints, and sermons or communication (Vedung, 1998). However, this idea is not limited to the development of a renewable energy policy design. I organized this chapter by the quality composition of variables in implementation processes for clean energy plans from renewable sources.

Content and Organization of the Review

The literature review includes the analysis of policy in renewable concepts and six variables significantly affected positive impact in policy implementation performance. This study provide a direct focus on New York tate with portfolios for renewables. In this review, I explore six variables in implementation process on clean energy policy (a) policy standard and objectives; (b) resources and incentives; (c) interorganizational communication and enforcement activities; (d) characteristics of the implementing agencies; (e) economic, social, and political environment; (f) disposition of implementer; and (g) conclusion, including findings and implications for present research.

Literature Search Strategy

The strategy I used for searching the literature process. It included scholarly literature published in the past 5 years. I used the following Walden University library resources: ABI/INFORM global database, textbooks in the subject discipline, ProQuest Dissertations, full-text database, and Publications. Also, I the Google Scholar search engine to search and review related literature on the subject discipline. The literature resources I found related to policy implementation and renewable energy concepts were also analyzed. The database allowed researcher to examine scholarly peer-reviewed articles on renewable generation placement, limited to publication dates within the last 5 years.

Theoretical Foundation

In this study, I investigate six essential variables affecting policy implementation in organizational decision-making on clean energy standards and objectives for

renewable power generation performance. New York state policy on clean energy standards for renewables had successive legislative review cycles active from 2005 to 2016. It is significant to study the fundamental changes overtime on policy implementation structures in clean energy standard performance. Also, the theoretical underpinning of "implementation theory" satisfies the study as the foundational theory. Pressman and Wildavsky began implementation study with the work in the book titled *Implementation* (1984). Pressman and Wildavsky are both recognized as the founders of implementation process that used the top-down approach. They carried out the study primarily grounded on a federal program for economic development in Oakland, California.

Policy implementation can represent a useful procedure for planning set targets and measures to reaching these objectives. In this study, I investigated six essential variables affecting implementation in organizational decision-making on clean energy standards and objectives for renewable power generation performance. It focused on the extent to which successful implementation depends on the connection between different organizations and departments at the local level (Hill & Hupe 2014, p. 47); Van Meter & Van Horn, (1975).

Policy instruments usually contain both goals and the means for achieving them (Hill & Hupe,2014; Pressman & Wildavsky, 1984). The two theorists, Pressman and Wildavsky, asserted that action depends on networks in an implementation chain. Therefore, the degree of collaboration between agencies that need to make those links work must approach full efficiency (Hill & Hupe, 2014, p. 47). Pressman and Wildavsky

also suggested that minor shortfalls can accumulate to result in much more significant shortfalls. The two theorists introduced the idea of implementation shortfall and suggest that researchers may statistically or mathematically analyze implementation results in this approach (Hill & Hupe, 2014; Pressman & Wildavsky, 1984).

Donald Van Meter and Carl Van Horn, in their contribution to literature, both built onto the general approach of Pressman and Wildavsky (Hill & Hupe, 2014). Van Meter and Van Horn (1975) offered six primary variables models in implementation method that connected to Pressman and Wildavsky's works. The literature also includes other rational studies of Hill & Hupe, (2014); Derthick (1970 &1972), and Berke et al. (1972)), Bailey and Mosher (1968); Kaufman (1960).

Van Meter and Van Horn's contribution and their viewpoints started with a consideration of the need to classify policy in terms that will illuminate implementation complexities (Hill & Hupe, 2014; Pressmen & Wildavsky, 1984;). Van Meter and Van Horn's approach is reasonably straightforward because they suggested that there is a need to consider both the number of changes needed and the consensus to it. Therefore, they imagined that implementation would be most successful where only slight changes were necessary and goal consensus to it was strong (Hill & Hupe, 2014; Pressman & Wildavsky, 1984; Meter & Van Horn, 1975, p. 461).

Conceptual Framework

Van Meter and Van Horn moved to propose a model with six variables actively related to producing a result of implementation performance. The model set out in Figure 3 in Chapter 1 further expressed Van Meter and Van Horn's view of implementation as a

procedure that begins with a first policy decision. Policy implementation incorporates

those actions by public and private individuals or group that engaged to achieve the goals

put forward in earlier policy decisions (Hill & Hupe, 2014; Van Meter & Van Horn,

1975, p. 447). The implementation process illustrates as going through a series of stages

using a set of arrows, as in Figure 3, pointing forward or sideways and not back to the

policy (Hill & Hupe, 2014).

Therefore, Van Meter and Van Horn suggested that networks of policy issues

recognized at one period must not extend directly to other time periods. Therefore, their

opinion resonates with the top-down approach to implementation consensus of Pressman

and Wildavsky (Hill & Hupe, 2014). However, as they bring to light interests about

consensus and compliance; they recognized the significance of participation in the policy

formation by "subordinates" (Hill & Hupe, 2014; Van Meter & Van Horn, 1975, p. 459).

The six variables recognized by Van Meter and Van Horn from Figure 3 expressed as

follows:

- Policy standards and goals which "elaborate on the overall objectives of the policy

  decision to give concrete and more precise standards for appraising performance"

  (Hill & Hupe, 2014, p. 49; Van Meter & Van Horn, 1975, p. 464).

- the capitals and incentives made available.

- the quality of inter-organizational relations.

- The characteristics of the implementation agencies involving problems like

  governmental control as well as inter-organizational issues and organizations' formal

and informal linkages with the "policymaking" or interconnected "policy-enforcing"

bodies (Hill & Hupe, 2014, p. 49; Van Meter & Van Horn, 1975, p. 471); and

- the social, economic, and political environment, as well as the "disposition" or

"response" of the implementers, involve three foundations. "Their understanding of

the policy leads to direct their response to it in (acceptance, neutrality, rejection) and

the intensity of that response" (Hill & Hupe, 2014, p. 49; Van Meter & Van Horn,

1975, p. 472).

Table 1

Policy Review Circle in Clean Energy Initiative Program Due to an Unattainable Goal

	Column A
1.RPS Policy Goals 2005-2013@25% Standard and Objectives • Resources: program budget expenses • Inter-organizational communication • More enforcement activities • Characteristics of the implementing agencies • Economic, social, and political environment • The disposition of implementers	Policy Underperformance

	Column B
2.RPS Policy Goals 2010-2015@30%	Policy Underperformance
- Standards and objective - Resources: program budget expenses - Inter-organizational communication - More enforcement activities - Characteristics of the implementing agencies - Economic, social, and political environment - The disposition of implementers	

Column C

3.Clean Energy Standard Policy goals and Policy Performance estimation 2016-2030 @ 50%
Standards and Objectives

- Resources: program budget expenses
- Inter-organizational communication
- More enforcement activities
- Characteristics of the implementing agencies
- Economic, social, and political environment
- The disposition of implementers

Note. New York State Clean Energy Policy Initiative:Example of Public Policies and their Implementation. Goggin,M.L,(Jun.1986).

Model Framework for Successful Policy Implementation

Following the six independent variables as predictors outlined above is about accurate and consistent collaboration process of implementation performance. The six models have been constructed to fast-track implementation performance, (dependent variable) that were stated in the following concept. It correspondingly included policy standards and objectives, resources and incentive, inter-organizational communication and enforcement activities, characteristics of the implementing agencies,economic, social and political conditions, and disposition of implementer model. The relevant research questions and hypotheses were designed in compatibility to the six models. The models

were measured for testing to comprehend the positive effect of implementation

performance (Khan &Khandaker, 2016, Vol.15, No4, P.538-548). The application of this

model would help in evolving theories for future research. These established plans are

available for successful policy implementation (Khan &Khandaker,2016, Vol.15, No4,

P.538-548).

Policy Standard and Objective Model

This model developed on the assumption that policy implementation needs the clarity of

goals premised on target, and objective, with a consistent strategy, clear with specified

assigned duty. Precise standardization in project observance of the objectives using the

project quality control supervising team. The effective quarterly assessment of goals and

key independent variables working in the way they impact on policy performance as

emphasized (Khan &Khandaker,2016, Vol.15, No4, P.538-548)

Independent Variable

1.Clarity of policy standard and objective, on goals target
2.Precise and consistent strategy for policy goal.
3.Clarity on every specified project assigned duty and quarterly assessment of policy goals.
4.Precise standardization in project observance of policy goals
5.Project quality control Supervising team

Positive Impact

Dependent Variable

Implementation

Performance

Figure 4.

Policy Resources and Incentive Model

This model supports the principle that performance of policy implementation depends on

many factors. Providing adequate resources for program budget plan. The efficient use of

resources on Strategic policy goals; on prudent and consistency to the quick allocation of

program funds. The precise and direct program incentive placement by avoiding waste in

bureaucracy bottleneck and duplication of resources, continuous quality reassessment of

allocated resources. This model also identifies problems or hold up to policy

implementation created by inadequate in resources mobilization. The key independent

variables and their impacts on implementation performance as expressed in the following

model (Khan &Khandaker,2016, Vol.15, No4, P.538-548)

.

Independent Variable
1.Adequate resources for program budget plan 2.Efficient use of resources on policy goals and quality reassessment of allocated resources. 3.Prudent and consistent in the quick allocation of program funds. 4.Precise and direct program incentive placement. 5.Avoiding waste, bureaucracy bottleneck and duplication of resources

Positive impact

Dependent Variable

Implementation
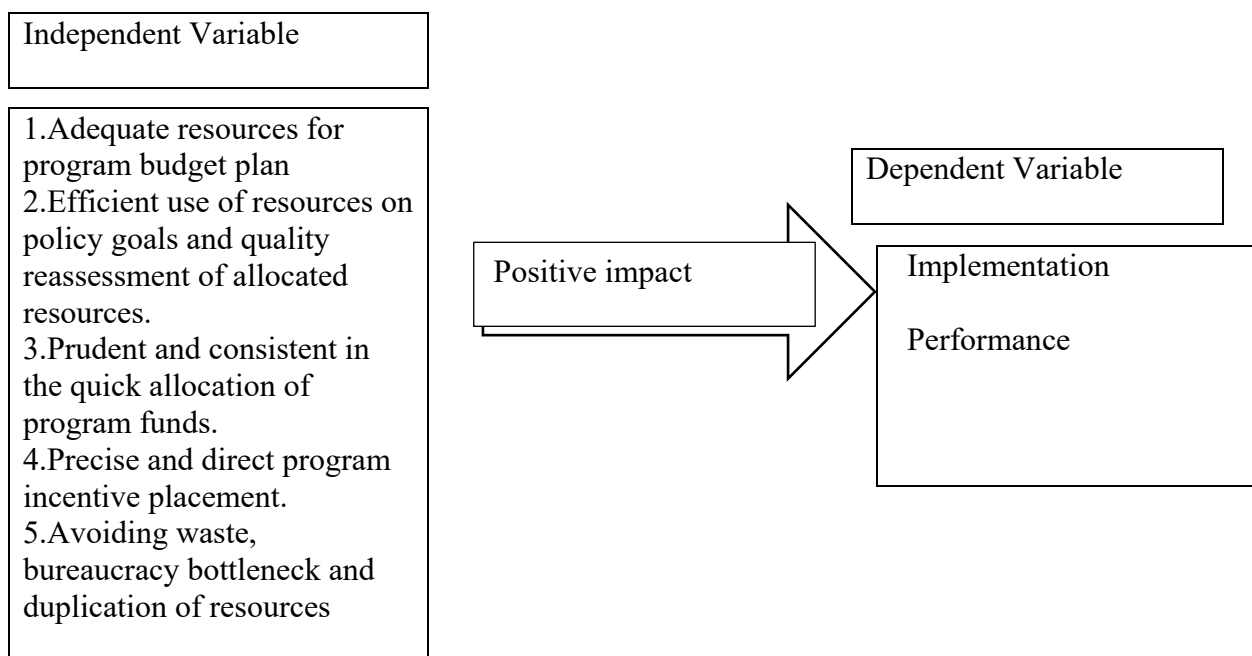
Performance

.Inter-Organizational Communication and Enforcement Activities Model

This model evidence on the concept that performance of policy implementation depends on many factors such as precise and consistent inter-organizational program information network. The use of active collaboration in departmental program progress with information consistent with the inter-organizational quality training of staff on policy goal. The clear compliance enforcement of departmental policy goal; Involvement of stakeholders as policy goals co-producers and clarity of two-way organizational communication on policy goals. The model also attempts to identify challenges or obstructions to policy implementation caused by lack of clarity of two-way inter-organizational communication. The key independent variables and their impacts on implementation performance as expressed in the following model (Khan &Khandaker,2016, Vol.15, No4, P.538-548)
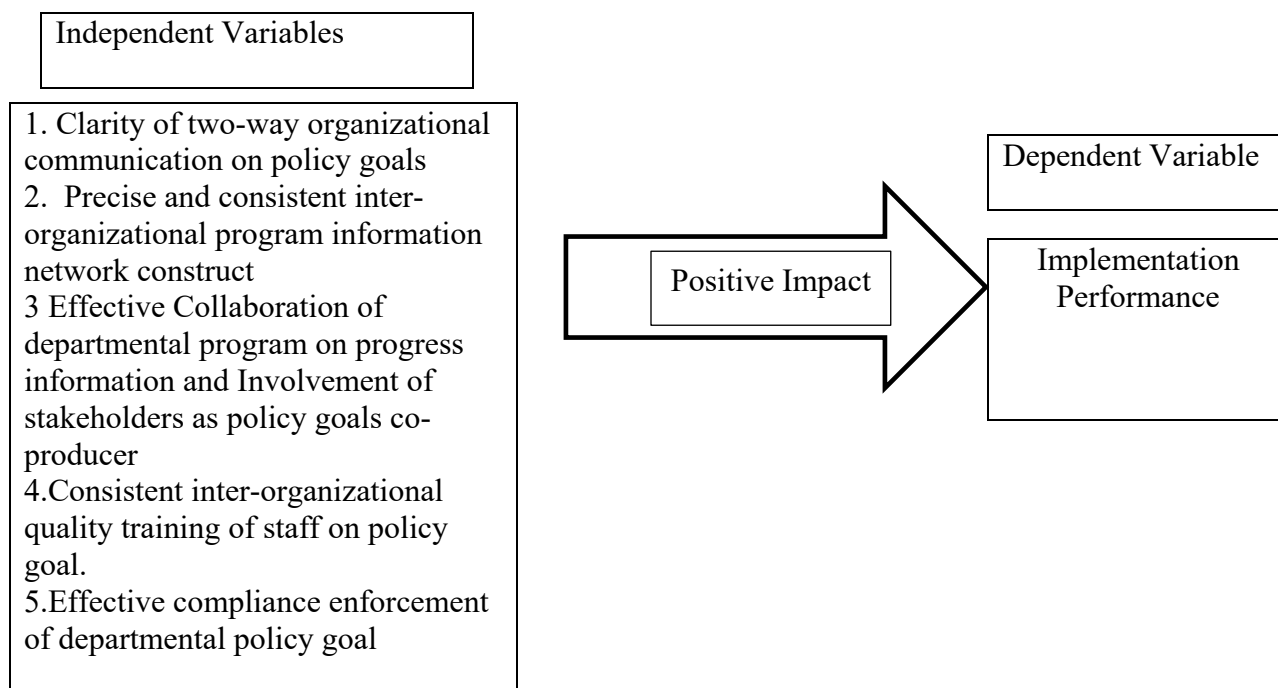
Figure 6.

Characteristics of the Implementing Agencies Model

The model based on the idea that performance of policy implementing agencies set

straight on organizational sufficient quality leadership using the right skilled workforce.

Sufficient incentive, Proactive, and accuracy of a decision, team building, Management

Collaboration. The independent variables included in this model and their impacts on

implementation performance stated on figure 7 model below (Khan &Khandaker,2016,

Vol.15, No4, P.538-548)
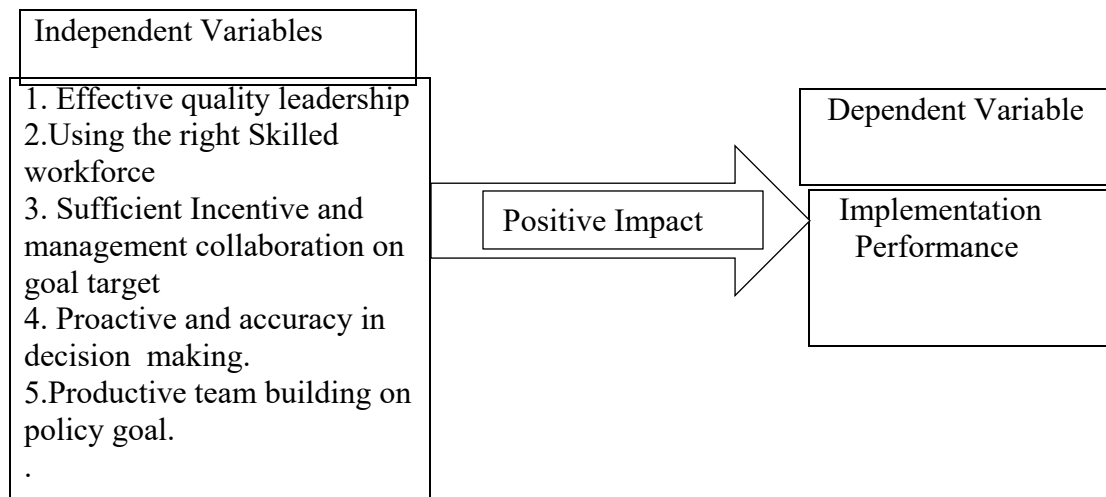
Figure 7.

Economic, Social, and Political Conditions Model

This model indicated that performance of policy implementation depends on the result of

organizational agent engaged in right projects design that meets economies of scale, the

economics of power generation that has an affordable rate on consumption and cost

efficient, it must socially improve the people standard of life, it must have benefit for a

social change. Coordination and efficient political incentive without complexity, reduce

the grip of pressure politics. The proposition of this model for policy implementation

depends on the collaboration between agencies and various interest groups. The

following model has been constructed to consider the fundamental independent variables

and their impacts on policy performance (Khan &Khandaker,2016, Vol.15, No4, P.538-

548)

.

Independent Variable
1.Accurate projects design must have economic of scale. 2.Economics of power generation must have affordable consumption rate and efficient. 3.Electricity clean energy generation must socially improve the people level of life. 4.Electricityclean energy generation must add value to social change 5 Coordination and Working political incentive without the complexity must reduce the grip of pressure politics.

Positive impact →

Dependent Variable
Implementation Performance

Figure 8.

Disposition of Implementers Model

This model supposes that the performance of policy implementation depends on

motivation of implementing superiors and subordinates to have proper disposition

consistent with policy goals, giving incentive as co-producers, clarity of program

information for quick response, implementers general acceptance of strategic policy

goals, Consistent oversight and enforcement of strategic policy goals. Training of

implementers to enhance understanding of the policy goals. The proposition of this model

for policy implementation depends on the collaboration, clarity of policy goal void of

personal conflict and belief. This model is constructed to consider the fundamental

independent variables and their impacts on policy performance (Khan &Khandaker,2016, Vol.15, No4, P.538-548)

Independent Variable

1 The superiors and subordinate staff must give quality motivation to have proper disposition consistent with policy goals. 2.Superiors and subordinate must have incentive as co-producers. 3.Clarity of program information for quick response 4. The staff must have a general acceptance of Strategic policy goals. 5. Consistent oversight and enforcement of policy goals and quality training to improve implementers understanding for productivity on the policy goals

Positive Impact

Dependent Variable

Implementation Performance

Figure 9.

Literature Review of Key Variables

Van Meter and Van Horn's straightforward model offered a valuable starting point for investigation of implementation developments (Hill & Hupe, 2014; P.49). Van Meter and Van Horn's model tended to direct the mind of those who analyze implementation rather than offer prescriptions for policymakers (Hill & Hupe, 2014). Paul Sabatier and Daniel Mazmanian further contributed to the top-down theory viewpoint (Hill & Hupe, 2014; p. 51). Though both took a robust top-down stance in early publication, Sabatier shifted away from the top-down position later to embrace

bottom-up approach (Mazmanian & Sabatier, 1980). Sabatier's form of characterization in a later work demonstrates familiarity to Van Meter and Van Horn's proposal (Sabatier, 1986). The start position for them was like Van Meter and Van Horns in analyzing the implementation of critical policy decisions that followed with the four questions:

1. To what scope were the actions of carrying out officials and target groups consistent with that policy decision?

2. To what scope were the goals reached over time, or, to what scope were the effects compatible with the aims?

3. What was the first changing viewpoints affecting policy impact and results, both those relevant to the official policy as well as other politically important ones?

4. How was the policy rebuilt over time on the core of experience? (Hill & Hupe, 2014, p. 51; Sabatier, 1986, p. 22)

The questions show clear distinction made between policy creation or formation and policy implementation. However, it is an ideal credit of a response procedure to the outline questions (Hill & Hupe, 2014; P.51). The facts recognized in the fourth issue would be the beginning position for new implementation research. The issues impacting on the implementation method taken under three headings:

- Reasons relating to the "tractability of the problem";

- "Non-statutory variables touching implementation"; and

- The "ability of the statute to organize implementation" (Hill & Hupe, 2014, p. 51; Mazmanian & Sabatier,1980, p. 544).

Sabatier and Mazmanian are considered the leading critical group. They proposed to those seeking to control the implementation method that it is fundamental to admit their approach, suggesting failure not to recognize the changes in the other two lists that are likely to make successful implementation difficult (Hill & Hupe, 2014, p. 51). The issue here is communication which involved variables likely to control political support. Therefore, it is essential to determine to "make up implementation" choices that may be necessary for the implementation method (Hill & Hupe, 2014, p. 51). The connecting point is that both approaches of finding features will result in hardship to implementers. Also, it could influence roles that controlled and provided recommendations regarding the steps necessary to try to control implementation (Hill & Hupe, 2014, p. 51).

Maitland (1995) asserted that effective implementation depends on the degree of compliance gained by subunits. Maitland contended that policies under cover of statutes, laws, or executive authority come from a top-down approach. Building on Mazmanian and Sabatier's (1980) works, Maitland noted that dedication and incentive of subunit bureaucrats were necessary for reaching expected results. Also, incentive and dedication at lower organizational levels were harder to manage, principally, as people stimulated by various motivations (Blount, 2013; Maitland, 1995).

Maitland suggested that lower-level bureaucrats need a clear path in combination with some degree of independence (Blount, 2013; Maitland,1995). Thus, implementation theory can hypothesize as a calculated routine practice. It adds various joint actions to get the expected result of executive order policy decision by applying a top-down approach (Blount, 2013; Maitland, 1995).

Theoretically, scholars have made continual efforts to explore policy implementation from a bottom-up approach. The bottom-up lens begins from the ground-level perspective of a societal issue. In this link position, "street-level bureaucrats" and their conduct move from the bottom or lower levels of the organization to enact change (Blount 2013; Lipsky, 1980, p. 3). According to Lipsky, street-level bureaucrats are close to the real issues of society and thus have a better understanding of how to manage the problems of society. Supporters of bottom-up investigation argue top-down implementation policies ignore significance to street-level free decision makers, who need to see implementation policy results at local level. Further, bottom-up implementation policy investigators declare there is an existing multitude of environmental and unofficial implementation factors with strict conventional mandates fail to understand (Blount, 2013; Howlett & Ramesh, 2003). However, Sabatier (1986) disagreed with a strict bottom-up approach by arguing that responsibility rest with elected officials, judges, and senior legislators who have voters as their participants (Blount, 2013; Sabatier, 1986).

As on the existing theoretical works, I examined the top-down approach on implementation theory to the study, particularly in consideration of Van Meter and Van Horn's position on implementation variables in :

(a)policy standards and objectives

(b) resources and incentives.

(c) inter-organizational communication and enforcement activities.

 (d)The character of the implementing agencies.

(e) economic, social, and political environment.

(f) the disposition of implementers.

The review of Van Meter and Van Horn six variables in policy implementation research should enhance this study by offering clear converging views for stimulating sustainable renewable energy policy standard in New York State.

Policy Standards and Objectives

The primary focus of this study is the core element that regulates policy implementation performance; as such, the documentation of performance data is a fundamental phase of the policy analysis. Conclusively, the performance indicators demonstrate the degree to which the policy standards and objectives are understood. Policy standards and objectives arise from a complete understanding of the purpose of the policy choice (Khan & Khandaker,2016; Hill & Hupe,2014; Newig & Koontz, 2014; Miyakawa, 2000 Van Meter & Van Horn, 1975).

Policy standards and objectives are self-evident and easily quantified in some cases. For example, the Economic Development Administration, a project in Oakland, California, was designed to create jobs for the unemployed through public work projects. In the instance, to ascertain whether implementation had a positive result, a researcher must establish the number of jobs created and progress toward the project's goals (Khan & Khandaker,2016; Hill & Hupe,2014; Newig & Koontz, 2014; Miyakawa, 2000; Pressman & Wildavsky, 1973). Similarly, New York state CES plans could also measure the policy's review cycle duration and changes in the policy standards and objectives' success or failure in achieving performance outcomes. The study of' policy

implementation processes necessitates that standards and purposes be specified and measured. In otherwords, implementation cannot succeed or fail without a purpose against which to determine the results (Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973). In calculating standards and objectives, researchers could apply statements of policymakers as identified in documents like program regulations and guidelines which provide criteria for an evaluation of policy performance. Individual researchers in most cases will have to determine the criteria themselves in measuring standards and objectives ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

Policy Resources and Incentives

Policy implementation requires resources for facilitating program administration. These resources may include funds or other incentives in the program that might motivate or facilitate effective implementation ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973). In most renewable portfolios, funds are inadequate for advancing clean energy programs. The New York state clean energy standard for renewables gets funds from electricity ratepayer surcharges for both its customer-sited program and the main-tier projects. The insufficient funding in the RPS initiative made policymakers introduce the $5 billion capitalizations for clean energy standard portfolios in the program for the target year 2030 (NYSERDA, 2016). Derthick (1972) proposed that the limited resource of federal incentives be a significant contributor to the failure of this

program ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014

Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

Interorganizational Communication and Enforcement Activities

Effective policy implementation requires a program's standards and objectives for

a clear understanding of the aim by those individuals responsible for their performance.

Clarity of communication exchange in an organization is a complicated process. In

communicating messages downward in an organization, or from one department to

another, such communication may get distorted intentionally and unintentionally. Most,

successful implementation often requires institutional procedures and techniques to

follow. Expressly, top-down approach in project implementation is consistent with higher

authorities.That is the likelihood for improvement exist for implementers especially those

in lower authorities expected to act by policy standards and objectives(Khan &

Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014; Van Meter & Van Horn,

1975 Pressman & Wildavsky, 1973).

NYSERDA is the central agency organization on policy implementation

processes for the clean energy standards in New York State. In explicit collaboration, the

superiors have control over a wide array of technical details. These upper-level superiors

have standards personal powers for recruitment and selection, assignment and relocation,

advancement and promotion, and ultimately dismissal ((Khan & Khandaker,2016; Hill

&Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975

Pressman & Wildavsky, 1973). These superiors also have control over the budgetary

allocations of departments. Also, the field offices which they may inflate or reduce in

response to satisfactory or unsatisfactory performance ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

Superiors may not command obedience; however, they have substantial capacity to influence their subordinate's behavior. In the framework of inter-organizational relations, there are two types of enforcement, and follow up activities are vital. First, technical advice and assistance made available while upper-level officials can usually do much to facilitate implementation by aiding subordinates in interpreting policy regulations and guidelines, In otherwords, the structuring of responses to strategic initiatives and getting physical with technical resources required to carry out a policy. Second, the upper-level officials can depend on a wide variety of sanctions both constructive and adverse to implement the policy willfully ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

The Characteristics of the Implementing Agencies

In this component of implementation, scholars of bureaucratic politics have found many features of administrative agencies that affect their policy performance. Ripley et al. (1973, p. 10) suggested bureaucratic structures are those "characteristics, norms, and recurring patterns of relations inside the executive agencies. These relations have either potential or actual relation to what they do in the way of policy"(Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

The following characteristics may encroach on an organization's ability to implement policy:

(a) The competence and size of an agency's staff as implementers.

(b) The degree of hierarchical control of subunit plans and processes within the implementing agencies;

(c) An agency's political resources (e.g., support among legislators and executives).

(d) The vitality of an organization.

(e) The degree of "open" communication (e.g., Networks of communication platform with free horizontal and vertical communication process and a relatively high degree of freedom in communications with persons outside the organization and within an organization).

(f) The agency's formal and informal linkages with the "policymaking" or "policy-enforcing" body ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

Economic, Social, and Political Environments

Economic, social, and political environments influence public policy, and it is the focus of much attention in the past years. Scholars of comparative state politics and public policy have been particularly interested in recognizing the influence of these environmental variables on policy productivity. In otherwords, the effect of these factors on the implementation of policy decisions has received little attention. Though they may have a profound effect on the performance of implementing agencies ((Khan &

Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

The Disposition of Implementers

The personality in the model must link through the insights of the implementer within the organization where the policy provides ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973). Three factors of implementers' response could affect their capacity and willingness to carry out the policy, i.e., the implementers' understanding and comprehension of the policy. Also, the direction of their response toward its acceptance, neutrality, rejection, the intensity of that effect ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973). The implementers' perception of the general intent, as well as the specific standards and objectives of the policy, is significant to policy performance. Furthermore, a successful implementation may be frustrated when officials are not aware that they are not in full compliance with the policy goals ((Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

. Summary: Implications for Present Research

In existing literature, researchers offered perspectives about policy implementation variables in renewable energy generation that are valuable for the proposed study. Collective discourse inspires the contemporary world, generally focused on renewable energy and climate change regarding the rapid placement of new

technology in the clean energy sphere. Empirical evidence shows that scientific researchers are now encouraged to use innovative techniques to overcome dependence on fossil fuel. Therefore, it is essential to leverage renewable technology advancement to address challenges associated with greenhouse gas emissions into the atmosphere. In the essence of renewable energy development policy challenges I have summarized in the following two essential premises: (1) the urgent need to ensure low cost economic clean energy independence, conservation, and security to the nation has found its way to public discourse and political red tape, and

 (2)There is a need to ensure clean energy access and employ strategies based on practical implementation processes using cost-benefit techniques to reduce carbon emission and avoid the effects of climate change.

Effective policy implementation often measures the development and promotion of clean energy standards for renewable energy programs to achieve production targets through a top-down process complying with policy performance goals. Authors of existing literature also indicate that the lack of national policy uniformity in policy design can slow down renewable energy expansion. Other problems come from inadequate funds, social restiveness or right activist groups, economic and political environments, and disposition to policy goals. Also, building new projects in renewable energy is often confronted with resistance from local communities. Additionally, new renewable construction projects may be too distant from loading centers or grid networks.

These limitations imply that policymakers must found their strategies for new clean energy projects on the viability of economies scale to create a public socio-

economic right. However, when the economies scales are viable, some states policy implementation frameworks may differ in deregulated market systems. The government in the past has often exercised some monopolistic controls on public enterprise using the theory of public interest as a measure to avoid market failure.

Most public policy agendas have a robust regulatory tendency over free enterprise. Thus, public policy intervention, in general, is monopolistic and has drawn criticism from participants in open market systems. As noted previously, government control theory postulates the presence of the dominant natural monopoly of policymakers who hide behind the assumption of public right and market failure for project intervention.

However, the justification for government regulation can view from two standpoints or theories. The first, leveraged on public interest, favors natural monopoly because market failure can determine the supply of dependable services in the interest of public benefit (Tomain, 2002). The second justification for government regulation is public or community interest, which suggests that government control commands the interest of the regulated industry instead of the commonwealth or civil right. In the case of the electricity sector, community choice theory suggests government control allows enterprise development for economic interest and allows for private investor-owned utilities to achieve their objectives. It is the core structure of New York State's clean energy standard for renewables, which based on central procurement instruments. The agency mandated to serve as the state policy implementer manages control over clean energy standards.

The current research implies that government management authority has insisted on policy development to serve the public interest. However, the regulated theory of market failure and private initiative leverages management control. On this assumption, the public choice theory may always be present in policy agendas. Nonetheless, policy design forms the principal structure on which the efficacy of the policy implementation outcome can measure when a design policy is implemented to serve the public interest and fails to reach the desired results.

Thus, the impact becomes ex-post inefficient; it explains the policy by the assumption that it is structurally defective. This assumption implies that flawed policy is an ex-ante gamble with ineffective policy tools that failed to achieve the primary policy's standards and objectives. Scholars have critically appraised New York's clean energy standard portfolio for renewable energy production and the structure of policy instrument choices. This research provides a framework for examining policy design structures and their effectiveness in promoting renewable power generation in consistent collaboration of 6 implementation variables that impact positive implementation performance.

Chapter 3: Research Method

The purpose of conducting this quantitative study was to investigate the six independent variables of policy implementation processes that had the potential to bring a positive impact on performance (dependent variable) regard to clean energy standards for renewable energy programs. NYSERDA is central procurement agency mandated by state law to implement policies for clean energy standards from renewable sources to reach annual performance goals. The agency executed several renewable programs in all stages, and within the state policy legislative review cycles.The expected programs' performance failed to reach the policy goal on the percentage of renewable energy generation. Through the process of this study, I examined the six independent variables of policy standard and objective, resources, interorganizational communication and enforcement activities, characteristics of the implementing agencies, economics social and political condition, and disposition of implementer. These six variables were recognized by Van Meter and Van Horn's (1975) top-down implementation process and theoretical perspective. I examined the level of correlation in the six variables and how collaboration and clarity of policy goal stimulated the six implementation predictors (Khan & Khandaker,2016; Hill &Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973).

As discussed in Chapter 2, policy standards and objectives in organization management are related to other variables of the implementation process. I hypothesized that policy standards and objectives might spur performance when there was collaboration and consistent clarity of policy goal (Khan & Khandaker,2016; Hill

&Hupe,2014; Newig & Koontz, 2014 Miyakawa, 2000; Van Meter & Van Horn, 1975 Pressman & Wildavsky, 1973). Further, I measured these variables through a web-based survey using a Likert scale technique, which is the most common survey conducted on businesses (Gray, 2009). This form of survey is credible because it affords insights into dense factors of an organization's operations including leadership, working practices, communication, management structures, universal organization, and customer relations (Gray, 2009). For example, with opinion survey, I assessed attitudes in the direction of after changes into policy, predicted issues before they occurred,or ascertain what decisions need to be taken to improve staff morale, confidence, then loyalty with the aid of policy standards and objectives. The survey was more significant when compared with a similar one conducted in previous policy cycles, which was a longitudinal design (see Gray, 2009). I carried out the New York City five counties residents' opinion survey based on the six-independent variable predictors in implementation process. I collected data from the target population through the web-based survey to explain other factors in this study such as "the method of research design, the target population, and sampling strategies" (Gray, 2009; Crotty, 1998).

This study replicated and proved useful to other investigators for future research. Hence, in Chapter 3, I discussed research design, rationale, as well as methods and strategies for population size and participant recruitment. Additionally, I provided a sampling procedure for data collection, survey instrumentation, and operationalization concepts. Lastly, I discussed the threats to the study's validity, reliability, and ethical procedures (Taye, 2013; Gray, 2009; Crotty, 1998).

Research Questions and Hypotheses

Research Question 1. What is the relationship level between the six implementation variables of policy standard and objective,Resources and incentive,inter-organizational communication and efforcement activities,Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers as (IV) independent variables to consistently collaborate and impact positively on performance as(DV) dependent variable?

Research Hypotheses. Ha1: The collaboration of implementing officials with accurate and consistent planning actions will establish a high relationship level between the six implementing variables as independent variables (IV),will impact positively on performance as dependent variable (DV).

Null Hypotheses H01: The lack of collaboration of implementing officials with no accurate and consistent planning actions will not establish a high relationship level between the six implementing variables as independent variables (IV) andwill not impact positively on performance as dependent variable (DV).

Research Question 2: what is significant in the level of relationship between the six implemention variables as independent variable(IV) that collaborate for clarity of targets reached over time to impact positively on performance as dependent variable (DV)?

Research Hypotheses. Ha2: There is a high significant level of relationship between the six implementation variables as independent variables (IV) to collaborate for

clarity of targets reached over time to impact positively on performance as dependent variable (DV).

Null Hypotheses H02: There is a low significant level of relationship between the six implementation variables as independent variables (IV) to collaborate for clarity of targets reached over time to impact positively on performance as dependent variable (DV).

Research Design and Rationale

The research design selected was quantitative design using a multiple linear regression, a multivariate regression analysis. It is non-experimental but descriptive with a web-based survey instrument that will explore six variables predictors in implementation process that may spur positive impact on performance. The investigator used an online survey questionnaire for New york City 5 Counties resident opinion through email invitation to anonymous voluntary participant. I used a Multiple linear regression analysis because it is a method of identifying correlation in the six predictors from the collected data set.It expresses the data in such a way as to emphasize their similarities and differences.Patterns in data can be challenging to find such as data with high dimension where the use of graphical representation is not available; Multiple linear regression analysis is a useful technique for analyzing data. It is an efficient tool suitable for understanding complex phenomena (Everitt, Brian, & Graham Dunn,2001, P.48.)

The study variables shall be six variables in implementation process as the Independent Variable (IV) and Implementation Performance as the dependent variable (DV).

The multiple linear regression is suitable for testing the research questions and hypothesis in this study. The survey method used in this study has similarity to survey used in the RAND research past quantitative studies to evaluate comprehensive school reform models at scale focus on implementation (Vernez, Karam, Mariano, & DE Martini, 2006)

Methodology

The Study also used an email-based survey instrument to collect data on account of the possible six variables predictors that affect policy implementation process for clean energy performance target. I provided a survey questionnaire to New York City 5 Counties resident.by invitation to anonymous voluntary participant.

Fink (2002b) defined a survey as a system for collecting information to describe, compare, or explain knowledge-based, attitudes, and behavior (Gray, 2009, p. 218). Surveys are a conventional method of research because they allow for the collection of a substantial amount of data from a large population (Gray, 2009, p. 218). Surveys are used in crisis management situations to establish a ground for policy review and organizational change (Daniels, 2007). A survey also has the analytical strength of being a standardized measurement (McNabb, 2008).

A web-based survey assists researchers in examining various characteristics of policy management fields of interest. It is a useful technique to measure several variables at a marginal expense value (Gray, 2009; Creswell, 2008). Furthermore, survey research generally can be expanded from a simple random population sample to represent a larger

population. Thus, it is an acceptable method to gauge population-wide opinions and beliefs (Fowler, 2002; Babbie, 1990).

Survey design offers another unique benefit in that survey data adequately gathered have three possible qualities that separate it from data collected from other sources. These are probability sampling, special-purpose surveying, and standardized measurement (Taye,2013; Fowler,2009;). I used probability sampling in the survey to make sure the sample population is unbiased. I used survey design standardized measurements that offer consistency transversely in all respondents to gain corresponding information. Furthermore, by applying surveys, it will be possible for the researcher to gather useful, and specific data not available elsewhere (Taye, 2013; Yin, 2003).

According to Fowler (2009), in a survey sample one can view from three different approaches: sampling frame, data collection, and designing questionnaires. Fowler further observed the planning and procedures to carry out the study of survey samples. Survey outlined the necessary instrumentation for measuring specific variables and noted possible areas of mistake which researchers need to examine carefully. First, the assumption that a survey is a representative sample unit of the population may prove to be inaccurate (Taye, 2013; Fowler, 2009). The second potential mistake follows from the principle that "the answers people give can be used to explain precisely attributes of the respondents" (Taye, 2013; Groves, 1989, p. 13). The levels to which these short answers illustrate the respondents may result in a mistake. Therefore, reducing these errors improves the reliability of a survey (Taye, 2013; Groves, 1989).

Conducting a web-based survey of New York City 5 Counties resident opinion survey will help the researcher to explain the essence of the six predictors in implementation process that can have a positive impact on implementation performance relating to policy goals. When six implementation variables produce significant level of correlation to established collaboration and consistent clarity of goal put in active participation in all various programs in line with organizational policy goal. Thus, applying this method is appropriate for measuring psychometric data and presenting a digital illustration of a specific event related to the population data sample. According to Creswell (2009), "a survey design offers a digital illustration of trends, opinion or attitudes of a population by investigating a sample of that population" (2009, p. 145). In survey design, possible observation of the relationship between the survey variables with a small sample population is valid (Fowler, 2002; Babbie, 1990). Again, the survey design will benefit the research by providing knowledge of a more significant population by allowing researchers to examine a small sample population. Researchers have applied surveys in social research successfully at various levels to collect psychometric data regarding clean energy and renewable power generation. Hence, this is credible, and valid method for the investigator to examine the variables affecting implementation processes leading to a policy change regarding performance targets (Apergis & Payne 2009; Cory, Couture, & Kreycik, 2009; Gfk NOP Social Research, 2009).

GfK NOP Social Research (2009) carried out a nationwide survey study of 1,949 participants. For the survey, researchers collected enough psychometrics data, providing a valuable understanding of national policy concepts. Past research carried out by

Hinrichs, Eshleman, Ready and Yoo (2012) of Pennsylvanians State University used surveys to collect data on urban and rural Pennsylvanians' views of renewable energy, particularly regarding the environmental impacts of renewable power generation facilities and their willingness to pay for renewable energy. Similarly, Andarge Tefera Taye (2013) of Walden University used a web-based survey to collect data for an empirical study analysis of stakeholders' perspectives and policy support for distributed renewable energy adoption in California's Association of Bay Area Governments. These two studies used web-based surveys for data collection in quantitative metrics in the related renewable energy program. I consider New York City 5 counties resident opinion web-based survey using the quantitative method first to measure the research variables. Because, the scope of this study may be over-burdened by using a mixed method, because adding qualitative questions to the survey instrument may create an obstacle for the survey respondents which may negatively impact the quality of the interviewees' answers. Future researchers will be able to replicate this research method quantitatively following the survey results (Creswell, 2009; O'Byrne, 2007).

Target Population

In this study, I administered an online web-based questionnaire on respondent from the target population the selected participants are New York City 5 Counties resident on Qualtrics survey audience from anonymous voluntary participant. NYSERDA is the central, clean energy provider with regional office locations in Albany, Buffalo, New York City, and West Valley and has over 50 programs in its clean energy implementation goal. The data collected from the survey assisted the investigator in

identifying factors likely to affect implementation processes with a positive impact on policy implementation performance outcomes. NYSERDA has the state mandate to implement the clean energy policy initiative for renewable power generation. This status has been consistent in the three phases of consecutive legislative policy review cycles for clean energy standards for the target-year performance. In this instance, collaboration and consistent clarity of goal and efficient implementation process indicate to have adequate policy implementation performance in renewable power generation outcome. When decision-making does not go by collaboration and consistent clarity of goal from top-down by the six independent variable predictors in implementation processes, it may lead to failure to achieve the desired policy goals in implementation performance (Goggin, 1986; Mazmanian and Sabatier, 1983, p. 38).

Research Sample

It was necessary to implement the population sampling technique as used for any social science research. The presumptions that study of a small sample unit or frame can be generalized to represent a larger population (Creswell, 2009; Gray, 2009; Onwuegbuize & Collins, 2007). The choice of sampling technique depends on the type of data necessary for a study; hence, for this study, I used a simple random sampling design. Random sampling design provides an equal chance for all units in the sampling frame to be selected to participate in the study. In otherwords, when a unit of a population are selected one at a time, independent of one another and without replacement; and once a sample frame also selected, it has no further chance to be selected (Frankfort-Nachmias & Nachmias, 2008; Neuman, 2004). Accordingly, Frankfort-Nachmias & Nachmias

observed that random probability sampling allows the investigator to approximate the

measure of the level by which the results of a study measured. Also, results of a study

constructed on a sample are likely to vary from results of studying an entire population.

Hence, sampling design is appropriate to obtain a sample unit in research work

(Frankfort-Nachmias & Nachmias, 2008; Neuman, 2004).
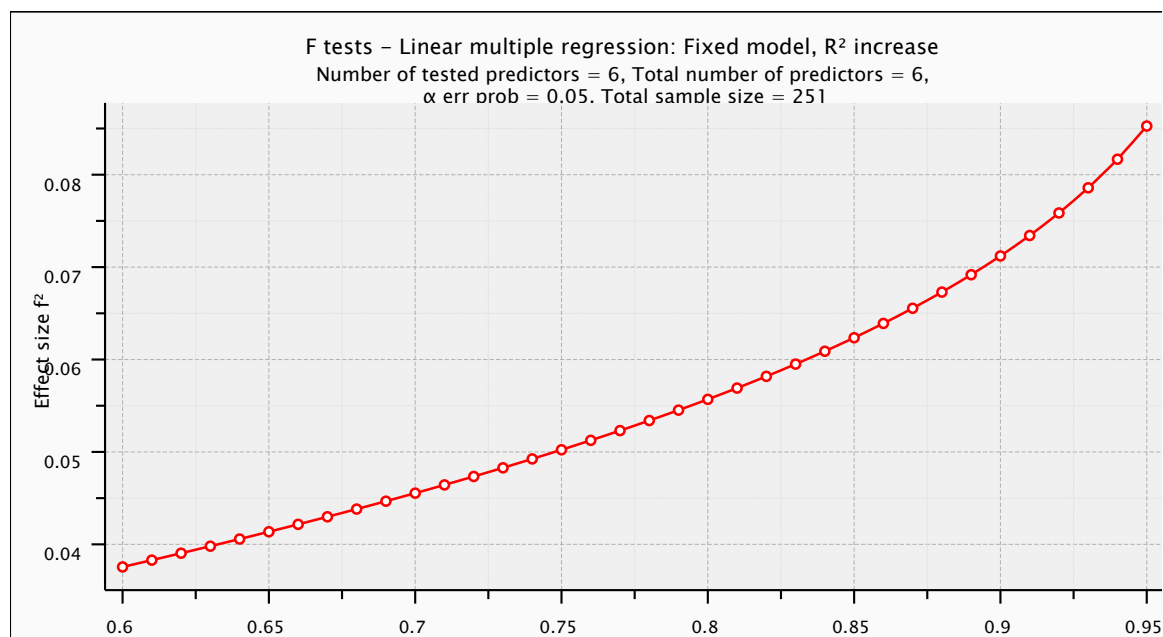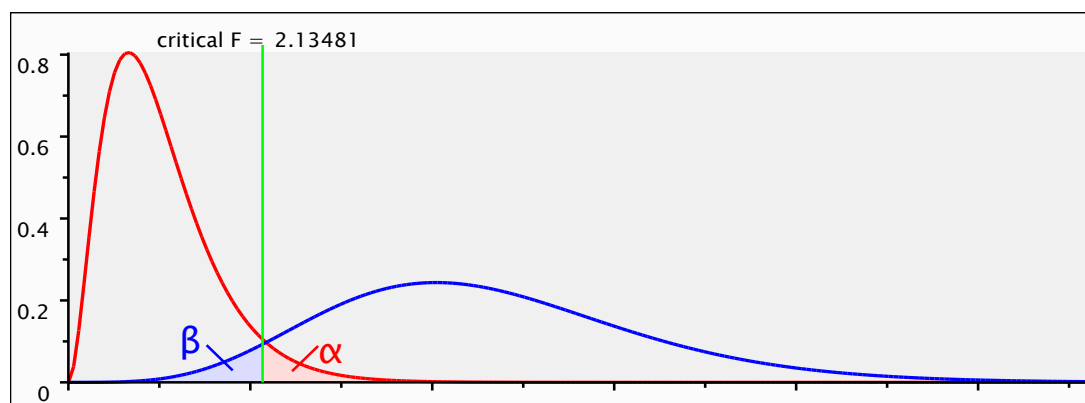
Figure 1. Study Sample Size N=251 using 6 predictors variables for multiple linear regression.

Calculating statistical power analysis helps researchers treat ethical issues that stem from lack of statistical power resulting from insufficient sample size or by using excessive sampling while results can establish with a smaller number of participants (Prajapati, Dunne & Armstrong, 2010). Thus, in this proposed study, using G*Power 3.1.5 sample size analysis, I established a sample frame sufficient to ensure a sample population size of N=251 with six predictors, with analysis .0.95 statistical power and an alpha level of .05 on F test- multiple linear regression: statistical model (Prajapati, Dunne & Armstrong, 2010). To establish the sample size, I randomly selected anonymous voluntary participants from New York City five counties resident of Manhattan, Brooklyn, Queens Richmond, and the Bronx. Clearly, the participants N= 251 in aggregate and accomplished real validity for the multiple linear regression analysis (Taye, 2013; Faul, Erdfelder, Albert-Georg, & Buchner, 2007, p. 39:2). Through random sampling, each group has equal chances of representation independent of any event in the representation process (Babbie, 2007, p. 191)

Participants

The participants selected from the target population can be a control for the survey research (Creswell, 2007). For this study, I adopted New York City 5 counties resident as participants in the study comprising simple randomly selected anonymous voluntary participant to participate in this study. The response rate for survey research covers a broad scope. I considered a sample frame of 251 drawn, and 120 responds

(respond rate of 90%) with 225.9 responses, 200 say "yes" to some questions; the other 25.9 say "no" There are approximate 25.9 people (nonrespondents) whose views we do not know. If they all were "yes "the actual number for the population would be 251"yes" Therefore, the given response rate =90% and 50% of saying "yes", this rate will be ideal for analysis (Fowler,2009; Babbie, 2007). Applying multiple linear regression; form the statistical model for data analysis in this study, I used data response) per variable (predictor) to get an acceptable sample of measurement (Field, 2009). There will be six independent variables in this study; the predictor will equal to an acceptable response rate of 50-90% to generate a suitable sample size. Curtis (2009) suggested that investigators should rationally anticipate a response rate of about 25%. -75%. In this research, the interview process generated a 95% response rate. The range of 80 %- 95% is logical and enough to produce a medium-large effect size of data for regression analysis (Field, 2009).

Data Collection

I administered a data collection process by online survey questionnaires. The questionnaire method in this study used the method in past research on (Evaluating comprehensive school reform models at scale focus on implementation survey) from RAND Corporation and adjusted for use in " Impact of New York State Clean Energy Policy Initiative on Renewable Energy Generation": Evaluating Comprehensive School Reform Models at Scale ... (n.d.). Retrieved from http://www.rand.org/pubs/monographs/MG546.html. I used the data collected to answer the research questions. The web-based survey questionnaires were administered on   New York City 5 Counties resident anonymous

voluntary participants randomly selected from the target population. I created a

participant database at this stage of the research. The survey population sample

population was 251 participants with approval from Walden University IRB for data

collection. Also, used Qualtrics, online survey instrument vendor.

Furthermore, to make the best use of quality survey responses, I considered Huber

and Power's (1985) parameters. The critical standard regarding Huber and Power was to

distribute a personalized response document, then guaranty response confidentiality and

promise to share the outcome with respondents. I offered each survey anonymous

participant an online informed consent form through email. The form consists of various

sections: as follows

(1) the introduction of the research purpose.

(2) Explanation of the survey method, specific survey questions, the kind of

information needed from the participants, and reasons the information is required;

(3) Concise description of benefits from the study

(4) Risk disclosure to the participants

(5) Confidentiality statement that feedback will be kept strictly private

(6) Explanation that a participant may decide to leave at any time

(7) Explanation of how the survey findings will be applied.

(8) Researcher contact information for concerns and questions.

Instrumentation and Operationalization of Design

For the proposed study, I conducted a satisfactory self-administered Likert scale web-based survey questionnaire on Impact of New York State Clean Energy Policy Initiative

on Renewable Energy Generation: as stated in

(Appendix C). It has similarity to RAND survey 2006.The authors of the study

reviewed literature are Georges Vernez, Rita Karam, Louis T. Mariano, Christine

DeMartini at RAND Corporation. It involves gathering realistic data to examine the level

of relationship between the six independent variables in implementation process that can

consistently collaborate to impact positively on implementation performance, dependent

variable (Khan & Khandakar,2016, vol.15, N04, P.538-548); (Francis, 2011). The

objective of the survey questionnaires is to construct a valid measurement of all the

variables under examination based on Likert scales. Likert-scales was proper

measurements for the study data I collected (psychometric data) (Bowling, 1997; Burns

Grove 1997). Wayne Kirchner (1957) suggested that Likert-scales are constructed to

measure the strength of attitude or assessments, and he developed a 24-item scale to

measure attitudes towards employment of senior citizens (Bowling, 1997).

I ensured transparency and desirability of the questionnaires with the proposed

N= 251 anonymous voluntary participants from New York City resident 5 Counties Thus,

in giving a clear question of interest in a well-organized questionnaire, I eased

measurement error in the study to motivate respondents to take the request to participate

in the survey to sincerely and carefully answer the questions (Taye, 2013; Fowler, 2009).

I followed research ethics for data collection upon receiving Walden University IRB

data gathering approval. I considered the effects of the questionnaire's framework on participants' answers to the questions and re-examine the survey instrument to improve their efficacy. Additionally, I established survey tools which can adequately respond to the research question and obtain a high degree of reliability by having three panels professionals review of the instruments.

The survey questions involved six areas of measurement with five sub questions; Likert scale rank 30 to present actual implementing a process by assumption provide a positive impact on implementation performance. The survey questionnaire constructed to measure consistent collaboration and clarity of goal in the six implementing independent variables in the implementation process, the result by assumption impacted positively on dependent variable implementation performance. This specific area under implementation process was the frequency of resources initiative, inter-organizational communication and enforcement, leadership characteristics of the implementing agency, initiatives for economic social and political conditions, and disposition of implementers to support the intent for collaboration and consistent clarity of state policy goals for implementation performance on renewable energy.

The survey has five sub-questions to each of the six predictors that utilize a Likert five-point scale a total of 30 questions. The response options for the study was 1=Strongly Disagree, 2=Disagree, 3= Neutral, 4=Agree, 5=Strongly Agree (RAND,2006; Omni Institute, 1992, pp.1-6)

Data Analysis Strategy

I addressed the research question and used IBMSPSS (Software Statistics Premium Grad

Pack version 25) I tested a multiple linear regression to analyze the survey data. This

procedure simultaneously quantifies categorical variables which allow six independent

implementation variables predictors and performance the dependent variable predictor.

The Premium Grad Pack version 25 assisted to manage the questionnaire on data tested

advanced statistical computation. Vetting and cleaning of survey data followed this

procedure: First, I checked, if survey data precisely reflected the answers of the

participants. Second, I checked for missing data and whether any missing data occurs in

a pattern. Third, I diligently checked for unexpected answers that may potentially distort

observations. I also checked if the standard of data meets the statistical assumption in

Multiple linear regression methods.

Missing Data

A participant may have an uneasiness about answering the questions, and either

lack of encouragement or understanding could result in missing data. Allison (2002)

argued the vital issue, in this case, is "Whether these missing values are functions of a

random or a systematic method" (p.142). The threat to the validity of research can result

from nonrandom missing data that cause a reduction of sample size. One strategy for

variables that involves missing data above 5% of the cases is to apply imputation method

to compute missing values (Tabachnick & Fidell, 2001). Thus, the expectation for

maximization and imputation method used the SPSS Missing Value. For the analysis

section, I used a maximum probability method for missing computing values (Taye,

2013; Little & Rubin, 2002). In this study, the likelihood of receiving incomplete responses was less than 2%, which did not impact the sample size that needed to obtain statistical significance; thus, the imputation method was not necessary for this investigation.

Statistical Assumption

The Study use Multiple Linear regression analysis as a rational method for a successful statistical test of the six independent variables in policy implementation process.The six independent variables predictors derived from the Horn and Meter"six independent variables " in policy implementation process as a positive impact on the dependent variable " Implementation performance."

The statistical method for the six variables dataset was the basis for using multiple linear regression it is the statistical method often used to determine level of correlation in the numbers of variables in a dataset that have a significant correlation to simplify extended data modeling(Lyngby, K., Nystrup, P.& Ostergaard, E.A.,2012)(Field,2009).

Applying Multiple linear regression analysis, each unit has scores on multiple independent variables (such as the x1,x2,×3,×4,×5,and×6 in this case,there are six independent variables and on a dependent variable (Y).The predicted dependent variable($\hat{y}$) is formed then it is the linear combination of the multiple independent variables. Having six predictors, the linear regression equation is

$\hat{y}$=в1×1+в2X2+в3X3+в4X4+в5X5+в6X6+во.(S.B Green&

N.J.Salkind,2011)(Field,2009). In this equation B1 through B6 are slope weights for the six independent variablesX1 through X6and Bo is constant. The express values for Bo through B6 are calculated to have the actual dependent variable scores(y) and the predicted dependent variable scores(ŷ) are as comparable as possible for the study sample data (S.B Green& N.J.Salkind,2011 .(Field,2009).The multiple correlation (R) is the strenght of relationship index that indicates the degree that the predicted scores are correlated with the Y scores which represent the observed scores for a sample(S.B Green& N.J.Salkind,2011 .(Field,2009). The significant test for R calculates whether the population multiple correlation coefficient is equal to zero, then ŷ and Y .are uncorrelated in the population(S.B Green& N .J.Salkind,2011) .(Field,2009).

Multiple linear regression is used to analyze data from studies with experimental or nonexperimental designs.This study data are collected using nonexperimental method, the variables in the regression analysis are called the predictors and the criterion rather than the independent variables and the dependent variable, compatibly(S.B Green& N .J.Salkind,2011).(Field,2009) .

The significant test for a multiple correlation is placed on two alternative sets of assumptions; the fixed effect model and for the random effect model (S.B Green& N .J.Salkind,2011).(Field,2009).

Assumption 1.Fixed-Effects Model: The dependent variable is normally distributed in the population for each combination of levels of the independent variables. In some applications with a moderate or larger sample size, the test of a multiple correlation coefficient will yield reasonable accurate p values even when the normality

assumption is violated. Where a population distributions are not normal and sample sizes are small, the p values may be invalid. Further more, the power of the test may be reduced if the population distributions are nonnormal. (S.B Green& N .J.Salkind,2011).(Field,2009).

Assumption 2 Fixed-Effects Model:The population variances of the dependent variable are the same for all combinations of levels of the independent variables. The level that this assumption is violated and the sample sizes differ among the extent of the independent variable, the resulting p value for the overall F test is not trustworthy(S.B Green& N .J.Salkind,2011).(Field,2009).

Assumption 3 Fixed-Effect Model: The cases represent a ramdom sample from the population, and the scores are independent of each other from one case to the next case.

The F test for regression analysis produce inaccurate p values if the independence assumption is violated(S.B Green& N .J.Salkind,2011).(Field,2009).

Assumption 1 Random-Effects Model:The variables are multivariately normally distributed in the population(S.B Green& N .J.Salkind,2011).(Field,2009). If the variables are multivariately normally distributed, each variable is normally distributed ignoring the other variables and each variable is normally distributed at every combination of values of the other variables.If the multivariate normality assumption is met, the only type of statistical relationship that can exist between variables is a linear one (S.B Green& N .J.Salkind,2011).(Field,2009).

Assumption 2 Random-Effects Model: The cases represent a random sample from the population, and the score on variable, are independent of other scores on the same variables(S.B Green& N .J.Salkind,2011).(Field,2009).

It is significant to examine whether nonlinear relationships exist between the predictors and the criterion, regardless of choice of models. (S.B Green & N.J.Salkind,2011).(Field,2009). In the fixed-effects model, either linear or nonlinear relationships may exist between the predictors and the criterion. While the random-effects model, nonlinear relationship may be present if the assumption of multivariate normality is violated (S.B Green& N .J.Salkind,2011).(Field,2009). Following the two models, the study will adopt the fixed-effect model assumption.

Validity

A web-based survey is statistically significant and analogous to non-web-based survey result. Studies have shown that web-based survey research provides some exceptional tests and constraint (Babbie,2007). In this study, the six independent variables predictors of implementation process that may impact on implementation performance. This survey was amended to the version tested from the RAND Corporation research article Evaluating Comprehensive School Reform Models at Scale, focus on implementation (Vernez, G., Karam, R., Mariano, L.T., DeMartini, C.,2006).Rand Corporation tested the survey instrument for validity and reliability(Vernez, G., Karam, R., Mariano, L.T., DeMartini, C.,2006).I authenticated the anonymous voluntary participant from New York City 5 counties resident survey scores

of the respondents, on consistent collaboration and clarity in the implementation goals

for renewable energy production programs (Frankfort-Nachmias & Nachmias, 2008, p.

151).

Construct validity occurs when researchers design construct validity by linking a

measuring instrument to the general theoretical framework within which they conduct

their research to determine whether the tool was logically and empirically tied to the

concepts and to theoretical assumptions they are engaging (Frankfort-Nachmias &

Nachmias, 2008, p. 152-153). Milton Rokeach (1960), Campbell and Fiske (1959), and

Cronbach and Meehl (1955) input their suggestions of construct validity at various times

for theoretical understanding. Lee J. Cronbach, the early proponent of construct validity,

noted: "Whenever a tester asks what a score means in psychology or what causes a

person to get a score on a certain test?" (Frankfort-Nachmias & Nachmias, 2008, p. 152).

Such questions speak to what concepts may suitably be used to interpret the test

performance (Frankfort-Nachmias & Nachmias, 2008, p. 152). Theoretical probabilities

about the variable being measured led researchers to propose several kinds of analytic

following the degrees of relationship between the particular variable and other specified

variables (Frankfort-Nachmias & Nachmias, 2008, p. 152). Ostensibly, illustrating the

contruct validity of a measuring instrument, an examiner has to demonstrate that these

relationships can be recognized and measured by their instrument (Frankfort-Nachmias &

Nachmias, 2008, p. 152).

Reliability

Internal consistency, an attribute of reliability, affects the scope of the object to which the instrument or test will measure the same entity. Miller (2012) observed "if each entity highly correlated with each other, one's confidence will be high in the reliability of the aggregate scale" (p. 2). Internal consistency reliability is universally approximated using Cronbach's alpha (Cronbach, 1951; Miller, 2012; Taye, 2013). Cronbach's alpha instrument functions as the average of intercorrelations of objects and the statistics of objects in the scale (Kimberlin et al., 2008; Taye, 2013). Cronbach's alpha significance operates between zero and one, where Cronbach's alpha significance of 0.90 or higher signifies higher reliability (George & Mallery, 2003; Taye, 2013).

I examined the New York city resident opinion survey investigation of N 251 voluntary anonymous participants to evaluate the reliability of the scales constructed. In this study, I assessed reliability following George and Mallery's (2003) rubrics, where >.90 is excellent reliability, >.80 is acceptable good reliability, >.70 is acceptable reliability, and lower than .70 is unacceptable reliability. I conducted a data analysis of the survey research in chapter 4, based on the approval of IRB at Walden University.

Ethical Procedures

The ethics of this research will follow the guidelines set out by the IRB at Walden University. The IRB at Walden University granted permission to carry out data collection for this study. Survey anonymous voluntary participants had the study consent form that guaranteed a maximum degree of confidentiality and anonymity. The research report will produce an only summary report. The research documents of participants

protected and saved in a secure electronic format and hard copy in a secure safe with a password. I observed the terms and conditions of the privacy agreement given by Qualtrics audience panel vendor. Soon after the publication date of this study, email a request to Qualtrics Survey .com to delete all related information provided by respondents within 30 days.

I keep the physical data in the secured fireproof safe for five years from the date of publication of the study. Soon after five years from the publication date, I shall destroy the physical data on a shredder machine and delete all related electronic data.

Summary

For the survey research design, I used quantitative approach; the selected instrument for measurement was suitable for this research, as explained in the above sections of these study. Similarly, the descriptions of variables made the chosen methods more appropriate. Survey design approach allows researchers to use a quantitative approach for measuring organizational factors affecting policy implementation processes for renewable energy generation programs. The selection of the approach was suitable to compute psychometric data and to present statistical description of the occurrence from the sample data. This method allowed the researcher to identify the relationship between policy duration and implementation processes and assess policy change within legislative review cycles and their performance outcomes for the target year.

Chapter 4: Results

Introduction

The aim of this study was to investigate the level of relationship between the six implementation variables of policy standard and objective,Resources and incentive,inter-organizational communication and enforcement activities,Characteristics of the implementing agencies,Economic,Social and political Conditions, and Disposition of implementers as (IV) independent variables predictors to collaborate and impact positively on performance as(DV) dependent variable.In order to examine such relationships, I employed a quantitative research design with an online web- survey tool to collect data and explore the relationships between the related constructs.

The research question of this study was: What is the relationship level between the six implementation variables of policy standard and objective,Resources and incentive,inter-organizational communication and efforcement activities,Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers as (IV) independent variables to consistently collaborate and impact positively on performance as(DV) dependent variable?

The research and null hypotheses for this study were as in the following:

Research hypotheses: Ha1: The collaboration of implementing officials with accurate and consistent planning actions will establish a high relationship level between the six implementing variables as independent variables (IV),will impact positively on performance as dependent variable (DV).

Null Hypotheses H01: The lack of collaboration of implementing officials with no accurate and consistent planning actions will not establish a high relationship level between the six implementing variables as independent variables (IV) and will not impact positively on performance as dependent variable (DV).

Research Question 2: what is significant in the level of relationship between the six implemention variables as independent variable(IV) that collaborate for clarity of targets reached over time to impact positively on performance as dependent variable (DV)?

Research Hypotheses. Ha2: There is a high significant level of relationship between the six implementation variables as independent variables (IV) to collaborate for clarity of targets reached over time to impact positively on performance as dependent variable (DV).

Null Hypotheses H02: There is a low significant level of relationship between the six implementation variables as independent variables (IV) to collaborate for clarity of targets reached over time to impact positively on performance as dependent variable (DV).

The dependent variable was implementation performance when collaborated with the six independent variables perceived on consistent planning to achieve policy optimal performance. All variables were measured by an established scale validated by Bowling, 1997; Burns Grove 1997 and. Wayne Kirchner (1957 on (psychometric data) suggested that Likert-scales are constructed to measure the strength of attitude or assessments, he developed a 24-item scale to measure attitudes towards employment of senior citizens

(Bowling, 1997).Results of this study can bridged the gap in the literature regarding relationship in policy implementation variables between policy optimal performance.

This chapter explicate the data collection process and the study statistical results of the data analysis. First, data collection and preparation procedure are outlined. Second, there are statistical tests to verify the statistical assumptions of multiple regression. Discussion of results for assumption tests in multiple regression are included. The results of multiple regression are presented and discussed. The statistical results based on data analysis, I answered the research question and tested the hypotheses. The study statistical results are presented in texts, tables, and figures. At the end of the chapter, I provided a summary of key findings.

Data Collection

Creating a Survey in Qualtrics Survey web-based instrument

On receiving approval from Walden University's IRB (approval number 11-26-18-0338135). I started the data collection process using Qualtrics survey web-based instrument. Before data collection, I used G* Power3.1 to calculate appropriate sample size for my study. Using a= .05, Power (1-β) =0.83 effect size $f2=21$, and number of predictors=6, G* power calculated a sample size of 251 In view to consider reliability and missing data, I employed a sample size of 296 in Qualtrics survey web-based instrument. Qualtrics vendor panel managed and recruited anonymous participants from New York City five Counties of Manhattan, Brooklyn, Queens, Staten Island, and the Bronx. Qualtrics survey randomly selected anonymous New York City resident participants by survey invitation to them from the five counties in New York City.

Random sampling can ensure individual participants have equal probability to be selected and represented in the sample frame of the target population.

In this study, I used Qualtrics survey an online web-based instrument vendor panel to administer the study questionnaire on New York City 5 counties resident anonymous participant as the target population. The criteria for selection for anonymous participant in the survey.(a) Anonymous participant must be a New York City resident in one of the 5counties of Manhattan, Brooklyn,Queens,Staten Island and the Bronx.(b) Resident participant must have an average skill in writing and spoken English language. To ensure participation in the study is voluntary. I also included the informed consent form at the beginning of the survey. This informed consent served as a welcome message for potential resident participants. It included background information to the survey on the voluntary nature of participation, procedure, nature of the study, risk and benefits of the study, privacy, researcher's contact information and Walden University IRB approval number is #11-26-18-0338135.

At the end of this form, I obtained participants' consent by stating, "I read the above information and understand the study well enough to decide to participate. By clicking, I agree to the terms described above. Please do participate in this survey by going to the website"

Qualtrics survey collected data from anonymous participants from New York City resident. The online survey remained open until number of responses received was 296. The final responses that completed the survey questions was downloaded from my Qualtrics vendor portal into an excel file for data cleaning and preparation for statistical analysis exported to SPSS version 25 was 251.

Instrument

In the online survey hosted by Qualtrics; participants were asked to take the survey by selecting their rating for 30 questions in a five-point Likert scale. Participants were also directed to select a number from 1-5 for each statement, from Strongly disagree to Strongly Agree to represent participants perceptions about using collaboration in the six implementation variables to achieve performance. This instrument had 30 items representing 6 constructs. Each construct had five items and has similarity to RAND survey 2006.The authors of the study in Rand Corporation reviewed literature are Georges Vernez, Rita Karam, Louis T. Mariano, Christine DeMartini at RAND Corporation. This study involves gathering realistic data to examine the level of relationship between the six independent variables in implementation process that can consistently collaborate to impact positively on implementation performance, dependent variable (Khan & Khandakar,2016, vol.15, N04, P.538-548); (Francis, 2011). The objective of the survey questionnaires is to construct a valid measurement of all the variables under examination based on Likert scales. Likert-scales are proper measurements for anticipated data (psychometric data) (Bowling, 1997; Burns Grove 1997). Wayne Kirchner (1957) suggested that Likert-scales are constructed to measure the strength of attitude or assessments, and he developed a 24-item scale to measure attitudes towards employment of senior citizens (Bowling, 1997). Vernez, G., Karam, R., Mariano, L.T., DeMartini, C.,2006). This survey was amended to the version tested from the RAND Corporation research article Evaluating Comprehensive School Reform Models at a Scale, focus on implementation (Vernez, G., Karam, R., Mariano, L.T.,

DeMartini, C.,2006). Rand Corporation tested the survey instrument for validity and reliability (Vernez, G., Karam, R., Mariano, L.T., DeMartini, C.,2006). Cronbach and Meehl (1955) input their suggestions of construct validity at various times for theoretical understanding. Ostensibly, illustrating the contruct validity of a measuring instrument, an examiner has to demonstrate that these relationships can be recognized and measured by their instrument (Frankfort-Nachmias & Nachmias, 2008, p. 152). For reliability, Miller (2012) observed "if each entity highly correlated with each other, one's confidence will be high in the reliability of the aggregate scale" (p. 2). Internal consistency reliability is universally approximated using Cronbach's alpha (Cronbach, 1951; Miller, 2012; Taye, 2013). Cronbach's alpha instrument functions as the average of intercorrelations of objects and the statistics of objects in the scale (Kimberlin et al., 2008; Taye, 2013). Cronbach's alpha significance operates between zero and one, where Cronbach's alpha significance of 0.90 or higher signifies higher reliability (George & Mallery, 2003; Taye, 2013). To avoid a likely damage to the interactions between subscales, I included the entire instrument in my survey, with all 30 items for the 6 constructs.

Data Cleaning and Preparation

Between the 296 responses collected by Qualtrics online survey panel vendor,25 anonymous participant entered and did not participate in the survey. Also, 20 anonymous participants took the survey and did not complete the survey. I treated them as missing data and deleted these responses. After deleting these 45 responses, my final data set had 251 cases.

In the 30 items Likert scale with five points, there were 6 constructs and each construct connect to five items. Each construct had five ratings, as expected each participant assigned a rating to every item. I computed the six independent variables and dependent variable using the compute variable function in SPSS to make sure that each variable was defined correctly. The variables were identified with the measurement of scale in SPSS variable view. The ratings to the 30 items in the Likert scale using computed variables for each construct, included implementation performance, policy standard and objective, resources and incentive, interorganizational communication and enforcement activities, characteristics of the implementing agencies,Economic,social and political conditions, disposition of implementers. To do the data analysis and presentation purposes, I created abbreviations for different variables in SPSS. Table 1 expressed the variable naming process used in this study.

Table 2

Variable Naming Formula

Naming formula	In-text reference
Imperform2	Implementation performance
PolStdObj	Policy standard and objective
Rincentive	Resources and incentive
InterCEA	Inter-organizational communication and enforcement activities
ChacimpA	Characteristics of the implementing agencies
EcoScpolC	Economic, social, and political conditions
DispoImple	Disposition of implementers

Note. Dependent variable: Imperform2.Independent variables: PolStdObj, Rincentive, InterCEA, ChacimpA, EcoScpolC, DispoImple.

Data Analysis and Results

In the data analysis. I used multiple linear regression as the statistical test for my study. Multiple linear regression as a statistical tool can test to establish the relationship amongst a continuous dependent variable and two or more independent variables. This study has one continuous dependent variable and six independent variables. I used multiple linear regression to test the relationships between the dependent variable, implementation performance, and the six independent variables, including, policy standard and objective, resources and incentive,inter-organizational communication and enforcement activities, Characteristics of the implementing agencies, economic ,social and political conditions, disposition of implementers. In analyzing the study results from statistical test, researchers should check the statistical assumptions to see whether there are violations in the statistical test. When violations occur, the study data should be

examined. Data cleaning may be required, before getting to analyzing the results from the multiple regression statistical test (Laerd,2018).

Multiple Linear Regression Statistical Assumption

Prior to conducting data analysis, I checked the following statistical assumptions for multiple linear regression.

1.Independence of observations: errors of observations should be independent from each other and should not be correlated.

2.Multicollinearity: independent variables should not be highly correlated with each other.

3.Normality: the errors in prediction should be normally distributed.

4.Linearity: there should be existing linear relationship between the independent variables and the dependent variables.

5.Homoscedasticity: At each level of the independent variable, the variance of errors should be equal.

6.Outliers: there should be no significant outliers or any point of influence.

Independence of Observations. I applied SPSS statistical software to run analysis and tested the statistical assumption above for multiple regression. For the independence of observations, I applied the Durbin-Watson test to examine for correlations between residuals. A Durbin-Watson statistic could have a range from 0 to 4 (Field,2013). When the result is near 2, it shows no correlation between residuals. The value below 1 and above 3 can cause problems (Field 2013). The study results showed a Durbin-Watson value of 1.669, indicating no violation of this assumption .

Multicollinearity. Once two more independent variables are highly correlated, there may be multicollinearity in the representation. Multicollinearity may lead to inaccuracy in interpreting which variables contributes to the variance labelled in the representation. To test multicollinearity, I observed the variance inflation factor(VIF), which illustrated how much the variance is inflated. When a VIF is higher than 10, there is a collinearity problem and the regression coefficients are not accurate(Babin, Black, Hair & Anderson,2015). When a VIF is above 5 there might be a multicollinearity problem, and should be examined(Hastie, James, Witten & Tibshirani,2013) The six VIFs corresponding to the six independent variables ranged from 1.789 to 2.970, with an average VIF of 2.225. These VIF as shown were all below 5 illustrating no collinearity problem in this statistical representation. presented in

Table 3

Multicollinearity VIF Statistics

	Collinearity Statistics	
	Tolerance	VIF
PolStdObj	.415	2.409
Rincentive	.480	2.084
InterCEA	.337	2.970
ChacimpA	.559	1.789
EcoScpolC	.491	2.036
DispoImple	.485	2.062

Note. Dependent Variable: Imperform 2. Independent Variables: PolStdObj, Rincentive, InterCEA, ChacimpA, EcoScpolC, DispoImple

Normality: Normality of residuals is one assumption required in multiple linear regression. The prediction errors should normally be distributed. A statistical histogram of the standardized residuals can show normality. The mean of the residuals should be close to 1 and the standard deviation should be approximately 3 (Laered,2018).As in Figure 11, the bell like shape in the histogram explained the residuals to be normally distributed; the mean and the standard deviation were respectively proximate to 1 and 3.
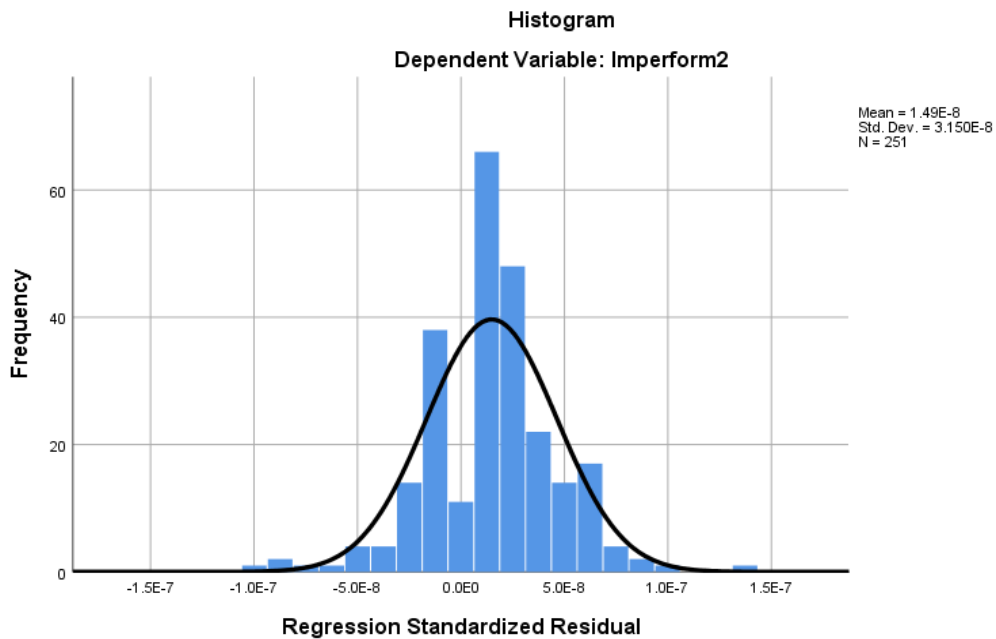
Figure 11. Histogram for standardized residuals.

established f fact may d on the choice of the correct column width and can be

deceptive (Laerd,2Figure1 plot for standardized plot aligned with the diagonal line.

confirm that the assumption of normality was met

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Imperform2
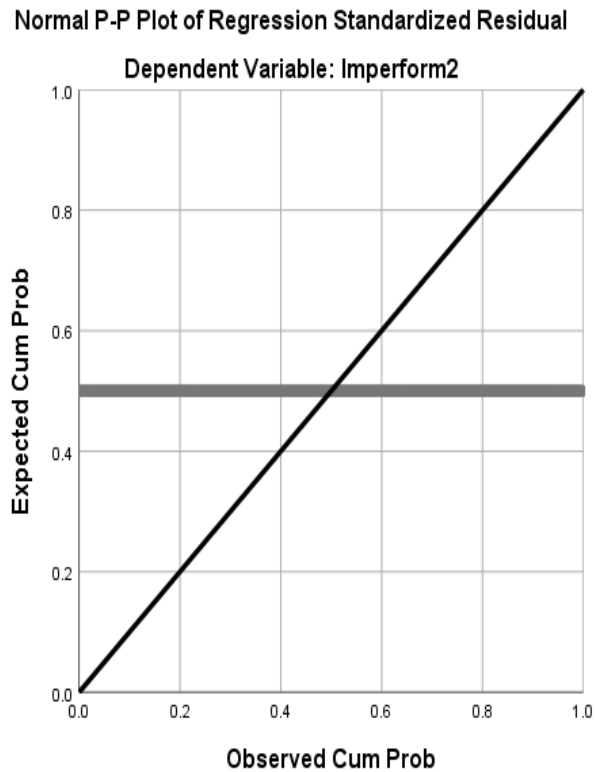
Figure 12. P-P plot for standardized residuals.

Linearity. The dependent variable and the independent variables must have a linear relationship. When this assumption is violated, the multiple regression results may undervalue the true relationship between the independent and dependent variables (Waters& Osborne,2002). The Scatterplot showed in (figure 13 exemplify there was no curvy shape observed in the spread of the scattered dots. Thus, the assumption of a linear relationship was satisfied

Scatterplot
Dependent Variable: Imperform2
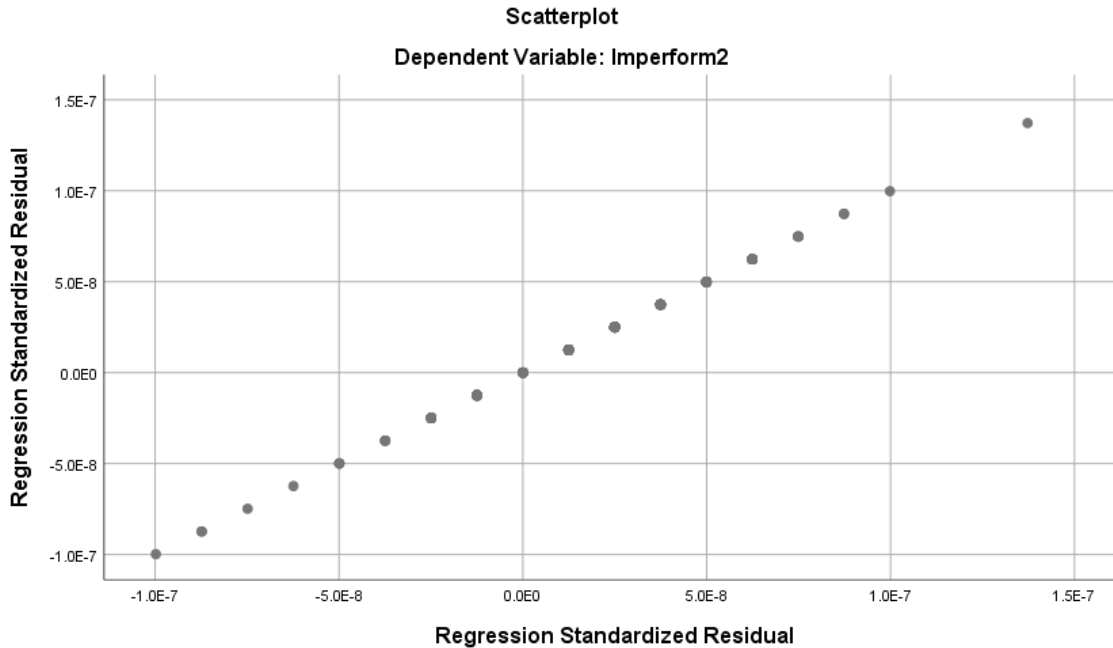
Figure 13. Scatterplot for standardized residuals against predicted values.

Homoscedasticity. The assumption of homoscedasticity confirms that the variance of errors remains the same across all levels of the independent variables. Whenever, the variance of errors changes at various levels of independent variables, heteroscedasticity may exist and distort the data analysis with multiple regression. A Scatterplot with standardized residuals and standard predicted values can be visually inspected to check for homoscedasticity (Osborne & Waters,2002; Warner,2013). As illustrated in Figure 13, there is no funnel nor fan shape in the scatterplot of the residuals. Thus, there was no heteroscedasticity, and the assumption of homoscedasticity was met .

Outliers. The data points that do not follow the usual pattern of all other points in the

data set are outliers and may influence the fit of the regression equation. Cook's

distance can assist to detect whether there are influence points in the data set.

There can be a problem if the value of Cook's distance is greater than .50 or 1(Lane, n. d.; pardoe,2018; Walden University,2019). I looked up the value of Cook's distance from the SPSS output. The maximum value of Cook's distance was .000 much lower than.50 or 1. Thus, there was no outliers that have undue influence on the assessments.

The above investigations of the six statistical assumptions for multiple regression did not indicate any violations. Thus, I did not have any data transformation or did any manipulation for the data set. I used 251 cases in the data set to run descriptive data on multiple regression test.

Descriptive Data

In this quantitative study, I investigated the relationships between Implementation performance and five construct related to policy standard and objective, resources and incentive, inter-organizational communication and enforcement activities, characteristics of the implementing agencies, economic, social and political condition, and disposition of implementers. The five constructs were measured through the validated instrument Like this authors survey (Georges Vernez, Rita Karam, Louis T. Mariano, Christine DeMartini at RAND Corporation 2006). For each construct, I computed the mean from the scores of the six items corresponding to the construct. I ran descriptive data for the dependent variable and the six independent variables in SPSS version25.

Table4

Mean Scores and Standard Deviation for Each Variable

Descriptive Statistics

	M	SD	N
Imperform2	10.88	4.145	251
PolStdObj	16.83	.833	251
Rincentive	16.84	.897	251
InterCEA	16.88	.848	251
ChacimpA	16.71	.843	251
EcoScpolC	16.78	.817	251
DispoImple	16.83	.860	251

Note. Dependent Variable: Implementation performance.Independent Variables: Policy Standard and Objective, Resources and Incentive, Inter-organizational communication and enforcement activities, Characteristics of the Implementing agencies, Economic, Social and Political Condition,Disposition of Implementers. M=mean;SD=Standard Deviation;N= number of participants.

Data Analysis Results of Multiple Linear Regression

I applied a standard statistical multiple linear regression analysis to investigate the relationship level between the six implementation variables of policy standard and objective, resources and incentive,inter-organizational communication and enforcement activities,characteristics of the implementing agencies, economics,social and political condition,disposition of implementers to consistently collaborate and impact positively on performance. The six predicted variables are the six implementation independent variables, and one dependent variable implementation performance.

I used the survey results from 251 responses and conducted a standard statistical multiple linear regression test in SPSS version 25. All six predictor variables were entered in one step to run the multiple linear regression test. On the observed statistical output, I interpreted the test results to answer my resrarch question and test my research hypotheses.

Overall Model Fit. The multiple linear regression model summary was presented in Table 4.The multiple correlation coefficient between the scores predicted by the regression model with all the predictors and actual values of the dependent variable of implementation performance was 1.00, 0 as presented by R in Table4. TheR^2 for this model was 1.000 with an adjusted R^2 of 1.00. R^2mesures the proportion of variance in the depndent variable that is explained by the independent variables.In otherwords,R^2may maintained a positively biased estimate of the proportion of the variance reported by the regression model,an adjusted R^2may be more accurate to corrects the positive bias (Laerd,2018).Thus, the adjusted R^2 in this model presented approximately 100% of the variance in the dependent variable of implementation performance can be explained by the linear combination of the six predictors variables, which showed a large effect size (Cohen, 1988).

Table 4

Standard Regression Model Summary

Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	1.000[a]	1.000	1.000	.000	1.669

Statistical significance of the model. . Related results to the statistical significance of the whole model with all six predictors were presented in the ANOVA output (Table 5). As $p < .05$, I decided that there was a significant statistical result. Thus, policy standard and objective, resources and incentive, inter-organizational communication and enforcement activities, characteristics of the implementing agencies, economic, social and political condition,disposition of implementers.strongly predicted positive impact on implemntation performance, $F(6,244)=88.296, p < .001$.

Table 5

Results from Multiple Linear Regression

ANOVA

Modeldf		Sum of Squares	Mean Square	F	Sig.
1	Regression6	4294.414	715.736	88296562185.83470.000	.000[b]
	Residual244	.000	.000		
	Total250	4294.414			

Contributions of individual predictors. To assess the contributions of each predictor, I

considered the results in the coefficient table from SPSS outputs shown in Table 6.The

significance of the *p* values, from the t-tests signified whether each of the independent

variables can individually predict the dependent variables, when other independent

variables are statistically measured.

Coefficients^a

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-90.000	.000		-202897838	.000	-90.000	-90.000
	PolStdObj	1.000	.000	.201	29817694.27	.000	1.000	1.000
	RIncentive	1.000	.000	.216	34488095.99	.000	1.000	1.000
	InterCEA	1.000	.000	.205	27316360.52	.000	1.000	1.000
	ChacImpA	1.000	.000	.203	35016935.11	.000	1.000	1.000
	EcoScPolC	1.000	.000	.197	31805576.68	.000	1.000	1.000
	DispoImple	1.000	.000	.208	33262561.41	.000	1.000	1.000

a. Dependent Variable: Imperform2

Table 6

Coefficients

Independent variables. policy standard and objective, resources and incentive, inter-organizational communication and enforcement activities, characteristics of the implementing agencies, economic, social and political condition, disposition of implementer.

Examined on the *p values* corresponding to the individual predictors, four of the six independent variables were strongly predictive of the dependent variable individually. When measuring other independent variables. These predictors included characteristic of the implementing agencies t(244)=35016935.11, *p>.05;*resources and incentive

t(244)=34488095.99,*p<.01;* disposition of implementers

t(244)=33262561.41,*p<.01.*economics,socials and political conditions

t(244)=31805576.68, *p<.01.*The other two independent variables included policy

standard objective t(244)=29817694.27, *p>.05;*and Inter-organizational communication

and enforcement activities, t(244)=27316360.52, *p >.05* were not strongly predictive of

the dependent variable, when other predictors were statistically measured.

The same presumption can also be extended in assessing the lower and upper bounds of

the 95% confidence intervals of the slope coefficient. There is a connection between the

95% confidence intervals of the slope coefficient and the statistical significance of the

slope coefficient. If the confidence intervals do not contain a number 0, there will be a

statistical slope coefficient(*P<.05*).If they do contain the number 0, there will be no

statistically significant slope coefficient(*P>.05*)(Laerd 2018) Based on the results, the

95% confidence intervals were from 1.000 and 1.000.Thus, they do not include number 0

and it indicates statistically significant slope coefficient result between the independent

and dependent variables. On the other hand, the *P value is* .000 if *P<05* the slope

coefficient is statistically significant. It means the coefficient is statistically different to

number 0. I further investigated, the six independent variables how they were strongly

related to the dependent variable by reviewing their unstandardized coefficients, the *B*

values, which represented how much the dependent variable changed, holding all other

independent variables constant. When the *B* value is higher than 0, it indicates how much

the dependent variable increases in its unit when the independent variables increase one

unit. When the *B* value is higher than 0, it shows how much the dependent variable

increases in its units when the independent variable increases one unit. When the *B* value

is lower than 0, it shows how much the dependent variable decreases in its unit when the

independent variable increases one unit.

Based on the *B* values, observed of policy standard and objective, resources and

incentive, inter-organizational communication and enforcement activities, characteristics

of the implementing agencies, economic, social and Political condition,disposition of

implementers was positively related to implementation performance, *B*=1. 000.The score

of positive impact to increase performance increased 1.000 one point in the five-point

Likert scale, while controlling for other variables.

     Answer to the research question.. Following the above results from the

Multiple linear regression,I answered my research questions and test the research

hypotheses. My research question was: What is the relationship level between the six

implementation variables of policy standard and objective,resources and incentive,inter-

organizational communication and enforcement activities,characteristics of the

implementing agencies,economic,social and political conditions,and disposition of

implementers as (IV) independent variables to consistently collaborate and impact

positively on performance as(DV) dependent variable? The adjusted R^2 of 1.00 showed

that the six predictors can explain for approximately 100% of the relationship

variance of positive impact on implementation performane.

The regression model showed statistical significance, *F(6,244)=88.296, p< .001*

     The research hypotheses *Ha1*: There is a high significant level of relationship

between the six implementation variables as independent variables (IV) to collaborate for

clarity of targets reached over time to impact positively on performance as dependent

variable (DV) was accepted.

 Thus, the null hypotheses *Ho*1: There is a low significant level of relationship between

the six implementation variables as independent variables (IV) to collaborate for clarity

of targets reached over time to impact positively on performance as dependent variable

(DV) was rejected.

Research question 2**:** what is significant in the level of relationship between the six

implemention variables as independent variable(IV) that collaborate for clarity of targets

reached over time to impact positively on performance as dependent variable (DV)? The

regression model showed statistical significance, *F(6,244)=88.296, p< .001* the six

predictors of: Policy Standard and Objective, Resources and Incentive, Inter-

organizational communication and enforcement activities, Characteristics of the

Implementing agencies, Economic, Social and Political Condition,Disposition of

Implementer statistically maintained high level significant relationship with

implementation peformance. the Dependent variable

       Research Hypotheses**.** Ha2: There is a high significant level of relationship

between the six implementation variables as independent variables (IV) to collaborate for

clarity of targets reached over time to impact positively on performance as dependent

variable (DV) was accepted.

       Null Hypotheses H02: There is a low significant level of relationship between the

six implementation variables as independent variables (IV) to collaborate for clarity of

targets reached over time to impact positively on performance as dependent variable (DV)was rejected.

However, the six independent variables combined was strongly predictive of the dependent variable, while controlling other variables, not every individual variable was strongly related to the dependent variable. These predictors included Characteristic of the implementing agencies, Resources and incentive, Disposition of implementers. Economics, Socials and Political conditions. The other two independent variables included policy Standard Objective and Inter-organizational communication and enforcement activities, were not strongly predictive of the dependent variable, when other predictors were statistically measured.

Data Analysis Results of Sequential Multiple Regression

I did further examine how much percentage of variance each independence variable contributes to the dependent variable and find the best model of prediction, by conducting a sequential multiple regression. Sequential multiple regression is different than standard multiple regression, where investigators enter all independent variables at once, Sequential multiple regression allows investigators to enter the independent variables in order, with one more independent variable at a time. Sequential regression includes a series of multiple regression analyses. Usually by entering the predictors at each step, investigator can see how much extra variation in the predicted variable can be accounted by the addition of the one or more predictors added at each step (Laerd,2018).

The standard multiple regression results indicate that four independent variables were strongly related to the dependent variable including InterCEA, ChacimpA, EcoScpolC,

DispoImple. The other two independent variables were not as strongly related to the

dependent variable, including PolStdObj, Rincentive. Founded on this result, I entered

each predictor with strong relationship in the first four steps, and then entered the two

predictors with less strong relationship in the last two steps. In the sequential multiple

regression, I entered the six predictors at each step in this order: policy standard

objecti*ve,* resources and incentive, characteristic of the implementing agencies*,* inter-

organizational communication and enforcement activities, economics, socials and

political conditions, and disposition of implementers, which developed six models in the

SPSS

Model Summary. The result of sequential multiple regression indicates the summary of

all the models at different steps. Table 7 showed the model summary of the sequential

multiple regression. The highest adjusted R^2 was the one with the model of the four

predictors that has a strong correlation with the predicted variable of disposition of

implementers, including characteristic of the implementing agencies*,* inter-organizational

communication and enforcement activities, economics, socials and political conditions,

adjusted R^2=1.000. This indicate that approximately 100.0% of the variance in the

dependent variable of disposition of implementers can be explained by the combination

of the four predictors variables, which indicated a large effect size (Cohen,1988).

Table 7

Summary of Model for Sequential Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.807[a]	.651	.649	2.454
2	.899[b]	.808	.807	1.823
3	.938[c]	.879	.878	1.449
4	.972[d]	.945	.944	.980
5	.992[e]	.983	.983	.542
6	1.000[f]	1.000	1.000	.000

Note. Dependent Variable: Imperform2.Independent Variables for Models:1PolStdObj, Model 2: Rincentive.Model3: InterCEA, Model4: ChacimpA, Model5: EcoScpolC, Model6: Dispolmple.

Differences between the models. Sequential multiple regression allows me the investigator to understand whether the variables added at each step had improved the variance expounded by the independent variables. Table 8 present the change statistic of all models. Values in the first row indicate the initial model fit of the beginning model. Each of the subsequent rows present the change of values from previous model, including the changes in the R²values, the *F* values, as well as the corresponding *p* values that showed whether the change was significant or not.

Starting from the first model with the predictors of political standard objective, model 2: resources and incentive, there were statistically significant changes by adding resources and investment as the next model and by adding characteristic of implementing agencies as the third model as presented in the change statistics, $F(1,248)= 203.225, p<.001$ and $F(1,247)= 145.597, p<.001$ Thus, the addition of both resources and investment and characteristic of implementing agencies presented a significant increase in the variance of the prediction of implementation performance. In other words, no significant changes by adding individual predictors political standard objective, and resources and incentive because their corresponding *p* values were all higher than.05 in the last four models.

However, these two predictors did not add significant contribution to the prediction of the dependent variable of implementation performance.

Table 8

Change Statistics Between Models

Model	R Square Change	F Change	df1	df2	Sig. F Change
1.651		463.985	1	249	.000
2157		203.225	1	248	.000
3071		145.597	1	247	.000
4.066		293.940	1	246	.000
5.038		558.210	1	245	.000
6017		8.782E+14	1	244	.000

Note. Dependent Variable: Imperform2.Independent Variables for Models:1PolStdObj, Model 2: Rincentive.Model3: InterCEA, Model4: ChacimpA, Model5: EcoScPolC, Model6: Dispolmple.

The best model However, the two predictors of policy standards and objective, resources and incentive did not add strong contribution to the prediction of implementation performance. I focused on the model with the three strong contributors-- inter-organizational communication and enforcement activities,characteristics of the implementing agencies,economic,social and political conditions,disposition of implementers.Also, to find the best model for the prediction of implementation performance, I compared different values of this model with three predictors with the full model of all six predictors. The values for the model with three predictors were:adjusted R^2= $F_{(1,248)}$= 203.225,p<.001 and $F_{(1,247)}$= 145.597,p<.001

.Although, both models had statistical significance, the one with three predictors was the best model to predict implementation performance, compared to the full model of six predictors, as indicated by its higher adjusted R^2 and F values.

Summary

In chapter 4, I explained the data collection process and the results of the statistical data analysis. I designed a survey on Qualtrics Audience, which recruited participants from New York City 5 counties and collected data for me. In the online survey, I applied screening questions to target participants who satisfied the three criteria: (1)Resident of New York City 5Counties (2) Must be able to read and speak English (3) over 18 years old. Potential anonymous participants who agreed to the informed consent answered my survey questions online. I downloaded the data set with 296 responses from Qualtrics research survey. After cleaning for missing data, I had 251 complete responses.

I tested my research hypotheses using statistical multiple regression and answered my research question. Prior to analyzing the statistical regression results, I investigated the statistical assumption for multiple regression. Based on the statistical related values and plots, no violation to the assumption were found. Therefore, I did not test for any further data manipulation. Statistical multiple regression model was tested using SPSS version 25. The output result indicates that the six independent variables, policy standard and objective, resources and incentive, inter-organizational communication and enforcement activities, characteristics of the implementing agencies, economic, social

and political condition,disposition of implementer; predicted the dependent variable of implementation performance. The null hypothese was rejected, and the research hypothese was accepted. The overall regression standard with all six predictors accounted for approximately 98.3% of the of the dpendent variable.

On the analysis of each predictor contribution, indicated that three predictors were strongly related to the dependent variable implementation performance individually, in holding other predictors constant. The predictors included, characteristics of the implementing agencies, economic, social and political condition,disposition of implementers. The three other predictors were not individually predictive of the dependent variable, while testing for other variables. They include policy standard and objective, resources and incentive, inter-organizational communication and enforcement activities.

On the results from the test in standard multiple regression, I did further examined using sequential multiple regression, to discovered the best model of predictors.I entered the six predictors one at each step, to find out how much change each predictors can provide to the prediction   I   made entering of the first three independent variables with strong correlation with the dependent variable and entered the three other independent variable that did not have much strong correlation with the dependent variable. The result from the sequential multiple regression indicate that the best model with the highest percentage of variance. inter-organizational communication and enforcement activities was explicit by the collaboration of these three predictors,

characteristics of the implementing agencies, economic, social and political condition,disposition of implementer.

In chapter 5, I exmimed the data anlysis rsults related to the prevoius literatue review. I also discuss the limitation of the study and make recommmendations for future research.Finally, I did provide implications of this study to positive social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This study aimed to investigate the relationships level between the six independent variables, in policy implementation. policy standard and objective, resources and incentive, inter-organizational communication and enforcement activities, characteristics of the implementing agencies, economic, social and political condition, and disposition of implementer;and how these independent variables collaborate to impact positively to predict the dependent variable of implementation performance. I developed and used an instrument that has similarity to RAND survey 2006.The authors of the study reviewed literatures are Georges Vernez, Rita Karam, Louis T. Mariano, Christine DeMartini at RAND Corporation. This study involves gathering realistic data to examine the level of relationship between the six independent variables in implementation process that can consistently collaborate to impact positively on implementation performance, dependent variable (Khan & Khandakar,2016, vol.15, N04, P.538-548); (Francis, 2011).

The research questions for this study was: What is the relationship level between the six implementation variables of policy standard and objective,resources and incentive,inter-organizational communication and enforcement activities,characteristics of the implementing agencies,economic,social and political conditions,disposition of implementers as (IV) independent variables to consistently collaborate and impact positively on performance as(DV) dependent variable? I used statistical multiple regression model to answer my research question and analyzed the hypotheses. The

results from standard multiple regression indicated that there was a statistical significance of of the overall model of prediction..In otherwords, the null hypothesis was rejected,and the research hypothesis was accepted.

The Study six predictors could express for approximately 98.3% of the variance of economic,social and political conditions,which was a large effect size based on the rule of thumb developed by Cohen(1988). Three of the six variables, including ,characteristics of the implementing agencies,economic,social and political conditions,disposition of implementers ,were significantly related to the dependent variable of implementation performance. Further multiple regression analysis showed that the combination of these three variables represented the best model to predicts positive consistent collaboration lead to implementation performance.In this chapter,I discuss the interpretation of the findings by comparing the study variable with the results of the existing literature. I further review the limitations of the study and make recommendations for future research.Finally, I highlight the implications of the positive social change this study may bring to the field of education.This chapter concludes with the core of the study.

Introduction

This study investigates the relationships level between the six independent variables, in policy implementation. Policy Standard and Objective, Resources and Incentive, Inter-organizational communication and enforcement activities, Characteristics of the Implementing agencies, Economic, Social and Political Condition,Disposition of Implementer;and how these variables collaborate to impact positively to predict

the dependent variable of implementation performance. I developed and used an instrument that has similarity to RAND survey 2006.The authors of the study reviewed literature are Georges Vernez, Rita Karam, Louis T. Mariano, Christine DeMartini at RAND Corporation. It involves gathering realistic data to examine the level of relationship between the six independent variables in implementation process that can consistently collaborate to impact positively on implementation performance, dependent variable (Khan & Khandakar,2016, vol.15, N04, P.538-548); (Francis, 2011).

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Interpretation of the Findings

This study investigated the relationship level between the six implementation variables of policy standard and objective,Resources and incentive,inter-organizational communication and efforcement activities,Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers as (IV) independent variables to consistently collaborate and impact positively on performance as(DV) dependent variable.The theoretical foudation for this study was Pressman and Wildavsky began implementation study with the work in the book titled *Implementation* (1984). Pressman and Wildavsky are both recognized as the founders of implementation process using the top-down approach. They carried out the study based on a federal program for economic development in Oakland, California.

 It focused on the extent to which successful implementation depends on the connection

between different organizations and departments at the local level (Hill & Hupe 2014, p.

47); Van Meter & Van Horn, (1975).

Policy implementation can represent a useful procedure for planning set targets and

measures and reaching these objectives.

Policy instruments usually contain both goals and the means for achieving them (Hill &

Hupe,2014; Pressman & Wildavsky, 1984). The two theorists, Pressman and Wildavsky,

assert that action depends on networks in an implementation chain. Thus, the degree of

collaboration between agencies that need to make those links work must approach full

efficiency (Hill & Hupe, 2014, p. 47). Pressman and Wildavsky also suggested that minor

shortfalls can accumulate to result in much more significant shortfalls. The two theorists

introduced the idea of implementation shortfall and suggest that researchers may

statistically or mathematically analyze implementation results in this approach (Hill &

Hupe, 2014; Pressman & Wildavsky, 1984).

These existing studies are limited on policy implementation for social research; most

related studies on policy implementation in current literature are focused on policy

implementation program failure.This Study addressed such gap in the literature by

concluding that the model of six variables, including' policy standard and

objective,Resources and incentive,inter-organizational communication and efforcement

activities,Characteristics of the implementing agencies,Economic,Social and political

Conditions,Disposition of implementers will consistently collaborate to impact positively

on performance outcome ..The combination of the six independent variables accounted

for approximately 98.3% of the variance to have relationship level that consistently collaborate to impact positively on implementation performance.In this study,I also examined the correlations between each of the six independent variable and the dependent variable of implementation performance. I found a high level of correlation in the six independent variables in predicting the dependent variable.I also found result to indicate the combination of three of the independent variables including Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers represented the best prediction model of implementation performance. The three variables accounted for about 98.3% in Economic,Social and Political condition which was higher in percentage of variance that could be explained by all six independent variables. It presented a large effect size according to Cohen(1988). The model with three variables also had a higher F value than that of the model including all six predictors. Therefore, the combination of Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers presented the best model when consistentently colloraborated to predict implementation performance This study investigation result contributed new knowledge to the existing literature, which had insufficient evidence on how the six variables of implementation consistent collaboration can predict positively to impact implementation performance.

This study investigated the relationship level between the six implementation variables of policy standard and objective,Resources and incentive,inter-organizational communication and efforcement activities,Characteristics of the implementing

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statistically or mathematically analyze implementation results in this approach (Hill &

Hupe, 2014; Pressman & Wildavsky, 1984).

These existing studies are limited on policy implementation for social research; most related studies on policy implementation in current literature are focused on policy implementation program failure.This Study addressed such gap in the literature by concluding that the model of six variables, including' policy standard and objective,Resources and incentive,inter-organizational communication and efforcement activities,Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers will consistently collaborate to impact positively on performance outcome ..The combination of the six independent variables accounted for approximately 98.3% of the variance to have relationship level that consistently collaborate to impact positively on implementation performance.In this study,I also examined the correlations between each of the six independent variable and the dependent variable of implementation performance. I found a high level of correlation in the six independent variables in predicting the dependent variable.I also found result to indicate the combination of three of the independent variables including Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers represented the best prediction model of implementation performance. The three variables accounted for about 98.3% in Economic,Social and Political condition which was higher in percentage of variance that could be explained by all six independent variables. It presented a large effect size according to Cohen(1988). The model with three variables also had a higher F value than that of the model including all six predictors. Therefore, the combination of Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers

presented the best model when consistentently colloraborated to predict

implementation performance This study investigation result contributed new knowledge

to the existing literature, which had insufficient evidence on how the six variables of

implementation consistent collaboration can predict positively to impact implementation

perfformance.

Limitations of the Study

This study had several limitations. First, participants selected a rating in the Likert scale

survey based on their assessment of the study questions. In this case, participant

assessed reported data may not appraised objectively the actual circumstance. In a

social research survey, anonymous participant as in this study may give ratings to

questions in favorable way than they actually are depending on the understanding

of individual participant(Vogt, 2006)This study did not engross to checks on

whether anonymous participants reported data objectively to correctly presented

the reality. Clearly, the dependent variable in this study was implementation

performance, when the six independent variables have consistent collaboration to

produce performance outcome. Thus, possible inaccuracy in individual reported

data became a limitation in this study.

Second, the anonymous participants of this study were recruited by Qualtrics Audience

from its panel vendors. Participants in this online program may already have

understanding with the system or have some special skill that might be different

than anyone in the general population. Therefore, results of this study may not be

generalized to a larger population of people who are not members in Qualtrics platform. Although, the selection of anonymous participants was random, Qualtrics recruited anonymous participants New York City 5 counties resident on a voluntary basis. People who did not volunteer to take the survey may have different view related to Green Energy than the voluntary anonymous participants in this study. Such participant volunteer bias may add to the limitation of generalizability of this study's findings.

Third, this study used a Likert scale questionnaire in the survey. Anonymous participants were only able to select a rating on whether they agree or disagree on statements that were already provided. In this exercise, no opportunity was given to participants to provide their views or further explain their reservations. This presented a limitation to this quantitative study, because participants did not have a chance to provide their view like the format in a qualitative study with interviews.

Finally, this study apply statistical multiple regression to test the hypotheses and answer the research questions of whether the independent variables, of policy standard and objective,Resources and incentive,inter-organizational communication and efforcement activities,Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers,were able to predict the dependent variable of implementation performance results in policy implementation context. Such statistical tests were only able to provide a lead to a conclusion on correlation between variables, but

not able to conclude with any causal relationships. Thus, the value of the study may have a limitation by this description.

Recommendations

As specified in the earlier section, anonymous participants in this study were New York City 5 Counties resident from panel members in Qualtrics Audience. Therefore, the discovering may have limited generalizability to a larger population. As a result, further studies may expand to the general population and recruit participants who are not Qualtrics audience platform members. Correspondingly, I set the following criteria to select potential survey participants: (a) Resident of New York City 5 counties, (b) Adult resident (c) able to speak and write in English language. Again, investigation on participants who are not resident of New York City 5 counties border line may also be a valid source of investigation. In other words, anonymous participants outside of the New York City 5 Counties may have differing idea on the policy six implementation variables to with positive impact on performance in the state green energy policy program. Future investigation to appraised individual participants in various concept are worth examining. Other results from future studies can be compared with this study results to advance the literature.

This study focused on the New York State policy on green energy and its implementation to reach the policy target goal of injecting more green energy to the state energy matrix. Therefore, results of this study were related to participants idea to agree or disagree on the policy six implementation variables on level of relationship when

consistently collaborated may impact positive on implementation performance. Thus, investigators may choose to conduct research on the cost effect of the six variables of policy implementation. In other words, study done in such manner would provide results that are directed on certain method base on policy dynamics for use of such specific methodology.

This quantitative study used a survey design, with no provision for anonymous participant to express more of their opinions in detail. Participants only made choice ratings from a five- point Likert scale with predesigned statements.

Implications

Results of this study indicated that vital information regarding the six implementation variables level of relationship collaborated to positively impact implementation performance. The public awareness on the need for green energy boost could potentially improve standard of living on improved low-cost energy, green employment, and good environmental impact for social change.

This quantitative study appraised the gap in the literature regarding how policy implementation in the six varia performance research. The results from this study can addressed the way how policy makers and civil servant pursue past policy ideas and accept that collaboration of the six implementation variables lead to positive implementation performance in policy program. In all the six implementation variables predictors Characteristics of the implementing agencies,Economic,Social and political Conditions,Disposition of implementers presented the best model when consistentently colloraborated to predict implementation performance

Conclusion

This Study examined   Impact of New York State Clean Energy Policy Initiative

in Renewable Energy Generation. The Study focused on the relationship level between

the six implementation variables of policy standard and objective,Resources and

incentive,inter-organizational communication and efforcement activities,Characteristics

of the implementing agencies,Economic,Social and political Conditions,Disposition of

implementers as (IV) independent variables to consistently collaborate and impact

positively on performance as(DV) dependent variable. This quantitative study based on

the theoretical framework of Pressman and Wildavsky began implementation study with

the work in the book titled *Implementation* (1984). Pressman and Wildavsky are both

recognized as the founders of implementation process using the top-down approach. They

carried out the study based on a federal program for economic development in Oakland,

California.

 It focused on the extent to which successful implementation depends on the connection

between different organizations and departments at the local level (Hill & Hupe 2014, p.

47); Van Meter & Van Horn, (1975).

Policy implementation can represent a useful procedure for planning set targets

and measures followed and reaching these objectives.

Policy instruments usually contain both goals and the means for achieving them

(Hill & Hupe,2014; Pressman & Wildavsky, 1984). The two theorists, Pressman and

Wildavsky, assert that action depends on networks in an implementation chain. Thus, the

degree of collaboration between agencies that need to make those links work must

approach full efficiency (Hill & Hupe, 2014, p. 47). Pressman and Wildavsky also suggested that minor shortfalls can accumulate to result in much more significant shortfalls. The two theorists introduced the idea of implementation shortfall and suggest that researchers may statistically or mathematically analyze implementation results in this approach (Hill & Hupe, 2014; Pressman & Wildavsky, 1984).

Theoretically, scholars have made continual efforts to explore policy implementation from a bottom-up approach. The bottom-up lens begins from the ground-level perspective of a societal issue. In this connecting position, "street-level bureaucrats" and their conduct move from the bottom or lower levels of the organization to enact change (Blount 2013; Lipsky, 1980, p. 3).

I used a survey design and employed an established and valid instrument to collect data from anonymous participants recruited by Qualtrics online survey platform. Data analysis results indicates that six variables correctly able to predicts implementation performance in policy research. Thus, combination of the six variables indicates the best prediction model for implementation performance. The results from this study have contributed new knowledge to the existing body of literature, where there have been few studies focusing on policy idea formulation based on expected target without first examine if the policy units have existing relationship to provide performance. This quantitative study can provide for positive social change, in low-cost energy use, improve standard of living for New York city resident   and abate greenhouse gas for healthy living and green jobs,

This study had several limitations. First, participants selected a rating in the Likert scale survey based on their assessment of the study questions. In this case, participant assessed reported data may not appraised objectively the actual circumstance. In a social research survey, anonymous participant as in this study may give ratings to questions in favorable way than they actually are depending on the understanding of individual participant(Vogt, 2006)This study did not engross to checks on whether anonymous participants reported data objectively to correctly presented the reality. Clearly, the dependent variable in this study was implementation performance, when the six independent variables have consistent collaboration to produce performance outcome. Thus, possible inaccuracy in individual reported data became a limitation in this study.

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Appendix A: List of Acronyms

ACPAlternative Compliance Payment

AMW Average Megawatt

CECCalifornia Energy Commission

CO2eCarbon dioxide equivalent

CPUC California Public Utility Commission

CRS Center for Resource Solutions

DOE Department of Energy

EDC Electric Distribution Company

EERE Energy Efficiency and Renewable Energy

Energy Information Administration

EPA Environmental Protection Agency

EDCElectric Reliability Council of Texas

FTC Federal Trade Commission

FIT   Feed –in Tariff

 FERC Federal Energy Regulatory Commission

GWh   Giga Watt-hour

GATS Generation Attribute Tracking System

GHG Greenhouse Gas

GIS Generation Information System

IOU Investor-Owned Utility

ISOIndependent System Operator

KWh kilowatt-hour

Kilowatt

LSE Load -Serving Entity

MWh Megawatt-hour

Megawatt

M-RETS Midwest Renewable Energy Tracking System

MISO Midwest Independent System Operator

MI-RECSMichigan Renewable Energy Tracking System

NYSERDA New York State Energy Research and Development Authority

NYGATS New York Generation Attribute Tracking System

NREL National Renewable Energy Laboratory

NVTREC Nevada Tracks Renewable Energy Credits

NEPOOL-GIS New England Power Pool-Generation Information System

N-RETS North Carolina Renewable Energy Tracking System

NARR North American Renewable Registry

NYISO New York Independent System Operator

NERC North American Electric Reliability Corporation

OWREC Offshore Wind Renewable Energy Certificate

PURPA Public Utility Regulatory Policies Act of 1978

PTC Production Tax Credits

PBF Public Benefit Fund

PJM Pennsylvania, New Jersey,and Maryland Power Pool

PUC Public Utility Commission

PJM-GATS Pennsylvania, New Jersey Maryland power Pool-

Generation Attribute Tracking System

RGGI Regional Greenhouse Gas Initiative

Regional Transmission Organization

RPS Renewable Portfolio Standard

REC Renewable Energy Certificate

SREC Solar Renewable Energy Certificate

SMUD Sacramento Municipal Utility District

SBC System Benefit Charge

Thera-Watt- hour

WREGIS Western Renewable Energy Generation Information System

WECC Western Electricity Coordinating Council

Appendix B: Consent Form

CONSENT FORM

(Implied Consent

Voluntary resident of New York City 5 counties are invited of average Spoken English

and writing language to take part in a research study about Impact of New York State

Clean Energy Policy Initiative on Renewable Energy Generation: Participants criteria for

inclusion in thesurveybecause they are New York City resident who are largely will have

a benefit impact of NYSERDA as the state clean energy custodian for the implementation

of renewable programs.

This process formed the part called "informed consent" to allow you to understand this

study before deciding whether to take part.

A Doctoral researcher named Barry B. Omo-Ikirodah, at Walden University, conducted

this study.

Background Information:

This study investigated six possible variables as independent Variables that impact
policy implementation success or failure in performance outcome as the dependent
variable in clean energy policy. Following the New York state legislative policy review
circle on Clean Energy initiative from 2005 -2016 on program that failed to reach
expected percentage target year. Data was collected from New York City resident 5
counties of Manhattan, Brooklyn, Queens, Richmond, and the Bronx anonymous
voluntary participant using Qualtric web survey instrument. The study examined the
current collaboration and response to policy clean energy goal in the unattained
percentage target year. Following the policy duration and change in underperformance
review Circle.

Procedures:

If a participant agrees to be in this study, Participant will require to :

- Complete an online thirty survey questions at a single sitting, not like a test. This instrument takes 10-15 minutes to complete. In this case, please take much time as long as desire.

- Please, **DO NOT** fill in the name anywhere on the survey instrument.

- After having completed the survey onlinewholly close out of the survey

- Please refer any questions via email to barry.omo-ikirodah@waldenu.edu:

Voluntary Nature of the Study:
To participate in this study was voluntary participation. A participant can accept or turn down the invitation. That means everyone will respect the decision of whether participant wants to be in the study. No one at the clean energy agency or the State of New York will treat participant differently if participant decides not to be in the Study. If the participant chooses to be in the study now, the participant can still change their mind during the study. If stressed during this study, the participant can stop at any time. A participant may wish to skip any questions if they feel too personal.

Risks and Benefits of Being in the Study:
This study did not pose a risk to participant safety or well-being. The researcher will minimize the data collected to avoid any potential risks of exposure; participant responses will remain anonymous and confidential; will not identify participant or participant agency in the results. The data collected through individual responses was merged and aggregated into the final sample and will not identify the specific participant or people. Upon written request, the participant will have an electronic copy of the completed analysis and findings of the study in the form of a summary of results. The valuable benefits from this study are the contribution to the body of knowledge for social change. To determine the level of consistent collaboration in policy implementation to improve performance about effective policy on renewable energy to improved policymakers RPS implementation choice for renewable power generation program.

Payment:

This study used Qualtrics Survey Instrument platform and anonymous participation was voluntary,and there was no expected payment.

Privacy

Data collected for this study shall be confidential and anonymous. The researcher will not disclose the identities of the individual participants. The details that might identify participants, such as the location of the survey, also will not be shared. The researcher will not use participant personal information for any purpose outside of this research project. Data will be kept secure by the researcher in encrypting digital format including strong password protection; data encryption use codes in place of names. Data will be held in the executive elite fireproof safe for at least five years, as required by the university.

Contacts and Questions:

Questions are accepted, alternatively, any issue can be communicated to the researcher.The Walden University's approval number for this study was #11-26-18-0338135 and it expires on November 25th, 2019.

Now print this Consent Form for the records.

Obtaining Participant Consent

 I read the above information,and understand the study well enough to decide to participate. By **clicking here**, I agree to the terms described above.

Appendix C: Survey Questionnaires Exit Page