THE FACTORS THAT INFLUENCE THE DEVELOPMENT OF PERFORMANCE MEASURES IN TEXAS COUNTIES

by

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Dedication

This dissertation is dedicated to my wife Pamela who has continuously and genuinely supported my endeavors to seek higher education. She has always been there to provide moral support and encouragement. I also dedicate this work to my daughters, Sharon and Maureen, and my sons Franklin and Jeff who have always kept me focused through their support and constant inquiry about the progress of this work.

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Abstract

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Over the past few decades, governments have developed performance measurement systems with the objective of improving the quality and effectiveness of services delivered to the public. However, there is scant information about the factors that influence the development of performance measures in county governments because few studies have been carried out to determine the significance of the participation of stakeholders, the strategic planning, the use of incentives, and the availability of resources on the development of performance measures.

The purpose of this study is to investigate the factors that influence the development of performance measures in Texas counties by addressing the following research questions: What factors influence the development of

performance measures? What challenges are faced by counties during the development of performance measures? What are the impacts of performance measures on the effectiveness of services provided by the counties? Data was collected from county budget officials using survey questionnaires. The officials were asked to express their opinions, attitudes, or previous experience with the development of performance measures.

The findings of the study indicate that output measures are more prevalent in counties than outcome measures. Stakeholders' participation was found to be related to the development of output measures, while strategic planning, incentive systems, and availability of resources were found to be related to the development of outcome measures. The major impacts of the development of performance measures include increased accountability, improved quality of decision making, and improved communication. The major challenges faced by counties during the development of performance measures include lack of incentives to motivate staff, lack of support from elected officials, and developing relevant performance measures.

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Chapter 1

Introduction

1.1. Background

Counties in the United States (U.S.) were once described as the dark continent of American politics because they were not affected by the progressive reform movements of the 19th century that advocated for centralized, professional, and accountable executives (Berman & Wang, 2000). Counties are now considered as among the fastest growing type of government in the U.S. in terms of employment and expenditures on public goods and services (Cigler, 1995). The U.S. counties have been under great pressure to improve the efficiency of delivery of goods and services to the public, and at the least cost to the tax payers. Performance measurement systems are viewed as tools that are used to set performance targets and to provide justification for management decisions (Berman & Wang, 2000).

One of the most significant reform efforts in the public sector over the last decades has been the requirement that public agencies develop performance measurement systems to set and monitor their strategic goals and objectives (Moynihan & Pandey, 2010). The idea of performance measurements started at the municipal level during the Progressive Era when New York Bureau of Municipal Research suggested that the governments adopt business practices

based on scientific principles. The objective was to reform the bureaucratic activities of the government and make it more efficient and responsive to public demands for goods and services (Tyer & Willand, 1997). The use of performance measurements at the federal government started when the Hoover Commission of 1949 proposed the use of performance budgeting based on activities and outputs that were accompanied by performance measures. The aim was to use performance measures to change the public sector focus from input measures to output measurements (Tyer & Willand, 1997).

The passage of the Government Performance and Results Act (GPRA) in 1993 is regarded as evidence of the federal government's commitment to the use of performance measures as a way of improving performance through the use of strategic planning and performance measurement systems (Gilmour & Lewis, 2006). Performance measures were used during the budgeting process as a way of improving decision making and as a basis for allocating resources. The Program Assessment Rating Tool (PART) introduced in 2004, was aimed at linking funding of federal programs to performance measurements and making funding decisions based on performance (Gilmour & Lewis, 2006). The Obama administration enacted the GPRA Modernization Act of 2010 and created the office of Chief Performance Officer to develop a performance agenda for the administration. The performance agenda focused on program evaluation, setting

high priority goals for funding purposes, and using performance measures to assess the performance of federal government agency programs (Joyce, 2011).

Performance measurement is the use of quantitative indicators to regularly measure the results and efficiency of public programs delivered to clients, customers, or stakeholders (Ho, 2005). Performance measurements can assist managers in the development and justification of budgets, allocation of resources, and communication of results to the public as a way building trust in the government (Wang 2002). Managers use performance measurements to set service goals and manage strategies that include accountability, effectiveness, efficiencies, and service quality (Ho, 2005; Wang 2002). The renewed interest in performance measurements can be attributed to the demands for accountability by citizens to know how governments use their tax dollars (King, 1995). The demand has put pressure on the governments to assess their operations and to communicate progress towards the achievement of set goals to the public (King, 1995).

A study conducted by Berman and Wang (2000) shows that only 33.6 % of U.S. counties with a population above 50,000 use performance measurements, and that counties differed significantly on the extent to which they use performance measurements (Wang 2002). Only 20% of counties that used performance measurements used both output and outcome measures (Wang 2002). Output measures were used in 66% to 75% of the county functions,

outcome measures were used in only 45% to 50% of the county functions, and quality measures were used in only 35% to 45% of the county functions (Wang 2002).

However, the most contentious issue concerning the development of performance measures in government agencies has been the working relationships between the legislatures and the bureaucrats in terms of their roles in policymaking and policy implementation (Boudreaux, 2006). The theory of political control of bureaucracy assumes that bureaucrats are controlled by the legislatures, and that there exists a clear distinction between policymaking and policy implementation roles (Frederickson & Smith, 2003). However, it is difficult to separate policy making roles from policy implementation roles because elected officials sometimes participates in policy implementation roles and administrators are sometimes involved in policy making (Frederickson & Smith, 2003). The ambiguity in policymaking roles explain why there has been both executive and legislative Acts passed by the federal government to improve the operations of government through use of performance measurement systems (Melkers & Willoughby, 1998).

The theories of bureaucratic politics assume that there is no separation of policy making and policy implementation roles between the legislatures and the executives (Frederickson & Smith, 2003). The theories of bureaucratic politics are therefore more appropriate in explaining the development of performance

measurements in government agencies. Policy making role is a political process that involves the participation of all stakeholders within the executive and legislative branches of government. Decisions are arrived at through bargaining and compromise between the stakeholders interested in particular policy outcomes (Frederickson & Smith, 2003).

1.2. Research Problem

Over the past decades, governments have developed performance measurement systems with the objective that they will be used to improve quality and effectiveness of services delivered to the public (Moynihan & Pandey, 2010). However, there is scant information about the factors that influence the development of performance measurements in the U.S. county governments (Moynihan & Pandey, 2010). Why and how counties develop performance measurements has not been properly documented because few studies have been carried out to determine the significance of institutional capacities, policymaking roles, and availability of resources on the management and provision of services to county residents (Cigler, 1995).

The previous research shows that participation of stakeholders is important during the development of performance measures ((Berman & Wang, 2000; Wang & Berman, 2001Berman, 2002). However, previous research efforts on counties have not been specific on which stakeholders and their form of

participation are more effective in fostering the development of performance measurement systems in public agencies. It is not clear from the previous research whether or not all the counties that have developed performance measurements engage in strategic planning, use incentives, or allocate adequate resources for performance measurement systems. The previous research focused on performance measurements in counties with populations above 50,000. It is therefore important to investigate whether there are any significant differences between smaller counties with populations below 50,000 and larger counties in terms of how they develop performance measurement systems. It is also important to investigate the impact of performance measures on the provision of public goods and services to county residents.

The focus of this study is on county governments because performance measures can be used by counties to provide accountability to residents and to higher levels of governments (Berman & Wang, 2000). Counties receive funding from state and federal governments and performance measures can be used to account for the use of funds received from the higher levels of government (Berman & Wang, 2000). It is also important to learn more about counties because few studies have been conducted at the county level to determine the factors that affect the stakeholders' participation during the policymaking and policy implementation processes (Berman &Wang, 2000).

County governments are closer to the people and are more directly involved in providing services to the people than federal or state governments. Performance measures can be used as a way of providing accountability to county residents and inform the residents about services that the county provides (Berman & Wang, 2000). The authors argue that county residents are more informed about services provided by their cities than services provided by their counties. Therefore, performance measurements can be used by county management to inform residents about the services provided by their governments so that residents are able to assess the quality and effectiveness of services provided (Berman & Wang, 2000). It is important to learn more about counties because their roles have changed, and they are now providing more goods and services than before (DeSantis & Renner, 1994; Cigler, 1995; Berman & Wang, 2000).

It is important to study the role of elected officials in supporting the development of performance measures in county governments. The theories of political control of bureaucracy assume that there is clear separation of policymaking roles of legislatures and policy implementation roles of bureaucrats (Frederickson & Smith, 2003). The separation of responsibilities can have significant impact on the implementation of administrative reforms in counties because both the legislatures and the executives should be involved in the development of performance measures (Frederickson & Smith, 2003). The theory of bureaucratic politics assumes that there is no separation of policy making and

policy implementation roles, and both bureaucrats and executives are involved in policy making and policy implementation processes (Frederickson & Smith, 2003).

The study focused specifically on Texas Counties because the state is reported to have developed performance measurement systems that are linked to strategic planning and performance based budgeting systems (Melkers & Willoughby, 1998). The performance measurement systems provide guidelines to state agencies on how to develop strategic plans that specify goals, objectives, outcomes, outputs, and efficiency measures (Melkers & Willoughby, 1998). It is important to examine whether performance measurements linked to strategic planning have been developed at the county level, and what factors influence their development.

Texas counties are highly fragmented with 254 counties (see appendix B), compared to other states with approximately similar population sizes such as California, 58 counties; New York, 62 counties; Illinois, 102 counties; and Florida, 67 counties (U.S. Census Bureau, 2010). It is important to investigate whether counties that have developed performance measures have improved their services, and have therefore attracted more residents to their jurisdictions than the counties that have not developed performance measurement systems.

Local government fragmentation is the division of a governmental unit into several autonomous or semi-autonomous administrative units (Dolan, 1990).

Public choice theorists support fragmentation and argue that there is need to maintain numerous units of local governments to maximize opportunities for individual citizens to choose from a range of services offered by various governmental units (Lyons & Lowery, 1989). The proponents of consolidated government structures argue that they are more desirable because they capture efficiencies in economies of scale necessary to produce efficiencies in service deliveries and political responsiveness to regional problems (Lyons & Lowery, 1989).

This study builds on previous research work by Melkers and Willoughby (2005), De Lancer Julnes and Holzer (2001), and Wang and Berman (2000), on the development of performance measurements in counties. The study includes additional factors such as use of incentives, strategic planning, population size, per capita income, percentage population growth, and the metropolitan status of the counties. The study used Performance Measurement Process Model developed by National Performance Review Committee in 1997, to assess the development of performance measures in Texas Counties. Performance measurements development is hypothesized to be a form of organizational behavior that is influenced by stakeholders' involvement, strategic planning, resource availability, incentive systems, population size, per capita income, population growth, and metropolitan status of the county.

1.3 Research Questions

The purpose of this study is to examine the factors that influence the development of performance measures in Texas counties. This study addressed the following research questions: What factors influence the development of performance measures in Texas counties? What challenges are faced by Texas counties during the development of performance measures? What are the impacts of performance measures on the effectiveness of services provided to residents in Texas counties?

By using data collected from Texas county budget officials, this study examined the three dimensions in which the counties develop performance measurements. The dimensions include the scope, focus, and the impact of performance measures on the operations and delivery of services to county residents. The scope of performance measures involves the examination of the participants or stakeholders who participate in the development of performance measures in Texas county governments. The focus involves assessing the type and the number of performance measures developed in county governments, and what factors affect the choice and the development of performance measures. The impact of performance measures involves assessing the purpose of developing performance measures, and what influence performance measurements have on the operations and delivery of services to county residents.

1.4. Previous Studies

One of the major goals of the budget reform movement in the U.S. is to integrate the performance measurement systems with the management and budgetary decision making processes. Surveys of U.S. counties show that the development of performance measures during the budgeting process gained momentum from the 1980s, but greater focus on outcome measures started in 1990s (Berman & Wang, 2000; Melkers & Willoughby, 2005; Poister & Streib, 1999). A national survey of county governments conducted by Wang (2000) to examine the extent of the development of performance measures shows that performance measures are developed and used during the budgeting process. At the budget preparation stage, performance measures are used to set performance levels and budget estimates (Wang, 2000). During the legislation stage, performance measures are used to specify service qualities and quantities expected by the legislature, to make resource allocation decisions, and to hold agencies accountable for performance (Wang, 2000). Performance measures are used during the budget evaluation and auditing stage to assess the efficiency and effectiveness of public programs and services provided by the county governments (Wang, 2000).

Berman (2002); Berman and Wang, (2000); Wang and Berman (2001) conducted studies in county governments to examine how widespread the development of performance measures are, and what organizational capacities

influence the development of performance measures. The studies show that development of performance measurement is associated with the participation of citizens, elected officials, and professional competence of county staff. The organizational capacity to collect, analyze, and interpret performance data was found to be crucial to the development of performance measurements.

Studies by Melkers (2006); Melkers and Willoughby (2005); and Willoughby (2002) show that performance measurements can generate information that can be used to improve communication in organizations and decision making during the budgeting process. The previous studies have not indicated whether there are significant variations between counties in terms of how they develop performance measurements. Counties differ in terms of leadership styles, resource availability, population size, professional competence, and organizational capabilities (Berman & Wang, 2000). It is important to study how these differences affect the development of performance measurements in Texas county governments.

1.5. Significance of the Study

The development of performance measurement systems can contribute to the understanding of administrative reform efforts in counties, and the role played by elected officials in supporting the reforms (Moynihan & Pandey, 2010). The study can inform scholarship on public policy and budgetary reforms efforts by

contributing to knowledge on the development of performance measures, and their impact on accountability to county residents in terms of service provisions (Moynihan & Pandey, 2010). The current focus on the development of performance measures reflects the demands by the public for effective service provisions (King, 1995). Performance measures are used to improve public accountability and policy decision making (Behan, 2003). Performance measures are used to set service goals and objectives, allocate resources to public programs, and to monitor and evaluate results to assess progress towards the achievement of the set objectives. Performance measurements can be used by the public to judge the value that government creates for them, and to provide managers with the information they can use to improve the performance of public agencies (Behan, 2003).

The performance measurement systems in counties can generate useful information that can be used to set service goals, improve communication between departments, and improve efficiency and effectiveness of services delivered (Melkers & Willoughby, 2006). Performance measures are important as accountability tools that can be used to improve responsiveness, efficiency, and effectiveness of service delivery to citizens. Benton (2002) argues that county governments were created by states to provide services to local citizens, but their roles are changing. Counties are now providing more services such as planning, zoning, consumer protection, employment, training, parks, and recreation

(Benton, 2002). County governments are now viewed as regional governments that address issues such as conservation, growth management, and water and air quality (Benton, 2002). Counties are now seen as avenues through which citizens can now participate in policy making processes by articulating issues affecting their communities, and are regarded as the fastest growing general-purpose type government in the U.S (Benton, 2002).

1.6. Purpose Statement

The purpose of this study is to examine the factors that influence the development of performance measurements in Texas counties by using Performance Measurement Process Model developed by National Performance Review (NPR) Committee in 1997. Performance measurements as the dependent variable, is operationalized as the number of output and outcome measures developed by counties to assess the effectiveness of services provided to county residents (e.g. fire, police, housing, corrections). The output measure is defined as the quantifiable indicator of the number of goods or services the county produces, while the outcome measure is defined as quantifiable indicator of the public and customer benefit from the county's actions (NPR, 1997).

The independent variables are the stakeholders' involvement, strategic planning, resources availability, incentive systems, and population size. The control variables include, county per capita income, percentage population growth

between 1990 and 2010, and metropolitan status of the county - whether the county is rural or urban. Stakeholders' involvement is defined as the participation of county administrators, managers, staff, citizens, and legislatures during the development of performance measures. Strategic planning is defined as the effect of the county's missions, goals, and objectives on the development of performance measures. Availability of resources is defined as the allocation of funds, personnel, and acquisition of information technology for use during the development of performance measurements. An incentive system is defined as the use of incentives, such as bonus, recognition, offered to staff and the effect of incentives on the development of performance measures.

The data on county population size, per capita income, and county metropolitan status is based on the U.S Census Bureau report for the years 2010 and 1990. This study further explored the challenges faced by Texas counties during the development of performance measurement systems, and the impact of performance measurements on the effectiveness of services delivered to county residents.

1.7. Limitations of the Study

The quantitative survey research methods have inherent limitations and some of the limitations include honesty in answering survey questions, the generalization of research findings, and the omission of some variables that could have been included in the survey (Creswell, 2009). This study relied on self-

reports from the respondents, and therefore the accuracy of the findings depends on honesty of respondents when answering the questions presented on the survey questionnaires. It was not possible to include all factors that affect the development of performance measurement in Texas County governments in this study, and there could be other factors that were not considered, but could have had an impact on the study. The study research design is not based on random sampling method, and therefore no attempt is made to generalize the study findings to other county governments outside Texas counties.

1.8. Delimitations of the Study

The study is not based on random sampling of the Texas counties but on all the 254 counties irrespective of population sizes. The previous studies on counties focused on counties with population sizes of 50,000 and above, and it is important to examine the extent to which performance measures have been developed in smaller counties. The study focused only on the factors influencing the development of performance measures, and not on factors influencing the use of performance measurements in counties. Therefore, the focus of the study is on policymaking process during the development of performance measures in Texas counties.

The study used the Performance Measurement Process Model developed by the National Performance Review Committee in 1997. This model was developed

for use by the federal government with inputs from state and local governments. It is a descriptive model that suggests the steps to be taken during the development of performance measures. The objective of using this model was to assess the extent to which the counties have used the model to develop performance measures, and what modifications, if any, have been made by counties on the model, taking into consideration unique conditions and circumstances in the counties.

1.9. Definition of Terms

The following terms are used to describe the development of performance measures in Texas counties. The definitions of the terms are based on the definitions used by the National Performance Review Committee in 1997:

Customer – A person or an entity that receives, uses, or is served by an agency.

Efficiency – A quantifiable indicator of productivity expressed in unit costs, units of time, or other ratio-based units.

Government Performance and Results Act (1993) – the law that created the long-term goal setting process to improve federal government effectiveness and accountability by focusing government activities on outcomes, quality, and customer satisfaction.

Input – A quantifiable measure of resources used to produce goods and services.

Mission – An enduring statement of an organizations' purpose, reason for existence, and a description of what an organization does, who it does it for, and how it does it.

Outcome – A measure of results that occur as a result of goods and services provided.

Output – A quantifiable measure of the number of goods or services produced.

Performance Measure – A quantitative or qualitative indicator of performance.

Performance Measurement – The process of assessing progress towards achieving set goals and objectives.

Stakeholder – Any person, group, or organization that can place a claim on, or influence an organization's resources or outputs, is affected by those outputs, or has interest in or expectations of the organization.

Strategic Planning – A process whereby members of an organization make decisions about its future, develop procedures to achieve that future, and decide how success is to be determined.

Vision – What and where an organization would like to be in the future.

Chapter 2

Literature Review

2.1. Performance Measurement Systems

The National Performance Review Committee (NPR, 1997) defined performance measurement as the process whereby organizations assesses whether the set goals and objectives are being achieved. It involves the collection of performance information on output, outcome, and efficiency measures. Hatry (2006) define performance measurements as the "regular measurement of the results (outcomes) and efficiency of services or programs" (p. 3). Steinberg (2009) explains that the major objectives of developing performance measures are to use performance measures as accountability tool, and to report performance information and results to citizens and elected officials. The performance measures are used to improve the allocation of resources during the budgeting process, to monitor the delivery of services, and to make any adjustments where necessary to improve the effectiveness and quality of services (Steinberg, 2009).

According to Ammons (2013), performance measurement as a practice is "as old as public administration itself" (p.508). William Allen (1907) advocated for performance measures that link services to costs, result, and goals. Allen developed performance measures to monitor the percentage of probationers who are rearrested (Ammons, 2013). In 1909, the Bureau of Municipal Research

advocated for the reporting of how costs are related to services provided by cities (Ammons, 2013). Herman C. Beyle developed government reporting in Chicago based on outputs, and in 1938, Clarence Ridley, then executive director of International City Managers Association, and Herbert Simon, a recipient of Nobel Memorial Prize in economics, advocated for work measurements based on cost, effort, efficiency, effectiveness, and results of programs and services provided (Ammons, 2013).

The most significant reform effort in the public sector over the last few decades is the requirement that the public agencies develop performance measures based on missions and strategic objectives of the agencies (Moynihan & Pandey, 2010). The administrative reforms have been based on the belief that the performance of public agencies does not meet the expectations of citizens in terms of services delivered. Therefore, one of the remedies is to develop performance measurement systems to monitor and improve the performance of public agencies against the set goals and objectives (Moynihan & Pandey, 2010).

The concerns with performance of public agencies have existed for decades, and can be traced to the Progressive Era when the patronage political systems of the 19th century brought about widespread corruption in the municipal governments (Tyer & Willand, 1997). The middle class agitated for change during the Progressive Era with the objective of fighting corruption and reforming the operations of the municipal governments to improve efficiency of programs

(Tyer & Willand, 1997). The main objectives of the middle class reformers were to remove the legislative control from operations of the municipal governments, to establish executive control through establishment of nonpartisan governments, and to remove politics from administrative activities (Tyer & Willand, 1997).

The New York Bureau of Municipal Research played an important role in promoting the reform activities by pointing out inefficiencies in the municipal operations, and suggesting how to improve the performance of government agencies (Tyer & Willand, 1997). The Bureau suggested that the governments adopt business practices based on scientific principles as a way of reforming the bureaucratic activities of the governments, and making it more efficient (Tyer & Willand, 1997). The Progressive Era movements exposed the widespread corruption in the municipal governments, especially in the large cities, and created dissatisfaction with the budgetary methods used during the period (Tyer & Willand, 1997). The legislative branch of government was in charge of the budgeting and departmental expenditures. The major problems included the lack of data to support legislative budget estimates, the lack of transparency on expenditures and revenues generated, and the lack of oversight on government expenditures (Tyer & Willand, 1997). The result was rampant corruption and inefficient provision of goods and services to residents within the major cities (Tyer & Willand, 1997).

The federal government has for decades shown keen interest in the development of performance measurement systems (NPR, 1997). The objective has been to find ways of measuring government performance by developing performance measures to allocate resources during the budgeting process (NPR, 1997). The efforts to use performance measures by the federal government started in 1949 when the first Hoover Commission proposed the use of performance budgeting (NPR, 1997). This was followed in the 1960s when President Lyndon Johnson proposed the use of Planning-Program Budgeting System (PPBS), and President Jimmy Carter proposed the use of Zero-Based Budgeting (ZBB) system in 1970s (NPR,1997). The reform efforts were aimed at defining the program objectives and linking the program outcomes to performance measures (NPR, 1997). The use of performance measures has been linked to public budgeting reform initiatives in the U.S. because of the efforts to use performance measurement systems to allocate resources during the budgeting process (Melkers & Willoughby, 1998). However, the efforts to use performance measures to allocate resources during the budgeting process in the public agencies have been a major challenge faced by governments because of the political nature of the budgeting process (Berman & Wang, 2000; Ammons, 2003).

2.2. Performance Measurements and Public Budgeting Reform Initiatives.

The Public Budgeting in the United States has gone through several phases of reform aimed at achieving different objectives. Schick (1966) and Rubin (1996) argue that the budgeting reforms have gone through five phases that focused on achieving objectives of control, management, planning, prioritization, and accountability. According to Schick (1966), the United States has gone through three distinct phases of budgetary reforms. The first phase emphasized the use of budgets to control expenditure and guard against corrupt practices. It involved budgetary allocations by line items and object of expenditures because of the legislative concern for transparent control of executive budgets (Schick, 1966). During this phase, the budgetary decisions were focused on the objects of expenditure rather than on the accomplishment of government activities (Schick, 1966).

The second phase of the budgeting reform was a management orientation that focused on the budget preparation and the monitoring of efficiency of government activities (Schick, 1966). The administrators were held accountable for the efficient operation of government activities under their jurisdictions through the use of performance measures. The third phase of the budgeting reform was the planning-orientation that emphasized the relationship between planning and budgeting process (Schick, 1966). The planning orientation of the budgeting process focused on the long time planning because many government

programs took more than one financial year to accomplish (Schick, 1966). Therefore, the long term budgets, covering several years, were established to take into account the budget decisions affecting many government programs spanning more than one year (Schick, 1966). Rubin (1996) suggests that there are two additional phases of the budget reforms that reflects the budgeting trends in 1970s- 1980s, and the trends in 1990s. The 1970s-1980s budgeting trends emphasized the budgeting process based on the prioritization of government expenditures, while the budgeting trends in 1990s emphasized the budgeting practice based on accountability in the use of public funds (Rubin, 1996).

Mikesell and Mullins (2011) explain that there has been a continuous search for a budgeting system that can be used to deliver services to the public over the past half-century. The public budgeting systems have evolved from systems that were meant to promote transparency in the use of public funds; to systems that assist legislatures and managers in the allocation of public resources, and to systems used to communicate the agency plans and the results to the public (Mikesell & Mullins, 2011). The public budgeting functions and purposes have not changed over the past decades. A number of budgetary reform movements have been targeted at improving the fiscal discipline, prioritizing programs that benefit the public, the efficient use of public resources, and providing accountability in the use of the public funds and the allocation of resources (Mikesell & Mullins, 2011).

The history of budget reform movements in the Unites States revolves around a constant search for a linkage between ends and means in an attempt to answer a question which was posed several decades ago by V.O. Key (1956) that "….On what basis shall it be decided to allocate X dollars to activity A instead of activity B?". Key (1956) argues that there is hardly enough resources to meet all the expenditure requirements for organizations, and that budgeting should be based on decisions on how scarce resources should be allocated to the competing alternatives. According to Key (1956), the budget document should be a demonstration of how the scarce resources are allocated to achieve maximum social utility.

The major legislations that have influenced public budgeting reforms movements over the past decades include the following: the 1921 Budget and Accounting Act, the Budgeting and Accounting Procedures Act of 1950, the Congressional Budget and Impoundment Control Act of 1974, the Emergency Deficit Control Act (Gramm-Rudman-Hollings), the Budget Enforcement Act of 1990s, the Government Performance and Results Act (GPRA) of 1993, the Program Assessment Rating Tool (PART) of 2004, the enactment of GPRA Modernization Act in 2010 by the Obama administration, and the Budget Control Act of 2011 (Mikesell & Mullins, 2011).

The first attempt to reform the public budgeting was to change from the legislative control of the budgeting process to the executive control (Tyer &

Willand, 1997). The budget was used as a method to control the waste and inefficiency in governments, and to coordinate government operations and executive policy making (Tyer & Willand, 1997). In 1910, President Taft set up a commission on Economy and Efficiency (Taft Commission) and its report, titled "The Need for a National Budget" was presented to the United States Congress in 1912. The report focused on budgeting and fiscal management in the government (Tyer & Willand, 1997). Some of the major recommendations of the committee included the establishment of the executive budget prepared by the president and presented to the Congress. The budget was expected to highlight the president's policy proposals and financial information (Tyer & Willand, 1997). The consolidated financial report was to be submitted to Congress by the Treasury Secretary, and each agency was expected to maintain a comprehensive accounting system and submit the annual financial report to Congress (Tyer & Willand, 1997).

These recommendations formed the basis of the Budget and Accounting Act of 1921 that established the executive budget at the federal level (Tyer & Willand, 1997). The first budget reform in the United States was therefore based on the idea of strengthening the executive branch of the government. The government agencies were expected to prepare the budgets with estimated revenues and expenditures accompanied with financial performance information. The agencies were instructed to use the line-item budgeting format or the object-of -expenditure

budgeting as a way of instituting control of government expenditures (Tyer & Willand, 1997).

The line-item budgeting format involved the change from lump sum to the listing of the categories of expenditure such as office supplies, salary, or overtime pay. The categories were further grouped into broad categories of expenditure such as personnel, operations, or capital expenditures (Tyer & Willand, 1997). The control was achieved by restricting the transfer of funds from one line-item to the other. The major advantages of the line-item budgeting included the ease of use, the uniformity of the budget documents, and the centralized control of expenditures (Tyer & Willand, 1997). However, Upson (1924) argues that the major limitation of the line-item budgeting format was the difficulty of assessing the efficiency of the government operations, and the determination of the value of government activities delivered to the public. The issue of efficiency was later addressed by the introduction of performance budgeting in the government agencies (Upson, 1924).

The idea of using performance budgeting was first suggested by the New York Bureau of Municipal Research. The bureau proposed that the City budgets be based on unit costs showing the proposed work, and the work accomplished instead of using the line-items budgeting formats (Tyer & Willand, 1997). The Bureau was not successful in implementing the idea until the first Hoover Commission report (the Commission on Organization of the Executive Branch of

Government) came out in 1949. One of the Commission's recommendations was that the national budget should be based on performance measurements, with workloads and activities, instead of the line-item budgeting formats (Tyer & Willand, 1997).

According to Government Accounting Office (GAO, 1997), the first Hoover commission was created to improve government efficiency and services by reorganizing the government departments and agencies. Performance budgeting was to be used to change the focus of the government agencies from inputs measures to outputs measures, and to provide performance information to the president, the Congress, and the public (GAO, 1997). The amendment to the National Security Act of 1949 mandated that performance budgeting be used by the Department of Defense (Lee, Johnson & Joyce, 2008). The Budget and Accounting Procedure Act was enacted in 1950 and the Act mandated the federal government agencies to develop performance budgeting system to monitor the agencies' operations and the allocation of resources (Lee, Johnson & Joyce, 2008).

2. 2.1. Performance Measures and Budgeting Reform at the Federal Government

The budget reform movement at the federal level has gone through several phases, beginning with the Hoover commission in 1949 that introduced the performance budgeting (Robinson & Brumby, 2005; Tyler &Willand, 1997). The

Planning-Programming-Budgeting system (PPBS) was introduced in 1960, followed by Management By Objectives (MBO) in early 1970s (GAO, 1997; Kelly & Rivenbark, 2003), and Zero-Base Budgeting (ZBB) in the late 1970s (Rosenbloom, 1993; Lee, Johnson & Joyce, 2008). The Government Performance and Results Act (GPRA) was introduced in 1993 (Pfeiffer, 1997; Radin, 1998) and the Program Assessment Rating Tools (PART) of 2004 introduced the concept of performance information in the budgeting process (Mullen, 2006; Jones & McCaffrey, 2010). President Obama's administration called for the use of high priority goals and funding based on program evaluation through GPRA Modernization Act of 2010 (Joyce, 2011). However, the lasting impact of these reforms efforts on the federal budgeting process is subject to debates because of the partisan and political nature of the budgeting process.

2.2.2. Performance Budgeting

In 1936, President Franklin Roosevelt formed the President's Committee on Administrative Management to study and make recommendations on the management of the executive branch of the government (Stillman, 1991). The committee was later called the Brownlow Committee, after the name of its chairman, Louis Brownlow. The objective of the committee was to improve the efficiency of government operations through the reorganization of departments and agencies (GAO, 1997). The committee released its report in 1937, and one of

its main recommendations was to strengthen the administrative capacity of the office of the president through better organization, empowerment, and staffing (GAO, 1997). The report also recommended the expansion of the White House staff through recruitment and development of managerial capacities of agency staff responsible for the budgeting, personnel, and planning. The report called for the establishment of accountability of the executive to the Congress through the use of performance measurements information in the budget documents presented to the Congress (GAO, 1997).

The findings of the Brownlow committee were influenced by the work done earlier by Luther Gulick in 1937, and reported in the "Papers on the Science of Administration*"* in which Gulick (1937) questioned the role of the Chief executive officers in organizations (Stillman,1991). Gulick (1937) coined up the acronym, POSDCORB (planning, organizing, staffing, directing, coordinating, reporting, and budgeting) to outline the responsibilities of every administrator (Stillman, 1991). According to Gulick (1937), the president's office was to be organized according to POSDCORB so that different agencies could handle different functions such as planning or budgeting, and to report the outcomes of their operations to the president (Stillman, 1991).

The Federal government adopted the performance budgeting as a result of the enactment of the Budget and Accounting Procedures Act of 1950 which required agencies to use performance measurements information to justify budget

and program costs (GAO, 1997).The Act required the president to prepare the budget documents that specified the functions and the activities of the government (GAO, 1997). The requirement by the Congress brought about the beginning of the performance budgeting, as performance measurements information on workload and unit costs were incorporated into the president's budget submissions, as a way of reporting the output of the federal government expenditures to the public (GAO, 1997).

2.2.3. Planning-Programming-Budgeting System

The Planning-Programming-Budgeting (PPBS) system refers to budgetary reform initiatives that started in 1960s with the aim of linking program costs with program results (Lee, Johnson, & Joyce, 2008). The planning was used as a way of proposing several alternative solutions from which better selections could be made, and programming was used as a way of allocating resources to accomplish the selected programs (Lee, Johnson, & Joyce, 2008). PPBS was first introduced by President Johnson in 1965, and the federal agencies were expected to develop long term plans for programs incorporating financial information on performance of programs (Lee, Johnson, & Joyce, 2008). The implementation was not successfully carried out because of the lack of leadership support for program budgeting, the low analytical skills by the agency staff, and the difficulty of

developing performance measures for social programs (Lee, Johnson, & Joyce, 2008).

The implementation of the planning-programming budgeting system was not very successful at the state and local governments because the governments focused more on long term planning, and very little emphasis on analysis of program structures (Lee, Johnson, & Joyce, 2008. The main problems faced by state and local governments during the implementation of the planning-programming budgeting system included the lack of managerial capacity to implement the reforms, the high financial and administrative costs, and the lack of support from elected official (Lee, Johnson & Joyce, 2008). However, one of the major contributions of PPBS to the budgetary reform movement is the use of program performance information to make the resource allocation decisions during the budgeting process (Lee, Johnson & Joyce, 2008).

Kelly and Rivenbark (2003) argue that in 1965, President Johnson mandated the use of planning programming budgeting system based on the agency program structure and program outputs. It was a planning oriented budget reform whose main objective was to use the Cost-Benefit analysis to identify alternative ways of achieving the proposed objectives. The budgeting system was based on the use of output measures to monitor the attainment of program goals and objectives (Kelly & Rivenbark, 2003). PPBS gave rise to rational decision making process during

the budgeting process where several alternative ways of achieving long-term policy objectives were analyzed and considered (Kelly & Rivenbark, 2003).

2.2.4. Management by Objectives

Management By Objectives (MBO) was initiated by President Nixon in 1973 primarily as a federal management improvement initiative (GAO, 1997). The main objectives of MBO were to centralize decision making, to allow managers the flexibility in deciding how to achieve the set goals, and to monitor the progress towards goal achievement (GAO, 1997). The performance monitoring was based on the agency output and processes, and managers were held accountable for achieving the objectives set jointly by the supervisors and the subordinates (GAO, 1997). Management by objectives was a participative management approach that focused on the workload by setting objectives for the organizational units, the managers, and the workers. It specified what the staff were expected to accomplish within a given period of time (Lee, Johnson & Joyce, 2008). MBO called for the involvement of all workers and managers at all levels of the organization in setting the goals and the objectives for the organizations (GAO, 1997).

Kelly and Rivenbark (2003) explain that MBO was attractive to President Nixon because it was a means of aligning the activities of the federal agencies to their objectives, and a way of solving the management problems in the federal

bureaucracy. The Office of Management and Budgets (OMB) directed the federal agencies to set objectives based on three criteria: The issue was important to the president, the objective could be achieved, and the implementation of the objective would not require additional financial and legislative resources (Kelly & Rivenbark, 2003). However, management by objectives failed because objectives that were important to the president were not necessarily important to the legislative branch of government. The quantifiable objectives were not necessarily more important than the non-quantifiable objectives, and the cost-free objectives were difficult to find in government agencies (Kelly & Rivenbark, 2003).

2.2.5. Zero-Based Budgeting

The Zero-Based Budgeting (ZBB) was introduced by President Carter into the federal government budgeting process in 1977 to change the federal government budgeting process (Rosenbloom, 1993). The federal agencies were challenged to set priorities and to consider alternative funding levels for agency programs. ZBB main objective was to link the budgetary resources to the program outcomes (Rosenbloom, 1993). The agencies were not expected to fund the programs based on the traditional incremental budgeting process, but to set priorities based on different levels of funding for the programs (Rosenbloom, 1993). ZBB was first used in the department of Agriculture in 1960s, but failed to have any major impact on the budgeting process (Lee, Johnson & Joyce, 2008).

The major issues raised about ZBB included analysis of the old budgetary issues that had been resolved, and the mandatory programs that had been passed by the elected officials could not be eliminated (Lee, Johnson & Joyce, 2008). The excessive paperwork generated by the process could not be analyzed by decision makers and used to make timely decisions (Lee, Johnson & Joyce, 2008). ZBB proponents assumed that time spent on evaluation of the programs during the budgeting process could be justified by the savings realized from the eliminated programs. However, due to the political nature of budgetary process, few programs were eliminated in any financial year because of the resistance from program sponsors such as the legislatures (Lee, Johnson & Joyce, 2008).

Zero-based budgeting became more popular in 1979 when President Carter introduced a new version of the budgeting based on decision packages, alternative funding levels, and ranking of programs based on decision packages (Lee, Johnson & Joyce, 2008). The budget requests were based on the decision packages that numbered about 10,000 per year, and the funding levels for each package was based on three levels: minimum, current, and enhanced levels (Lee, Johnson & Joyce, 2008). The minimum funding level proposed providing service below the present operating targets; current funding level proposed providing services at present operating targets; while enhanced funding level involved providing improved services above present operating targets. The decision

packages based on the alternative funding levels were then ranked in order of importance (Lee, Johnson& Joyce, 2008).

The Zero-based budgeting at the federal level was criticized for the excessive amount of time spent on the preparation of budget requests, and the minimum funding levels did not conform to the statutes that specified the operating levels for some programs (Lee, Johnson & Joyce, 2008). The excessive paperwork generated by the process did not have major impacts on policy making because decision makers did not have enough time to go through volumes of information produced during the budgeting process (Lee, Johnson & Joyce, 2008). The idea behind Zero-Based Budgeting was that each federal agency was to propose a new budget every year without taking into account the previous year allocations. This was meant to make the government more flexible, to eliminate the poor performing programs, and to improve the effectiveness of federal agencies by assessing annually their entire budget requests. The ultimate result was the allocation of resources to areas of greatest social needs (Lee, Johnson & Joyce, 2008).

2.2.6. Performance-Based Budgeting

Performance budgeting has been an important concept for the public expenditure management for decades (Robinson & Brumby, 2005). The renewed interest in performance-based budgeting started to spread in the 1990s as part of a

broader set of reform efforts in the public sector. The reforms were aimed at ensuring that public resources were utilized efficiently to produce public goods and services that were of most benefit to the citizens (Robinson & Brumby, 2005). The "new" notion of the performance based budgeting draws ideas from the earlier performance budgeting initiatives such as the program budgeting and the planning-programming budgeting systems. However, it differs from these earlier initiatives because it focuses on outcome measures rather than on tasks, activities or output measures (Tyler & Willand, 1997). The federal reform efforts from 1990s that emphasized outcome based measurements include the National Performance Review (NPR), the Government Performance and Results Act (GPRA) of 1993, the Performance Assessment Rating Tool (PART) of 2004, and the GPRA Modernization Act of 2010.

2.2.7. Government Performance and Results Act of 1993

The enactment of GPRA (1993) law resulted from a congressional and a presidential concern about government waste, inefficiency, lack of program goals, and lack of program performance information (Pfeiffer, 1997). The purpose of GPRA (1993) legislation was to change the government operations by addressing the problems of efficiency and effectiveness of the government agencies. The federal agencies were expected to develop performance plans based on five-year strategic plans, stating the program goals with performance measures based on

outcomes (Pfeiffer, 1997). The passage of GPRA (1993) coincided with the launch of National Performance Review in 1993 that was aimed at redesigning the federal agency operations to make them more efficient and effective through the development of performance benchmarks (Pfeiffer, 1997). The Reinvent Government movement of the 1990s proposed the replacement of the bureaucratic model of the government by a government that empowers its citizens, contracts out non-essential services, and encourages competition between agencies (Pfeiffer, 1997).

During the 1992 presidential campaigns, Bill Clinton and Al Gore promised to change the way federal government work by initiating major reforms aimed at improving the efficiency and the effectiveness of government agencies (Pfeiffer, 1997). They were influenced by the ideas in David Osborne and Ted Gaebler's book, "Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector" (1992), in which the authors enumerated the success stories of government reform efforts at the state and local governments (Pfeiffer, 1997). Osborne and Gaebler (1992) argue that the government's bureaucratic paradigm was no longer relevant in the face of the advances in information technology, and should be replaced with flexible organizations that respond quickly to changes in the environment (Pfeiffer, 1997). The idea was to create a government that empowers its citizens, contracts out non-essential services, and encourages competition between the public and the private sectors (Pfeiffer, 1997). The

objective was to use the private sector concepts to develop principles that would be used to introduce the entrepreneurial spirit in government operations by empowering the frontline employees (Pfeiffer, 1997).

The main objective of Government Performance and Results Act was to change the focus of government agency personnel from input measures and processes to output and outcomes measures during the budgeting process (Jones & McCaffrey, 2010). In 1994, the Office of Management and Budget (OMB) based the funding of agency programs on program performance measurements information as specified in the 1993 Government Performance and Results Act. The aim was to use the performance measurements information during the budgeting process to improve the decision making and efficiency in the allocation of resources at the federal government (Jones & McCaffrey, 2010).

The Management of the GPRA was put under the Office of Management and Budgets (OMB) and the Chief Financial Officers (CFO) council. The preparation of annual plans based on five-year strategic plans started in 1999 when OMB issued instructions specifying the information requirements, the guidelines on the budget preparations, and the implementation process for the GPRA (Jones & McCaffrey, 2010). However, the OMB did not give specific guidelines on the format and structure of the annual plans to be used by the federal agencies. As a result, there was lack of uniformity and poor quality of annual plans across the federal agencies due to differences among the federal

agencies and the complicated nature of the GPRA implementation process (Jones & McCaffrey, 2010). A review carried out by General Accounting Office (GAO, 1997) found that the goals and the objectives of most federal agency annual plans were vague, and could not be accurately measured (Lee, Johnson & Joyce, 2008).

McNab and Melese (2003) argue that Government Performance and Results Act was another attempt at introducing the performance measurement systems during budgeting process at the federal government (McNab & Melese, 2003). The earlier attempts to introduce the performance measures in the budgeting process failed due to the administrative problems, insufficient attention to accounting and information systems, and the lack of incentive systems (McNab & Melese, 2003). The authors further argue that the GPRA could have had a significant impact on the federal budgeting process if it changed the focus from annual appropriations to the long-term strategic objectives. However, the Act was a significant move to transform the federal budgeting process from an emphasis on inputs and outputs to an emphasis on outcomes (McNab & Melese, 2003).

According to Radin (1998), Government Performance and Results Act was a response to the 1990s demand by citizens for improved provision of goods and service in the public sector. The GPRA legislation was meant to hold the agencies accountable for the program outcomes, the quality of services, and to improve the congressional decision making through the use of performance information on program objectives and effectiveness. Radin (1998) explains that the GPRA was

based on the following three major requirements: Strategic plans, annual performance plans, and annual program performance reports. The agencies were expected to develop strategic plans detailing the agency's missions, goals, and objectives based on program outcome measures (Radin, 1998). The annual performance plans were based on performance measurements for measuring the outputs, outcomes, and the service delivery levels (Radin, 1998). The annual program performance reports were expected to compare the actual program performance against the set objectives. The agencies were expected to explain variances where targets were not met, accompanied by plans to achieve the set targets in future (Radin, 1998).

However, Government Performance and Results Act implementation lacked the incentive mechanisms to reward the agencies or staff who achieved the targeted cost savings and the efficiency improvements (McNab & Melese, 2003). The Congress and the agencies did not allocate sufficient resources to link inputs to outcomes, or carry out performance audits. McNab and Melese (2003) suggest that for the successful implementation of the GPRA, the Congress should have allowed agencies to transfer savings between fiscal years, and audited performance of the federal agencies. More resources should have been invested on training of staff, accounting systems, and information systems used during the budgeting process (McNab & Melese, 2003). The Act was a vital mechanism by which the agencies and the Congress could participate in the establishment of the

goals and the objectives as a foundation for performance-based management process. The GPRA vision of linking the performance information to the cost savings was a vital step towards the successful implementation of performance measurement systems during the budgeting process (McNab & Melese, 2003).

2.2.8. The Program Assessment Rating Tool

The Program Assessment Rating Tool (PART) was a budget reform initiative proposed by President George W. Bush in 2004. It was aimed at linking the federal funding to performance measures, and focused on individual program achievements (Jones &McCaffrey, 2010). PART graded federal programs based on four categories: Program purpose and design, strategic planning, program management, and program results. The grades ranged between 0-100, based on the responses from questionnaires that covered the four program categories (Jones &McCaffrey, 2010). The budget allocations were based on PART scores, as programs with higher scores received higher budget increases (Jones &McCaffrey, 2010). PART assessed how weak or strong programs were in terms of performance and used the evidence from program performance information to make funding decisions during budgeting process (Gilmour & Lewis, 2006).

Mullen (2006) explains that Performance Assessment Rating Tool was developed by Office of Management and Budget (OMB) to introduce a more open and objective way of monitoring the performance and effectiveness of federal

government programs. The program questionnaires were designed to assess the strengths and the weaknesses of the federal programs, and to introduce a consistent way of rating the agency programs (Mullen, 2006). Some of the impacts of Performance Assessment Rating Tool include the introduction and the use of a more transparent way of reporting program performance information (Mullen, 2006). However, some of the major challenges of Performance Assessment Rating Tool include the problem of assigning single rating score to programs that had multiple goals and objectives, and the problems experienced by the Office of Management and Budgets staff in defining acceptable performance measures (Mullen, 2006).

2.2.9. Government Performance and Results Modernization Act of 2010

President Barack Obama signed into law the Government Performance and Results Modernization Act of 2010 aimed at modernizing the government's performance management framework (OMB, 2010). The Act focused on retaining and expanding the Government Performance and Results Act of 1993 to improve the effectiveness and efficiency of the federal government agencies (OMB, 2010). The agencies were expected to set clear and ambitious goals; measure, analyze, and communicate performance information; and to conduct frequent performance reviews on agency priority goals (OMB, 2010).

The Government Performance and Results Modernization Act emphasized the use of goals and performance measures to improve the program outcomes, and to report performance against the set goals (OMB, 2010). President Barack Obama stressed the need to focus on programs and policies that work (Joyce, 2011). The president created the position of Chief Performance Officer to coordinate the agency programs and to develop a performance agenda for the administration (Joyce, 2011). The administration's main focus has been on the following four initiatives: the assessment of the effectiveness of American Recovery and Reinvestment Act, the identification of underperforming programs, the establishment of high priority goals, and the program evaluation (Joyce, 2011).

2.3. Performance Measurements and Budgeting Process in State Governments

According to Broom (1995), the governments are putting greater emphasis on performance based management systems because of the need to specify mission and set objectives for the public agencies. The governments are expected to report the results of achievements, to use performance measurements to make decisions, and to be accountable for results. Broom (1995) carried out surveys in five states (Texas, Oregon, Florida, Virginia, and Minnesota) to assess whether performance measurements are sustainable, used for making decisions, and what factors influence the success of performance measurement programs.

The results of the survey show that different states apply different approaches to set and to prioritize their objectives, and to improve accountability (Broom, 1995). The major critical success factors that influence the development of performance measurement systems include the identification, by stakeholders, of specific needs to use the performance measurement information, the incorporation of performance information into accounting systems, and the use of performance measurements information during the budgeting process (Broom, 1995). The leadership of both the legislature and the executive and adequate time for developing performance measures were found to be among the other critical success factors affecting the development of performance measurements (Broom, 1995).

Melkers and Willoughby (1998) surveyed fifty states to determine the extent to which performance based budgeting has been implemented. The authors defined Performance-Based Budgeting (PBB) as "requiring strategic planning regarding agency mission, goals and objectives, and the process that requires quantifiable data that provide meaningful information about program outcomes" (p. 66). The survey assessed both the executive and the legislative requirements for performance based budgeting systems, and found that 47 out of 50 states had performance-based budgeting requirements (Melkers & Willoughby, 1998). Although 31 states had legislative requirements and 16 states had executive requirements, there were no significant differences in terms of the development of

performance measures in states with the administrative or the legislative requirement for performance budgeting systems. The study indicates that most states had implemented performance based budgeting, and had established offices to oversee the implementation of the performance based budgeting process in their states (Melkers & Willoughby, 1998).

According to King (1995), the renewed interest in the implementation of performance based budgeting in the government agencies can be attributed to the feelings among citizens that the governments do not pay attention to their needs for efficient provision of goods and services. The citizens, as taxpayers, are entitled to know how the governments spend their tax dollars, and the quality of services they receive from the government agencies (King, 1995). The demands by citizens have put pressure on the governments to assess the provision of services, using performance measurement systems, and to communicate to the public, the progress towards the achievement of the set goals and objectives (King, 1995).

A study by Melkers and Willoughby (2000) focused on the extent to which performance based budgeting (PBB) has been implemented in the states, and whether it has been effective in influencing how decisions are made about allocating funds during the budgeting process. The results show that there are differences in opinion between states as to how effective performance budgeting is in influencing the budgetary decision making (Melkers & Willoughby, 2000).

The states that have fully implemented PBB have not experienced greater success with the budget allocation decisions, specifically changing the level of appropriations during the budgeting process. Performance based budgeting was found to be effective in improving the program outcomes, decision making, and communication between the agency staff and the legislatures. However, the research found that PBB has not been effective in reducing the cost and duplicative services (Melkers & Willoughby, 2000).

Jordan and Hackbart (1999) surveyed state budget officers to assess the implementation status of performance budgeting processes in the states. The authors defined performance budgeting as "preparing the budget document with identifiable performance measures" (p. 69*).* The performance based budgeting that focus on program outcomes, efficiency, and effectiveness can help managers prioritize the programs based on performance information. However, the use of performance budgeting is not uniform across states, and shows significant differences in implementation priorities (Jordan & Hackbart, 1999). The study shows that the first step towards the development of performance budgeting is the identification of the performance measures to be used to monitor the progress towards achieving the program objectives. Although performance measures are important in providing information concerning the government operations, they do not necessarily influence resource allocation decisions during the budgeting process (Jordan & Hackbart, 1999).

Lu (2007) studied the role played by the Georgia state agencies' budget officers in designing and using performance measures during performance based budgeting in the state. Performance budgeting was defined as "the use of performance information in resource allocation derived from strategic planning" (p.2). The most important factor promoting the development of performance budgeting is the active participation of stakeholders because they play a crucial role in linking the performance measurement information with the budgeting process (Lu, 2007). The participation by stakeholders in the process of designing performance measures results in a sense of ownership and support for the programs (Lu, 2007). The agencies that use performance measures for management decision making are more likely to adopt performance budgeting, after setting the goals and objectives through strategic planning, and then developing performance measurement systems to monitor progress towards the attainment of the set goals and objectives (Lu, 2007).

Willoughby (2004) conducted a study of state governments' budget officers and agency personnel to assess their view on how performance measurements are used during the budgeting process. The results show that some performance measures, such as input and output measures are more popular with budget officers because they are easy to measure and calculate. The outcome and quality performance measures are not used more frequently because they are difficult to measure and quantify (Willoughby, 2004). Performance measurements were

found to be more effective in improving the communication between departments and the budget offices, and in improving service quality and information about the program goals and objectives (Willoughby, 2004).

Boudreaux (2006) carried out a multi-state survey to determine the extent to which the legislative involvement affects executive development of performance measures during the performance based budgeting process. The legislatures have not been supportive of the implementation of the budget reform movement in the states for a long time (Boudreaux, 2006). Involving them as active participants during the development of performance measurements is assumed to increase the possibility of successful implementation of the proposed reforms (Boudreaux, 2006). The results from the survey show that a participative approach by both the executives and legislatures is important during the development and integration of performance measures with the budgeting process (Boudreaux, 2006). The legislative participation in overseeing the use of performance information was related to more frequent use of performance measures during the appropriation process (Boudreaux, 2006). The findings of this study is consistent with the theory of bureaucratic politics that assumes that both the legislatures and the executives are involved in policy making and policy implementation processes in the government agencies (Frederickson & Smith, 2003).

Lee and Burns (2000) surveyed the state budget officers on the use of performance measurements in state budgeting between 1990 and 1995, and to

assess progress or lack of progress in the use of performance measurements. The results indicate that states have increased the use of performance measures, but some measures, such as output measures, were found to be more popular than outcome measures because they are easy to understand and calculate (Lee & Burns, 2000). There are great variations among the states on the extent to which performance measures are being used. Some states use performance measures in most service functions, while other states use performance measures in limited service functions (Lee & Burns, 2000).

Another survey by Lee and Burns (2004) analyzed the major changes in the use of performance measurements in the state budget process between 1970 and 2000, with particular attention to accounting systems and budget preparation documents. The results of the study indicate that output measures were increasingly being incorporated in budget documents, but outcome measures were not being used or discussed more frequently than in earlier years (Lee & Burns, 2000).

2.4. The Legacy of the Past Public Budgeting Reforms

The first Hoover commission of 1949 introduced the concept of performance information in the president's budget, and shifted the focus of the federal agencies from input to output performance measures. The Planning-Programming-Budgeting system (PPBS) of 1960s was a planning oriented budget reform movement whose objective was to provide alternative ways of achieving the

proposed agency objectives (Kelly & Riverbank, 2003). The Management by objective (MBO) reform introduced in 1970s was aimed at centralizing the decision making and allowing the managers to have the flexibility in setting the goals and monitoring the progress towards achieving the set goals (GAO, 1997).

The Zero-Based budgeting (ZBB) was introduced in 1970s and focused on alternative funding levels for the agency programs (Rosenbloom, 1993). The Government Performance and Results Act (GPRA) of 1993 called for the development of performance plans based on five-year strategic plans focusing on outcome measures (Kravchuk & Schack, 1996). The Program Assessment Rating Tool (PART), introduced in 2004, was aimed at linking funding of the federal programs to performance measures and making the funding decisions based on performance (Gilmour & Lewis, 2006). The Obama administration enacted the GPRA Modernization Act of 2010 and created the office of Chief Performance Officer to develop a performance agenda with a focus on the program evaluation and the setting of high priority goals for funding purposes (Joyce, 2011).

However, it is difficult to assess how successful the past budget reforms have been in achieving their stated objectives because of partisan and political nature of the budgeting process (Light, 1997). The changes that occur in both the legislative and the executive branches of government after elections can affect the development of performance measures as the experienced staff leave and the leadership changes (Ho, 2011). The Planning programming budgeting system,

introduced by President Johnson (Democrat) in 1960s was replaced by Management By Objectives during President Nixon's (Republican) tenure in 1970s, MBO was replaced by ZBB by President Carter (Democrat) in 1978 (Light, 1997).

The Zero-Based Budgeting was replaced with the Total Quality Management (TQM) introduced by President Reagan (Republican) in early1990. In 1993, the TQM was replaced with the Government Performance and Results Act (GPRA) under President Clinton's administration (Democrat). George W. Bush replaced the GPRA with the Program Assessment Rating Tool (PART) in 2004, and then PART was replaced by President Obama's administration with the GPRA Modernization Act in 2010 (Joyce, 2011).

2.5. Performance Measurements and Budgeting in County Governments

2.5.1. County Governance Structure

Cigler (1995) explains that the County governments play different roles that vary from state to state. The small rural counties offer limited services that include management of county courthouses, jails, roads, and public safety. The large urban counties offer a variety of services that includes land records, property tax assessments and collection, law enforcement, education, parks and recreation, judicial administration, emergency management, transportation, and welfare administration (Cigler, 1995).

The administrative structures of the county governments differ from state to state. Cigler (1995) argues that more than 40% of American counties have the commission form of government, while others have the commission-administration or the council-executive form of governments. The executive authority in most counties with the commission form of government is vested in several autonomous or semi-autonomous county offices. The decentralization of the executive authority in the counties limits the ability of the county governments to make policy decisions that affects the overall operations of the counties (Cigler, 1995; DeSantis & Renner, 1994). The result is the lack of centralized controls that can be used by the county governing bodies to manage the administrative affairs of the counties. The commission forms of governments have no single executive with the overall authority to take responsibility and to be accountable to the county residents in terms of the provision of goods and services (Cigler, 1995).

Accountability has been one of the major challenges in the administration of county governments because of the decentralization of executive authority to county departments, and the political nature of some county offices (Cigler, 1995). For example, the elective county offices such as sheriffs and prosecuting attorneys are greatly influenced by partisan politics and powerful interest groups (Cigler, 1995). These offices are more autonomous or semi-autonomous county agencies that have significant decision making powers over the policy making, the budget decisions, and the operational issues (Cigler, 1995). The fragmentation of

executive authority affects the ability of the county governments to be responsive to the demands of their residents and to offer efficient and effective services (Cigler, 1995).

The counties were established as an extension of the state government to provide the local services such as judicial and electoral services (Cigler, 1995). The form of government in counties is dictated by the population size and the metropolitan status of the county - whether the county is located in the rural or in the urban areas (Cigler, 1995). The large urbanized counties are moving towards the professionalization of their governance structures, with appointed administrators, or elected executives to the improve responsiveness and the efficiency of service deliveries (DeSantis & Renner, 1994). However, the counties do not have control over the form of government they can adopt because the form of the county government is determined by the state constitution (Cigler, 1995).

One of the major challenges faced by the county governments is how to develop a centralized administrative structure that can assist the governing boards in the budget preparations and administrative issues. Cigler (1995) argues that the establishment of central administrative offices with skilled personnel is expensive, and can only be possible if the county is large enough to achieve economies of scale in centralized administrative functions such as purchasing, personnel, and budget administration. Most counties have low population and limited property tax base that is not sufficient to generate the economies of scale needed to deliver

most services to county residents (Cigler, 1995).This affects the hiring of professional staff and the acquisition of modern equipments that are necessary for delivery of efficient services to residents (Cigler, 1995).

2.5.2. Texas County Governments

There are 254 counties in Texas, with population sizes ranging from 82 in Loving County to 4 million in Harris County (U.S. Census Bureau, 2010). The administrative structure of Texas counties consists of the County Commissioners Court, which is the governing body of the county, and consists of County Judge and four County Commissioners elected by the voters (Brooks, 2012). The Commissioners Court is authorized by law to divide the county into four individual Commissioners precincts. The Commissioners Court can exercise powers over the county operations such as financial management, public officers and employees, regulatory matters, and property acquisition (Brooks, 2012).

The County Judge is the presiding officer of the county commissioner's court and the judge of the county court (Brooks, 2012). The judge is in charge of administrative responsibilities such as financial management, judicial responsibilities, elections, special districts, general administration, and regulatory matters (Brooks, 2012). The County judge appoints the County auditor who is responsible for overseeing the financial operations of county offices, especially financial accounting and recordkeeping responsibilities (Brooks, 2012).

The other elected county officials in Texas counties include County Treasurer, County Clerk, Sheriff, Constable, Attorney, Surveyor, and Justice of the Peace (Brooks, 2012). The elected officials are answerable to both the electorate and the elected Commissioners who allocate the resources and decide on tax rates (Scheps, 2000). The Texas County governments have no hierarchical structure and the elected commissioners serve as full time managers as well as legislatures (Scheps, 2000). The state legislatures control significant portion of county revenues. The County auditor acts as the county chief accountant, and is accountable to the state district judges (Scheps, 2000). The diffuse and complicated organizational structure can make the development of performance measures difficult and complicate efforts to manage for results in the Texas County governments (Scheps, 2000).

2.6. The Development of Performance Measures

Performance measurements have traditionally focused on output and cost-efficiency measures (Ho, 2011). But federal legislative initiatives and the pressure from citizens and the professional organizations have changed the focus of performance measurements from output to outcomes measures, and the adoption of results-oriented measures as tools for accountability (Ho, 2011). Behn (2003) argues that public managers use performance measures to "evaluate, control, budget, promote, celebrate, learn, and improve" (p. 586). Behn (2003) points out

that it is not possible to find a single measure of performance that will be applicable to all the measures. Instead, managers should be clear about what they want to measure, and what managerial purposes the measures are to be applied to (Behn, 2003). Managers can select measures that are specific to the purpose to which it is being applied. The performance measures can be of great help in comparing similar activities across the departments or the counties (Behn, 2003).

Ho (2005) defines performance measurement as "the use of quantitative indicators to regularly measure the results and efficiency of public programs that the clients, customers, or the stakeholders expect" (p. 217). Advocates of performance measures argue that it can assist managers in the development and the justification of budgets, and in the allocation of resources (Ho, 2005). Developing performance measures during performance based budgeting can help managers in communicating the results of their operations to the public, and as a way building trust in the government. However, opponents of the use of performance measurements in government argue that it has not made any significant impact on budgeting and policymaking processes in county governments (Ho, 2005).

Wang (2002) defined performance measurement as "the use of quantitative indicators to evaluate organizational activities, efforts, and achievements" (p. 26). The author assessed the impact of performance measurements in the U.S. city governments and found that some city governments link performance measures to

strategic planning, while other city governments benchmark performance measures with other government institutions (Wang, 2002). Managers develop performance measurement to set service goals; to monitor the efficiencies, effectiveness, and quality of services provided; and to use performance measures as accountability tools to improve the citizen trust in the government through reporting of performance measures to the public (Wang, 2002). The results of the study by Wang (2002) indicate that performance measurement impact is more pronounced in internal management of operations, but very limited in the resource allocation decisions and the use by citizens. The resource allocation decision is a political issue, and performance measures are among the factors that are considered during the resource allocation decisions by the stakeholders (Wang, 2002). The difficulty in relating the resource allocation decisions to performance measures is one of the major problems encountered during the development of performance measures in the governments (Wang, 2002).

The use of performance measurements in the budgeting process became increasingly more popular from 1980, according to a survey of the municipalities and the county governments (Ho, 2011). The professional organizations, such as Government Finance Officers Association, contributed to the impetus to apply performance based budgeting and measurements at the local governments (Ho, 2011). However, concerns have been expressed about the political nature of the budgeting process. Even if the use of performance measurements get the political

support, changes in both the legislative and the executive branches of the government can affect the development of performance measures as the experienced staff leave and the leadership changes (Ho, 2011).

Performance budgeting main objective has been to shift the focus of budgeting, management, and accountability from inputs and outputs to outcome measures (Curristine, 2005). This is achieved by allowing managers to have the flexibility to make the decisions that improve the performance, and be held accountable for the results (Curristine, 2005). The ultimate result is better decision making by the legislatures and the civil servants leading to improved performance and accountability to citizens (Curristine, 2005). Melkers and Willoughby (1998) argue that the starting point in the use of performance based budgeting is for the organizations to engage in the strategic planning process to set missions, goals, and objectives for the organizations. The next step is the development of performance measures that is used to monitor and assess the attainment of the set objectives. The performance measures are integrated into the budgeting process to improve the quality of decision making, to improve the communication between departments, and as a basis for the allocation of resources (Melkers & Willoughby, 1998).

Bryson (2011) defines strategic planning as "a deliberate, disciplined approach to producing fundamental decisions and actions that shape and guide what an organization (or other entities) is, what it does, and why"(pp.7-8). It is a

participative approach that requires the collection and analysis of the current status of the organization, setting the future direction and goals, and developing plans of how the organization will achieve its intended objectives. It involves stakeholders in setting the visions, missions, goals, and objectives of the organizations (Bryson, 2011).

Poister and Streib (2005) study of the use of the strategic planning in municipal governments reveal that its use is not widespread, but those who have engaged in the strategic planning believe that it is useful in setting the strategic objectives for their organizations. The factors that influence the implementation of strategic planning in organizations include a participative management approach that involves both internal and external stakeholders of the organization (Poister & Streib, 2005). The allocation of resources in the budget to fund the strategic plans, and the setting of the individual goals aligned to the strategic plans of the organization are important elements of the strategic planning process. Communicating performance measures to external stakeholders can support the application of strategic planning process in organizations and help gain external support (Poister & Streib, 2005).

Berry and Wechsler (1995) studied the use, methodology, and objectives of strategic planning in the state government and found that its use is widespread and mainly driven by the agency leaders who are motivated by their past experience with the strategic planning in other organizations. The main objectives of

implementing strategic planning in the states is to set clear policy directions for resource allocation priorities during the budgeting process because of budgetary and fiscal pressures (Berry & Wechsler, 1995).

2.7. The Benefits of Developing Performance Measurements

Melkers and Willoughby (2005) studied how performance measurement information influences the communication and decision making during the budgeting process. The study examined how administrators and budget officials perceive the effectiveness and the applicability of performance measurements to the management and the budgeting process. The results of the study reveal that performance information improves the way people communicate within the organizations, and provides more useful information that is used to make decisions during the budgeting process (Melkers & Willoughby, 2005).

Willoughby (2002) conducted research at the state government level to assess the usefulness of performance measurements for decision making during the budgeting process. The results indicate that the use of performance measurement is widespread in the state governments and has greatly improved communication among budgeting staff, and greater understanding of the results of government operations. However, the results also indicate that performance measurements have not had major impacts on the resource allocation decisions during budgeting process (Willoughby, 2002)

Performance measurements are used by governments to change the way decisions are made during the budgeting process. Melkers (2006) carried out a survey to determine how the development of performance measurement changes the communication patterns between departments and stakeholders during the budgeting process. The results show that the use of performance measures improve the communication between policymakers, budget officers, agency staff, the media, and the public (Melkers, 2006). The study indicates that the use of performance measures as a communication tool in government agencies is changing the organization culture and learning, as the agencies adopt reforms aimed at improving the budgetary decision making processes (Melkers, 2006). The changes can be more effective if performance measurements are linked to the broader organizational processes such as strategic planning that focus on the organization's missions, goals, and objectives (Melkers, 2006).

According to Melkers (2006), the proponents of performance measurement argue that its use improves the availability of information that policymakers and budgeting staff can use to make better and informed performance-based decisions. The routine use of performance measures improve communication among the stakeholders involved in budgetary decision making within the agency, stimulate informed debates about government services, and provide additional and relevant information during the budget decision making processes (Melkers, 2006). However, the development of performance measures depends on the leadership

support, the participation by all stakeholders, and the changing attitudes about the value of the performance measurements to the organizations (Melkers, 2006).

2.8. The Challenges of Developing Performance Measurements

Berman (2002) argues that the proponents of performance measurement usage claim that it is useful in tracking the outcome measures so that adjustments can be made to improve productivity and also to benchmark with other institutions. However, the author explains that the current status of the development of performance measures in the government agencies is not very widespread because of measurement problems and the insufficient capacity to use information technology (Berman, 2002). The development of performance measures depends on the institutional capacity to acquire and use information technology. Berman (2002) explains that only 57.5% of the counties that use performance measurements had adequate information technology to handle performance data, and only 29.1% of the counties were capable of conducting valid scientific surveys. Berman (2002) argues that counties are able to measure the activities and outputs more easily than the outcomes because most counties do not have the capacity to collect the outcome data.

A study conducted by Berman and Wang (2000) to assess whether county governments have the capacity to develop performance measures, found that the development of performance measurements is greatly influenced by the county's

organizational capacities. These include the capacities to collect, analyze, and interpret performance data; the availability of adequate technology; and the support from elected officials (Berman & Wang, 2000). The study found that the development of performance measures in organizations increase the awareness and the satisfaction with the performance outcomes (Berman & Wang, 2000).

Wang (2000) conducted a national survey of county governments to assess the problems experienced by the governments during the development of performance measures and the integration of performance measures with the budgeting process. The findings of the study show that performance measures are applied to some stages of the budgeting process, and that most counties use performance measurements for communication during the budget process rather than making the resource allocation decisions (Wang, 2000). Budgeting is a political process, and some counties are experiencing political pressure not to use performance measurements because the elected officials do not want the resource allocation decisions made for them (Wang, 2000).

Ammons (2002) explains that many performance measurement systems are poorly designed and result in fewer performance improvements. The improvements that are realized as a result of the usage of performance measures are not recognized or rewarded. Ammons (2002) argues that the key to developing effective performance measurement systems is to develop measures that "cause supervisors and operating personnel to reflect thoughtfully on the

adequacy of services, and to consider the strategies for service improvements" (Ammons, 2002, p. 347).

Hatry (2002) argues that most government performance measurement systems have not focused on how the information generated can be used to improve the performance of programs, and have instead focused on generating performance information. This is due to the fact that pressure to measure performance has generally originated from the external stakeholders concerned with the government accountability, and not from the agency managers seeking information to improve the performance of their programs (Hatry, 2002). The author suggests that agency managers can take the initiative internally to encourage use of performance information by collecting and reporting the outcome data more frequently based on the service characteristics (Hatry, 2002).

One of the major requirements for developing performance measurements is that the performance data generated should be verified for accuracy, reliability, and comparability (Rivenbark & Pizzarella, 2002). The major factors that might affect the quality of performance data generated include organizational changes, interpretation of measures, reporting capabilities, and functional boundaries. The organizational changes include personnel turnovers, changes in the service delivery, and the allocation of resources (Rivenbark & Pizzarella, 2002). Personnel turnovers can affect data collection, analysis, interpretation, and reporting because learning curve exists in the use of performance measures,

resulting in the need for training and technical assistance (Rivenbark & Pizzarella, 2002). The interpretation of performance measures depends on how agencies define performance measures, and the goal of the agencies should be to ensure that there is consistency in the interpretation of the performance data over period of time so that performance data is comparable (Rivenbark & Pizzarella, 2002).

The resource allocations are done based on departmental functions which are important for measuring both input and output of services delivered by the departments (Rivenbark & Pizzarella, 2002). Defining services inputs for departments with overlapping functions is difficult, and can affect the accuracy and the reliability of performance data. Reporting capabilities affects the accuracy of the agency data because the reporting process must capture all applicable performance data in the same format and accurately (Rivenbark & Pizzarella, 2002).

Streib and Poister (1999) argue that despite the fact that the concept of performance measurement has been around since 1940s, it has not received serious attention over the last five decades. The current upsurge in the call to implement performance measurement systems has come mainly from professional public management associations such as National Academy of Public Administration, American Society for Public Administration, Government Accounting Standard Board, and the International City/County Management Association (Streib & Poister, 1999). The authors explain that effective

performance measurement systems should meet standards for validity, functionality, and legitimacy.

Validity standards for performance measurement system should address whether performance measures are useful and desirable, rather than focusing on performance data availability (Streib & Poister, 1999). Agency managers should focus on pursuing best practice in their fields and benchmarking with similar organizations. The legitimacy standards should focus on the acceptance of the performance measures by lower level operations staff, rather than imposing measures on them from top-down. The lower level staff should be involved in the development, implementation, and use of performance measures (Streib & Poister, 1999).

Ho and Coates (2002) argue that pressure to develop performance measurements has largely been targeted at the needs of agency managers with little regards to citizens. The lack of involvement of citizens in the development of performance measures is problematic because citizens are not aware of what the government does with their tax dollars, and they do not have the information necessary to participate in the democratic process (Ho & Coates, 2002). The lack of citizen participation can reduce the significance and value of performance measures to the legislatures, whose support is crucial to the development of performance measures in government institutions (Ho & Coates, 2002).

Kasdin (2010) suggests that the use of performance measures can be more effective if they are tied to incentive systems. One of the main objectives of performance-based budgeting is to develop performance measurement systems that can be used to assess progress towards the achievement of the intended objectives (Kasdin, 2010). The incentives tied to performance measures motivate the agency staff, improve program performance and staff commitment towards the achievement of the stated objectives (Kasdin, 2010). The types of incentives used to motivate the agency staff includes financial rewards tied to performance measures and directed to those involved in the program as a whole, to groups or individuals. The rewards can also be in the form of promotion or recognition by the management to those individuals who are part of a program that achieve the set goal (Kasdin, 2010).

Caiden (1998) explains that the development of meaningful performance measures has been a difficult task for most public agencies due to lack of organizational capacity and the commitment to change from the status quo. This is significant especially when the budgetary resources are limited and skilled personnel are not available (Caiden, 1998). The use of performance measures to allocate resources during the budgeting process can pose significant challenges if performance measures are not clearly defined because it is difficult to set performance targets and allocate resources if performance cannot be accurately assessed (Caiden, 1998).

Developing outcome measures is difficult for agencies because “not everything can be quantified in a meaningful way” (Caiden, 1998, p. 41). Differences exist as to how outcomes are defined because some outcomes can only be assessed after several years, and there is need to develop interim measures (Caiden, 1998). Assessing outcome measures become more difficult when they are tied to strategic planning because it is difficult to develop clear, quantifiable objectives where agency missions, goals, and objectives are not clearly defined (Caiden, 1998).

Caiden (1998) explains that the long-term strategic goals present difficulties in translating them into annual performance goals. As a result, differences emerge over priorities, approaches and roles of agency management on specific actions that should be taken to make reporting of performance measures consistent over a period of time. Caiden (1998) points out that the quality of information, the accuracy, and the timeliness are crucial factors for the development of performance measures.

2.9. The Impact of Developing Performance Measurements

Rivenbark and Pizzarella (2002) explain that one of the major objectives of performance measurement is to generate useful information that can be used by the agencies to improve the efficiency and the effectiveness of delivery of services. This can be achieved by using performance measurement systems to

collect, analyze, and report performance data to improve the government accountability to the public (Rivenbark & Pizzarella, 2002). Auditing the accuracy of performance data helps government officials to assess whether performance measurement systems in use generate information that is meaningful and useful for understanding performance of agency programs (Rivenbark & Pizzarella, 2002).

Ammons (2002) argues that the use of performance measurement as an accountability tool for governments is justified on the grounds that the information generated lead to better decisions and the influence resource allocation decisions. The information can also be used to improve performance through monitoring of operations and taking timely corrective actions. However, opponents of performance measurements argue that it is difficult to develop meaningful performance measures (Ammons, 2002). Most government agencies are reluctant to direct resources from provision of services to the development of performance measures. The information technology systems currently available cannot adequately be used to collect and analyze performance data (Ammons, 2002). Despite these difficulties, performance measurements have been associated with many initiatives that have improved the quality of services, responsiveness, and reduced the costs in many government agencies (Ammons, 2002).

2.10 The Criteria for Judging Good Performance Measures

According to Governmental Accounting Standard Board (GASB, 2008), good performance measures should have the following characteristics: Relevant, understandable, timely, comparable, reliable, and cost effective. The relevant performance measures should include information that is important to the stakeholders and relate to the activities being measured. The measures should indicate how the goals and objectives of the agency are to be attained (GASB, 2008). To be understandable, the performance measures should be easy for non-technical staff to understand, and contain the information on factors affecting performance of the agency. Timely measures should have information available at specified interval for making decisions about agency performance (GASB, 2008).

Performance measures should be comparable by providing data for use in assessing whether the performance of the agency is improving (GASB, 2008). Reliable performance measures should have data that can be verified, is accurate, and is unbiased (GASB, 2008). Consistent performance measures provide ways of comparing performance information over time, and allow users to gain an understanding of measures being used. However, performance measures should be reviewed regularly and necessary changes made to reflect changing circumstances (GASB, 2008).

2.11. The Integration of Performance Measures with the Budgeting Process

The attempts that have been made to integrate performance measures with the budgeting process have been based on the contexts of the past budget reform efforts (Joyce, 2003). The first efforts to reform budget focused on inputs, followed by outputs, and then outcomes. The initial budget reform efforts such as Planning-Programming Budgeting Systems (PPBS) and Zero-Based Budgeting (ZBB) provided the theoretical foundations upon which the reform movements of the 1990s, such as the Government Performance and Results Act of 1993 were based (Joyce, 2003). The objective of the reform movements, such as GPRA, has been to increase the use of performance measurements during the budgeting process. The efforts continued into 2004 when President Bush's administration introduced Program Assessment Rating Tool (PART) aimed at using performance information in the budgeting process (Joyce, 2003).

The integration of performance measures with the budgeting process dominated the initial reform movements, and scholars and practitioners have used several terminologies to describe the process (Joyce, 2003). The terms that have been used to describe the integration of performance information with the budgeting process includes performance budgeting, performance based budgeting, performance funding, and budgeting for results (Joyce, 2003). However, two factors must be taken into account if the budgeting process is to be influenced by performance measures (Joyce, 2003). The first factor to be considered is the

availability of appropriate information about the strategic plans, the results expected, and the costs involved in making the budgeting process focus more on results. The second factor to consider is the application of the available information to make decisions at every stage of the budgeting process (Joyce, 2003).

The budgeting process consists of the following four main stages: budget preparation, approval, execution, and audit and evaluation (Joyce, 2003). It is possible to use performance measures at all stages of the budgeting process. The use of performance measures has been reported during the preparation and execution stages. However, not much progress has been made in the use of performance measures during the approval stage of the budgeting process (Joyce, 2003).

2.11.1. The Budget Preparation Stage

During the budget preparation stage, the departmental staff prepares budget allocations and requests, which are later on integrated with the executive budget proposals after negotiations and consensus between departments (Joyce, 2003). At this stage, departments assess and make decisions on programs to be revised, and make recommendations on any new program that might be included in the budget. The budget and fiscal policies are issued by the executives to guide departmental staff in developing the budgets. The prepared executive budgets are then reviewed

by the budget offices and later submitted for the legislative approval (Lee, Johnson & Joyce, 2008).

At the budget preparation stage, the performance measures can be used to maximize the effects of funding on performance, and also to justify the budget requests. However, this stage of the budgeting process is constrained by political factors and fragmentation of activities (Lee, Johnson & Joyce, 2008). Each department tries to oppose any efforts to cut its budget, and strives to increase its budget to acquire more resources. The activities are fragmented because departments are more concerned with defending their programs and do not take a broader and long-term perspective of the organization (Lee, Johnson & Joyce, 2008).

During the preparation stage, departments can develop performance measures to make budget requests more focused on performance (Joyce, 2003). The budget requests should include the strategic plans, the performance measures, and the cost information. Joyce (2003) argues that the budget requests at this stage should reflect the strategic priorities based on strategic plans for the organization. The output and outcome measures should be related to programs as specified in the strategic vision. Budget requests should reflect the true cost of providing services with specific costs charged to the appropriate programs (Joyce, 2003). The linkage between costs (inputs), activities (outputs), and results (outcomes) should be specific and based on the strategic plans (Joyce, 2003).

2.11.2. The Budget Approval Stage

The executive budgets are approved by legislative bodies, such as state legislatures, county board of supervisors, or city councils (Joyce, 2003). The legislatures review the executive budget recommendations as they approve the legislation that affects both revenues (tax) and expenditures (Joyce, 2003). The approval stage of the budgeting process consists of three activities: Budget resolution, authorization process, and appropriation process (Joyce, 2003). The budget resolution outlines both the fiscal and the budget policies and lays out specific decisions on revenues and expenditures that committees must make. Although the budget resolution specifies the level of spending for programs, it currently does not specify any performance expectations for programs. Joyce (2003) argues that it would be more appropriate if budget resolutions would provide information on performance expectation that would accompany the budgeted funds.

The budget approval authorization process allows the continuation of existing programs and approval of new programs (Joyce, 2003). The process specifies conditions under which the programs operates, and may create performance expectations for programs (Joyce, 2003). The authorization process is important to the development of performance expectations for programs, and therefore an important point for the introduction of performance measures into the legislative budget process (Joyce, 2003).

The appropriations process is where decisions are made about funding levels, and therefore the most important annual budget ritual (Joyce, 2003). However, appropriations committees rarely use performance measurements when making funding decisions and rely more on anecdotal information on programs and departmental performance. Joyce (2003) argues that performance and cost information can be used during the appropriation process in three ways. The first proposal is to reorganize accounts and to align them with departmental mission and programs. The second proposal is for the appropriations committee to demand and use performance measurements as part of the appropriations process. The last proposal is the comprehensive analysis of budget proposals by the appropriations committees instead of focusing on incremental changes at the margin (Joyce, 2003).

2.11.3. The Budget Execution Stage

The budget execution stage is when the departments implement the approved budgets within the regulations set by the legislatures and the executives (Joyce, 2003). This stage of the budgeting process is subdivided into three processes: Apportionment, impoundment, and allotment (Lee, Johnson & Joyce, 2008). The apportionment involves adjusting the program funds to balance the expenditures with the available revenues because most programs may not receive the funds that were requested. Impoundment is the refusal by the chief executive

to release apportioned funds through informal item veto to stop disbursement of funds (Lee, Johnson & Joyce, 2008). Allotment process grants budgetary authority to departments and is used to control expenditure during a specific fiscal year. Departmental approval is required before any transfer of funds between line items is made as a way of exercising control (Lee, Johnson & Joyce, 2008).

Joyce (2003) argues that there are ways in which performance measures can be used to allocate resources during the executive stage of the budgeting process. Approved budgets can be used by departments as the expected performance measures to be achieved at that level of spending, and the departments should communicate the expected performance to the departmental staff (Joyce, 2003). The approved budget has significant level of discretion that can be used by departments to allocate resources. Departments can use information derived from the relationship between funds and performance expected from a given budget (Joyce, 2003).

It is important for the departmental staff to assess the relationship between resources and performance during the executive stage of the budgeting process (Joyce, 2003). A number of approaches can be used by departments to meet the set performance goals. Incentive systems can be used to improve departmental capacity to collect, analyze, and report performance information (Joyce, 2003). Financial incentives, such as bonuses, can be given out to individuals or teams within departments as motivating factors for departmental staff to engage in

behavior consistent with achieving the organizational goals. Other incentives such as promotions, awards and recognitions can also be used to motivate staff to improve performance (Joyce, 2003).

2.11.4. The Budget Audit and Evaluation Stage

The final stage of the budgeting process is the audit and evaluation stage. The objective of this stage of the budgeting process is to ensure executive compliance with the provisions of the appropriation bills (Lee, Johnson & Joyce, 2008). The executives are expected to show honesty and integrity in spending public resources and to ensure that waste is prevented (Lee, Johnson & Joyce, 2008). Accounting procedures are specified and auditors review departmental records to ensure adherence to specified rules and regulations (Lee, Johnson & Joyce, 2008).

Performance measures can be used at this stage to determine compliance with the laws, management practices, and program performance (Lee, Johnson & Joyce, 2008). This stage of the budgeting process has historically focused on the use of inputs or the control function of the budgeting process (Joyce, 2003). However, the focus has now shifted to performance measurements and greater focus on output and outcomes. The passage of Government Performance and Results Act of 1993 emphasized the need for better understanding of the relationship between resource use and results (Joyce, 2003). The audit and

evaluation stage can support performance based budgeting by providing information on cost accounting. The information presented can help users understand the limitations and problems associated with data necessary to develop performance based budgeting (Joyce, 2003). The problems include data reliability, timeliness of collection and reporting performance information, or failure to understand causal relationships between performance measures (Joyce, 2003).

2.12. The Performance Based Budgeting and Strategic Planning in Texas

Melkers and Willoughby (1998) argue that the state of Texas developed performance based budgeting process that relates performance measurement systems to strategic planning. The performance measurement systems provide guidelines to state agencies on how to develop six-year strategic plans for programs along with their budget requests. The agencies are expected to develop strategic plans that specify agency goals, objectives, outcome measures, strategies, output, and efficiency measures (Melkers & Willoughby, 1998).

Texas is normally mentioned as one of the states in the Unites States that has successfully integrated its performance measurement systems with the strategic planning and performance budgeting processes (Melkers & Willoughby, 1998). A study of the strategic planning process in state governments revealed that planning has significant impact on both internal and external outcomes of agency

activities. This is due to the fact that strategic planning operates in combination with other management processes such as budgeting (Melkers & Willoughby, 1998). The performance information that is derived from the application of performance budgeting helps managers better understand the program activities that are under their control, and are able to make more informed decision on any program changes (Melkers & Willoughby, 1998).

The strategic planning that incorporates performance measures in the budgeting process can have a positive impact on agency operations. Therefore, the relationship between performance-based budgeting and strategic planning process is important (Melkers & Willoughby, 1998). Texas has specific guidelines that explain how incentives are offered to agencies that have attained the set goals and objectives. The 1996-1997 General Appropriations Guidelines explain actions that can be taken when agencies fail to meet their goals (Melkers & Willoughby, 1998). The Legislative Budget Board (LBB) and the governor may apply budget execution order reducing, elimination, or withholding of funds to agencies that fail to meet their goals and objectives (Melkers & Willoughby, 1998).

Broom (1995) argues that Texas state legislature passed legislation in 1991 that was designed to link strategic planning to the budgeting process as a way of linking agency budget requests and spending to the state policy priorities. The objective was to streamline the budgeting process and to provide incentives for achieving the desired outcomes (Broom, 1995). The Texas Legislative Budget

Board and the governor developed a document called “Texas Tomorrow”. The document provides guidance and statewide vision, mission, and goals for each functional area of the government (Broom, 1995). The state agencies were expected to develop strategic plans based on mission statements, goals, and objectives. The agencies are also expected to develop outcome and output measures, and to assess the key external and internal factors that influence the implementation of the agency mission and objectives (Broom, 1995).

Texas government agencies are expected to develop budget requests based on how their strategies support the objectives and goals defined in the strategic plans (Broom, 1995). The agencies are expected to report performance measures on a quarterly basis to the Texas Legislative Budget Board (Broom, 1995). The strategic planning, performance measurement systems, and the budget processes are integrated as components of the policy planning process (Broom, 1995).

In 2006, Texas state government produced a document titled “Guide to Performance Measurement”. The document was revised in 2012 by John Keel, State auditor, John O’Brien, Legislative Budget Board director, and Jonathan Hurst, director, Governor’s Office of Budget, Planning and Policy. The new title for this revised edition is “Guide to Performance Measure Management (2012 Edition). The purpose of the guide is assist agencies understand the State’s performance measurement systems as part of Texas’s Strategic Planning and Performance Budgeting (SPPB) system (Keel, O’Brien &Hurst, 2012).

The guide identifies executive and legislative expectations of agency management's involvement in the use of performance measures. The guide explains the role of performance measures within the SPPB system that includes strategic planning, performance budgeting, and performance monitoring (Keel, O'Brien & Hurst, 2012). The Strategic Planning and Performance Budgeting (SPPB) are mission, goal, and result oriented processes that integrate strategic planning and performance budgeting appropriation process. SPPB is used in making funding decisions based on agencies' outcomes. The three components of SPPB are strategic planning, performance budgeting, and performance monitoring (Keel, O'Brien & Hurst, 2012).

Strategic planning involves the development of five-year planning document that contains the agency's missions, goals, and objectives, and the strategies used to measure and monitor performance (Keel, O'Brien & Hurst, 2012). The performance budgeting consists of the agency operating budget based the General Appropriations Act (GAA) which specifies the biennial appropriation of funds, and sets the performance targets based on the legislative funding priorities (Keel, O'Brien & Hurst, 2012). Performance monitoring involves agency's process of monitoring own performance, and submitting quarterly reports to the Legislative Budget Board and to the Governor's Office of Budget, Planning, and Policy (Keel, O'Brien & Hurst, 2012).

Texas started using performance measures in the legislative appropriations process from the 1974-75 biennium, and with the adoption of Strategic Planning and Performance Budgeting System in 1991, Texas increased its emphasis on the use of performance measurements in the legislative appropriations process (Keel, O'Brien & Hurst, 2012). The specific objectives that were identified by the Legislative Budget Board for Strategic Planning and Performance Budgeting System include focusing the appropriation process on outcomes and monitoring of budgets and performance. The budgeting system established standardized unit-cost or efficiency measures, and provided guidelines for rewards and penalties for success or failure to achieve set goals (Keel, O'Brien & Hurst, 2012).

One of the characteristics of performance measures used in the strategic planning and performance budgeting system is that appropriate types of measures must be developed that meet the criteria for good measures (Keel, O'Brien & Hurst, 2012). The Texas performance measurement systems consist of four types of measures: Outcome, output, efficiency, and input. Outcome measure is a quantifiable indicator of the public and customer benefit from an agency's actions (Keel, O'Brien & Hurst, 2012). The measures are used to assess agency's effectiveness in serving its key customers and in achieving its mission, goals and objectives (Keel, O'Brien & Hurst, 2012). Output measure is a quantifiable indicator of the number of goods or services that an agency produces (Keel,

O'Brien & Hurst, 2012). The measures are used to quantify agency's workload, such as goods and services it provides.

Efficiency measure is a quantifiable indicator of productivity expressed in unit costs, unit of time, or other ratio-based units (Keel, O'Brien & Hurst, 2012). The measures are used to assess the cost efficiency, productivity, and timeliness of the agency operations. Input measure is an indicator of factors, agency resources, or requests received that affect state entity's performance. The measures are used to define the agency's operating environment and to explain factors that affect agency performance (Keel, O'Brien & Hurst, 2012).

Texas uses performance measurement data to assess and make decisions on performance rewards and penalties. The General Appropriations Act contains provisions that specify performance rewards and penalties aimed at providing agencies with the incentives to achieve set performance targets (Keel, O'Brien & Hurst, 2012). The Act authorizes the Legislative Budget Board and the Governor to adopt budget execution aimed at applying positive incentives (rewards) or negative incentives (Keel, O'Brien & Hurst, 2012). The positive incentives include increasing funding, awards or bonuses, exemptions from reporting requirements, formalized recognition or accolade, and expanded responsibility (Keel, O'Brien & Hurst, 2012). The negative incentives or redirections include reducing funds, eliminating funds, withholding funds, transfer of functional

responsibility to another entity, reduction of funding transferability, and recommendation for placement in conservatorship (Keel, O'Brien & Hurst, 2012).

The performance measurement systems in Texas that incorporates strategic planning process with the performance based budgeting systems. The system resembles the performance measurement process model that was developed for the federal government in 1997 by the National Performance Review Committee. It is therefore interesting to investigate whether state government expects the county governments to use performance measures incorporating strategic planning and performance based budgeting system to improve the allocation of resources and the provision of services to county residents. This study investigates to what extent Texas county governments have developed performance measures, the impacts, and challenges of developing performance measures on county operations.

Chapter 3

Theoretical Frameworks

3.1 The Theoretical Basis for Performance Measurements Development

In formulating the theoretical perspective for studying performance measurements in county governments, the theories of political control of bureaucracy and the theories of bureaucratic politics provides useful prototypes. The theories of political control of bureaucracy assume that there is separation of politics from the administration in terms of policymaking and policy implementation processes (Frederickson & Smith, 2003). The theories of bureaucratic politics reject the assumption of separation of politics from the administration, and assume that both the legislatures and the executives participate in policy making and policy implementation processes (Frederickson & Smith, 2003).

The theories of political control of bureaucracy attempts to examine whether bureaucracy complies with the set rules and regulations, or whether bureaucrats follow instructions from the legislatures (Frederickson & Smith, 2003). The theories make the following two basic assumptions: the existence of the politics – administration dichotomy, and the control of bureaucracy by the legislative officials (Frederickson & Smith, 2003). The politics-administration dichotomy assumes that there is clear separation of policy making roles by the legislatures

and policy implementation roles by the bureaucrats (Frederickson & Smith, 2003). An example of a form of government where the politics-administration dichotomy operates is the City Manager-City Council form of government at the local municipal level, where the city council set policies and the City Manager implements policies (Frederickson & Smith, 2003).

The second assumption of the theories of political control of bureaucracy is based on the belief that bureaucracy should be under the control of the legislative officials. The elected officials should control and influence the activities and decisions of appointed officials (Frederickson & Smith, 2003). The difference between politics and administration is that policy involves the setting of goals by elected officials, while administration involves the means of achieving the set goals (Frederickson & Smith, 2003). However, it is difficult to separate the policy making and policy implementation roles because elected officials are sometimes involved in policy implementation, and administrators are sometimes involved in policy making roles (Frederickson & Smith, 2003).

The theories of bureaucratic politics seek to explain the policymaking roles of administration and bureaucracy by rejecting the politics-administration dichotomy (Frederickson & Smith, 2003). The proponents of this theory include Waldo (1948) and Simon (1946). Waldo (1948) argues that administration is the fundamental component of modern governments and administration theory must take into consideration and address issues of democratic politics. Simon (1946)

argues that it is difficult to separate politics from administration because administrative issues are political issues, and political issues are administrative issues (Frederickson & Smith, 2003).

The previous studies have indicated that the development of performance measurements in government agencies requires the participation of both the legislatures and the executives (Boudreaux, 2006). Therefore, there should be no separation of policymaking and policy implementation roles during the development of performance measurement systems in counties. The theory of bureaucratic politics explains the participative roles of bureaucrats and executives during the development of performance measures and forms the basis of this study.

3.2. The Policy Implementation Process

De Lancer Julnes and Holzer (2001) argue that during the policy making process, the probability of mobilizing large public support and political interest is high, but during the policy implementation process, differences among various participants emerge. The policymaking process in organizations represents efforts by the organizations to solve problems that affect their operations. The developments of output and outcome measures are attempts by public organizations to address problems of service provisions to the public (de Lancer Julnes & Holzer, 2001). The development of performance measures in public

organizations can be explained by rational, incremental, and institutional theories of the policy making process.

A rational decision making process is assumed to occur in an ordered sequence. The model assumes that individual decision makers have the capacity to obtain full information about problems faced, the consequences of their actions, and the choices among alternatives made based on factual evidence (Morcol, 2007). Rational decision makers are assumed to have universal characteristics, and decisions made are as a result of analysis of full information, regardless of the historical or cultural context of the decision makers (Willoughby, 1993). However, the applicability of the rational model of decision making in practice is limited because decision making processes are influenced by a multitude of factors that include motivation, values, norms, information processing capabilities, attitudes, past experiences, bargaining power, and expectations (Morcol, 2007).

Charles Lindblom (1959) advanced the use of an incremental model of decision making as an alternative method to the rational decision making process. According to Lindblom (1959), decision making is the process whereby stakeholders share views and mutually agree on the desired course of action based on self-interest. The participants involved in decision making focus on a few alternatives that marginally differ from previous decisions because they don't have enough time, resources, or all the information necessary to make the

decisions. Decisions made by participants are based on values, interests, and influenced by political considerations (Lindblom, 1959). The incremental decision making process occurs as a result of differences in information and conflicts of interest, and decisions are made through bargaining and the accommodation of diverse partisan interests (Lee, Johnson & Joyce, 2009). The decision making is based on the process of incrementally adjusting existing practices, and only marginal searching for alternatives to achieve the desired ends. Decision making is therefore based on consensus through political and power-oriented bargaining processes (Lee, Johnson & Joyce, 2009).

The institutional model of decision making views institutions as a set of rules, norms, and strategies that operate in an organization (Choudhury, 2007). Decision making within the institutional context is based on maintaining the status quo, and promoting values that are considered to be legitimate practices (Choudhury, 2007). Institutional practice is therefore composed of a set of rules, roles, and routines which influence decisions made and lend credibility to their use. Decision making as an institutional practice therefore involves understanding institutions as a set of rules and regulations that influence actions among individuals in the organization during the decision making processes (Choudhury, 2007).

The factors that influence agency decision making processes include economic, rational, political, and social factors (Thurmaier, 2001). The decisions

made to solve problems facing agencies depend, to a large extent, on how individual decision makers define the problems at hand (Thurmaier, 2001). When agency problems are defined as social problems, decisions made are based on social expectations and obligations to assess the social issues that influence the existence of public problems (Thurmaier, 2001). The decisions made will be influenced by the kind of relationship that exists between the agency and its clients, so that public interests supported by the agency clientele can be pursued. The agency's focus on social factors provides a broad context in which decision makers can identify the relative priorities of the agency (Thurmaier, 2001).

The political factors that influence agency decisions focus on the relative value of particular programs or activities, with the aim of finding ways of allocating scarce funds to the most important activities (Thurmaier, 2001). Rational factors are necessary for the development of performance measures in organizations, but must be viewed within the political context. De Lancer Julnes and Holzer (2001) argue that rational theory neglects the role played by powerful political groups within and external to the organizations. Organizational changes normally result in conflict which is normally resolved through bargaining, coalitions, and formation of interest groups (de Lancer Julnes & Holzer, 2001). Most agency programs are intended to serve various constituencies and it is important that agency decision makers understand who supports or opposes the programs (Thurmaier, 2001). The decision makers must therefore be sensitive to

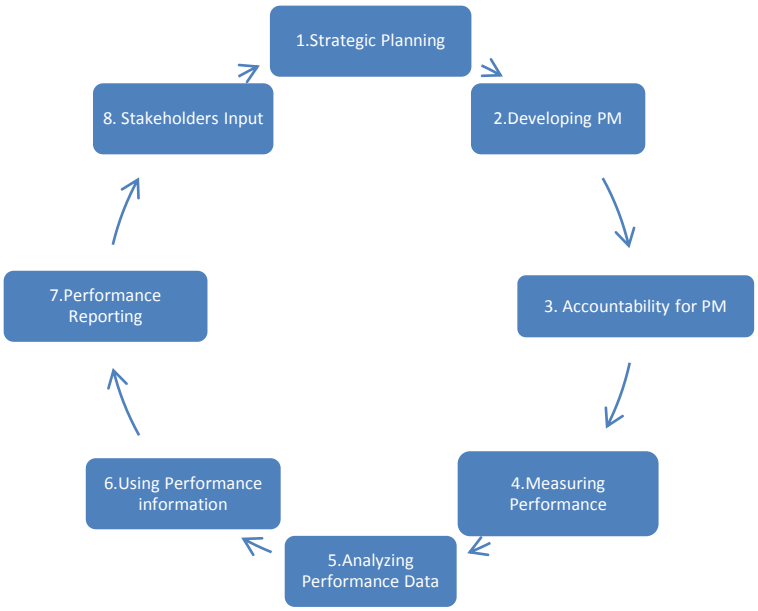
the political feasibility of the proposed solutions, especially the chief executives' position on the programs (Thurmaier, 2001).

The rational factors refer to the ways in which agencies can maximize their outputs and inputs with the objective of getting the maximum services provided by the agency, with the minimum amount of resources necessary to support the activities (Thurmaier, 2001). Decision makers assess the efficiency of the agencies in terms of productivity based on output indicators. The efficiency of the agencies is measured by evaluating the input and output data generated by the agency to support their request for resources (Thurmaier, 2001). The economic factors that influence agency decision making focus on marginal utility analysis, and how scarce resources are allocated to the agency to maximize overall utility of agency activities (Thurmaier, 2001). The pursuit of economic efficiency requires the capacity to establish priorities and shift resources to more productive uses in accordance with the agency's objectives (Thurmaier, 2001).

Therefore, the development of performance measures in public organizations can be viewed as rational/technical issues adopted through incremental decision making processes within the institutional and political contexts (de Lancer Julnes & Holzer, 2001). The development of performance measures is a significant organizational change that can affect the way organizations operate and is bound to elicit resistance from some members of the organization, regardless of potential benefits (de Lancer Julnes & Holzer, 2001).

3.3. Research Model

The research model used for this study is Performance Measurement Process Model developed by the National Performance Review Committee (NPR) in 1997. The model is shown on Figure 3.1.



Source: National Performance Review Committee Report, 1997.

Figure 3.1 Performance Measurement Process Model

The NPR performance measurement study committee included 14 U.S. federal agencies, six Canadian government agencies, representatives the United Kingdom government, and two U.S. local governments (NPR, 1997). The committee proposed a model of performance measurement process based on a federal government context, and analyzed performance measurements as

practiced by agencies represented on the committee (NPR, 1997). The objective was to gain an understanding of the steps, phases, and issues arising from performance measurements development, and to consider different approaches used by the organizations during the development of performance measurement systems (NPR, 1997).

The model was developed by the National Performance Review Committee in 1997 as a descriptive model. The model illustrates the flow of the performance measurements development process and shows the phases that the development of performance measurement process goes through (NPR, 1997). The model consists of eight phases: Strategic planning, developing performance measures, accountability for performance, measuring performance, analyzing and reviewing performance, evaluating and utilizing performance information, performance reporting, and stakeholders input (NPR, 1997).

Strategic planning phase (1) involves developing strategic missions, goals, and objectives; allocating resources for performance measurements, assigning goals and objectives; and defining output and outcome measures (NPR, 1997). Developing performance measures phase (2) involves setting performance targets and agreeing on specific measures to be used. Accountability for performance phase (3) involves assigning responsibilities and ownership for performance measures, data collection, and reporting. During this phase of performance measurement development, managers use measures to evaluate performance, and

the incentive systems to be used are clear, consistent, and reflect the level of success (NPR, 1997).

Measuring performance phase (4) involves identification of data sources, and the provision of information technology to support data collection and reporting. Data reliability, timeliness, accuracy, access, and confidentiality are assured (NPR, 1997). Analyzing and reviewing performance phase (5) involves assessing the analytical capability of the organization to analyze and use performance data, management reviews results against set targets, and feedback is used to take corrective actions (NPR, 1997). Evaluating and utilizing performance information phase (6) involves the use of performance information to improve performance. The rewards and recognition is based on performance results, data are used to benchmark with other organizations, and feedback is used to update goals and measures (NPR, 1997). Performance reporting phase (7) involves reporting performance to customers and stakeholders. The stakeholder input phase (8) involves taking into account stakeholders' views on performance of the organization, including management and legislative priorities and decisions (NPR, 1997).

3.4. Variables in the Regression Model and Hypotheses

The variables and their causal relationship to the hypothesized model have their foundations in the performance measurements and theories of bureaucratic politics. The theoretical reasoning for the establishment of the causal relationships

in the model is based on rational, institutional, incremental, and punctuated-equilibrium models of decision making and policy implementation. The theories of bureaucratic politics assume that there is participative approach to policy making and implementation by both bureaucrats and the legislatures in government agencies (Frederickson & Smith, 2003). The variables in the model include stakeholders' involvement, strategic planning, resource availability, incentive systems, and population size. The control variables include percentage population growth between the years 1990 and 2010, per capita income, and metropolitan status of the counties.

3.4.1. Stakeholders' Involvement

The performance measurements use in governments is considered as a response to citizen's demand for accountability and service quality, and therefore the support and participation by stakeholders legitimizes the effort. Support form legislatures (Berman & Wang 2001; Boudreaux, 2006), citizens (Streib &Poster, 1999; Ho & Coates, 2002), and lower level staff participation (Streib & Poister, 1999) are crucial to the development of performance measures in public organizations. Involving legislatures in the development of performance measures is assumed to increase the possibility of developing and using of performance measures more frequently (Berman & Wang, 2001). The legislative support is

crucial to the development of performance measures in government institutions (Boudreaux, 2006).

The opponents of performance measurement usage in government institutions argue that performance measures are internal management responsibility that is not affected by external support from elected officials or citizens (Berman & Wang, 2001). The proponents of this view explain that the elected officials consider the development of performance measurement as an attempt to increase the power of the executives, and therefore is not a reliable and fair way of allocating scarce societal resources (Berman & Wang, 2001).

The failure to involve citizens in the development of performance measurement systems can reduce the significance and the value of performance measures to the legislatures (Berman & Wang, 2001). The citizens' involvement is assumed to be a way of communicating to the public how services are delivered, and to generate interest in the operations of public agencies (Berman & Wang, 2001). The lower level staff should be involved in the development of performance measures as a way of getting their commitments and ownership for the reforms (Berman & Wang, 2001). The study further suggests that support from lower management is important because they can collude with interest groups and legislatures to oppose the reform initiatives (Berman & Wang, 2001).

Wang and Berman (2000) argue that leadership plays an important role in the development of performance measures. The coordination roles of offices, such

as budget office and county manager's offices are important because development of performance measurement requires interdepartmental perspective in order to achieve the agency's strategic objectives (Wang & Berman, 2000). The coordination of all departments by the county manager's office ensures that there is consistency in the procedures followed during the developing performance measures (Wang & Berman, 2000). At the federal government level, the development of performance measures is coordinated by the Office of the Management and Budgets (OMB) which is charged with the responsibility of producing policy guidelines for agencies' strategic planning and performance management systems (Wang & Berman, 2000).

However, studies suggest that some agencies may ignore the directives from the central coordinating offices because of the lack of clear guidelines on how to develop performance measures (Wang & Berman, 2000). The involvement of the central coordinating office can be viewed by some departments and other stakeholders as interference in their operations and they may resist any directive from the central offices (Wang & Berman, 2000). Therefore, the role of county managers and the leadership style used in bringing together all stakeholders during the development of performance measures is significant and can be the driving force behind the development of performance measures in public institutions.

The Path-Goal theory of leadership developed by Robert House is based on expectancy theory of motivation (Rainey, 2009). According to the theory, effective leaders motivate their subordinates by guiding them in pursuing important goals, the paths to follow to achieve the set goals, and how to effectively follow those paths (Rainey, 2009). The path-goal theory is based on the following four leadership behavioral styles: Directive style is used when the leader gives specific directions on how to accomplish specific tasks; supportive style is used when the leader is sympathetic to subordinates' well-being; participative style is used when the leader solicits suggestions and opinions from subordinates when making decisions; and achievement-oriented leadership style is used when the leader sets high challenging goals and expectations for the subordinates (Rainey, 2009).

However, the leadership styles used depends on whether the set goals are clear, the subordinates have the relevant skills, the locus of authority, and whether there is a sense of teamwork in the group (Rainey, 2009). Path-goal theory is based on the assumption that leaders will adapt their behavior and style based on work environment and the characteristics of the subordinates (Nelson & Quick, 2006). In order to develop performance measures, county managers should be able to use participative leadership skills to bring together all stakeholders who might have different views on the effectiveness of performance measurement systems.

The participative approach to policy making is based on the theory of bureaucratic politics that assumes that there is no separation of policymaking and policy implementation roles between the bureaucrats and the legislatures (Frederickson & Smith, 2003). Both the legislatures and the bureaucrats must participate in the decision making processes to develop performance measures (Frederickson & Smith, 2003). Allison's organizational process model (Model III) of bureaucratic politics theory assumes that decision making in government institutions is characterized by several stakeholders and decisions are based on standard operating procedures (Frederickson & Smith, 2003). The decision makers rely on institutional rules instead of rational decision making processes.

Decisions are made through bargaining and compromise among numerous stakeholders (Frederickson & Smith, 2003). The model is based on the assumptions that several stakeholders are involved in the decision making processes, and no individual or an organization can dominate or make unilateral decisions. Decision making is therefore a political process based on bargaining and compromise among several stakeholders with divergent interests and views (Frederickson & Smith, 2003). Therefore, to examine the impact of the participation of stakeholders on the development of performance measures, the following hypothesis was tested:

Hypothesis 1: The participation of stakeholders is positively related to the development of performance measures.

3.4.2. Strategic Planning Process

Bryson (2011) argues that strategic planning is a participative approach to management that requires the collection and analysis of data about the current status of the organization. It involves setting the future directions, goals, and developing plans of how an organization will achieve its intended objectives (Bryson, 2011). Strategic planning involves the participation by stakeholders in setting the visions, missions, goals, and objectives of the organization. Poister and Streib (2005) conducted a study on the use of strategic planning in municipal governments and the results of the study show that the allocation of resources during the budget process to fund strategic plans is an important factor in the use of strategic planning in public organizations. The setting of individual goals aligned to strategic plans of the organization, and communicating performance measures to external stakeholders are other important factors that influence application of strategic planning in public organizations (Poister & Streib, 2005).

Denhardt (1985) argues that although strategic planning is considered an integral part of the management of private organizations, few state and local governments are fully engaged in the application of strategic planning for their operations. The main objective of strategic planning is to help organizations link their objectives, capabilities, and environmental demands to plan how to achieve long term goals (Denhardt, 1985). The most significant concern about the use of

strategic planning in the public sector is the cost incurred by organizations in terms of consultation expenses, data collection and analysis, and staff dedicated to planning (Denhardt, 1985). However, strategic planning can be used to give local governments a competitive advantage by engaging in long term economic development planning initiatives to attract industries, provide quality goods and services, and attract residents to their communities (Denhardt, 1985). Therefore, important stakeholders should be involved in the strategic planning process to develop performance measures to improve service quality and effectiveness. The participatory process of strategic planning is important in bringing stakeholders together and can help in build relationships and commitment among stakeholders for the good of the communities (Denhardt, 1985).

Korosec (2006) argues that proponents of the strategic planning claim that it improves organizational decision making, responsiveness, performance, and teamwork. But critics of strategic planning point out that there is no guarantee that it will be beneficial to organizations because of lack of support for changes, lack of support from managers, and competition between departments for resources (Korosec, 2006). The opponents of strategic planning argue further that it is bound to fail in public organizations due to diversity of stakeholders involved in the process, and the possibility of disagreements over strategic goals and objectives to pursue (Korosec, 2006). Steinberg (2009) argues that although

governments might implement strategic planning, it does not necessarily drive the development of performance measures in public organizations.

The interest in strategic planning in the public sector started as early as 1970s due to drastic changes originating from oil crises, demographic shifts, tax cuts, reductions in federal grants, and the devolution of responsibilities to local governments (Bryson & Roering, 1988). The changes brought about urgent need for the public sector to make major policy choices. The use of strategic planning was identified as an important tool that can be used to make decisions on the strategic objectives of public agencies (Bryson & Roering, 1988). The main objective of introducing strategic planning in organizations is to make fundamental decisions and actions that redefine what agencies do and why they do it (Bryson & Roering, 1988).

The organizational changes normally occur through incremental process of policy making. Lindblom (1959) described the incremental process of policy making as the process of "muddling through" (Bryson & Roering, 1988). An organizational change can sometimes occur through drastic and fundamental change that can completely alter the way an organization operates. Such organizational changes can be explained by punctuated-equilibrium model of policy making advocated by True, Jones, and Baumgartner (2007).

The strategic decision making in the public sector involves many stakeholders, extensive negotiations, and demands for public accountability. The

final decisions are normally made at the highest level of decision making in organizations after intense pressure from stakeholders for accountability and improved services (Bryson & Roering, 1988). The implementation of strategic planning in public organizations is a major policy change that can be better explained by Punctuated-Equilibrium theory of policy making in organizations because the theory explains both incremental changes and major changes in policy making (True, Jones, & Baumgartner, 2007).

The Punctuated-Equilibrium theory views policy making processes as characterized by stability and incrementalism, but sometimes significant changes occur that changes the status quo (True, Jones, & Baumgartner, 2007). As the public become familiar with the existing problems, major changes in public policies occur during the policymaking processes. The public agency programs sometimes undergo major changes, but some programs might continue to operate the way they have been before (True, Jones, & Baumgartner, 2007). Punctuated-equilibrium theory views policymaking process as based on both institutional and bounded rational decision-making models.

The theory is based on the assumption that the two major components of the policy making process are issue definition and agenda setting (True, Jones, & Baumgartner, 2007). When issues are raised and defined in the public debates, existing policies can either be maintained or challenged (True, Jones, & Baumgartner, 2007). The maintenance of existing policies results in small

incremental changes to existing policies, and reduces the possibilities of making drastic changes to the existing policies (True, Jones, & Baumgartner, 2007). The challenging of the existing policies creates opportunities for major policy changes and reversals in policy outcomes. Both incremental and large-scale changes in policymaking occur as a result of interactions political institutions at different levels of government and behavioral decision-making (True, Jones, and Baumgartner, 2007).

According to True, Jones, and Baumgartner (2007), the American political systems were designed to resist major policy changes and therefore, political mobilization is necessary to convince those interested in maintaining the status quo during the policymaking processes. For example the objective of Government Performance and Results Act (GPRA) of 1993 was to improve the efficiency and effectiveness of the federal government by changing the perspectives of agency personnel to service orientation (Jones & McCaffrey, 2010). Performance measurement was to be used during the budgeting process as a means of improving decision making and allocation of resources at the federal level (Jones & McCaffrey, 2010).

The policy image before the enactment of GPRA (1993) portrayed government as inefficient, wasteful, unresponsive to its customers, and too bureaucratic (Bruel & Kamensky, 2008). The Clinton administration promised to change the way the federal government work and launched the National

Performance Review with the aim of making the federal government more efficient and responsive to the citizen's demand for public goods and services (Bruel & Kamensky, 2008). The administration was influenced by the re-invent government movement and New Public Management reform initiatives that advocated for the use of the private sector concepts to improve the provision of services in the public sector (Bruel & Kamensky, 2008).

The re-invent Government movement proposed that the bureaucratic model of government be replaced by a government that empowers its citizens, contracts out non-essential services, and encourages competition between agencies (Bruel & Kamensky, 2008). The New Public Management was part of the reinventing government movement that promoted the ideas and the practices that seek to use private-sector and business approaches in the public sector (Bruel & Kamensky, 2008). Public managers were urged to "steer, not row" their organizations, and were challenged to find new and innovative ways to achieve results, or to privatize functions previously provided by the government (Osborne & Gaebler, 1992).

The negative policy images of government as wasteful, inefficient, and unresponsive to the demands of its citizens during the enactment of Government Performance and Results Act in 1993 escalated the issue of inefficiency out of policy subsystem to the national political arena (Pfeiffer, 1997). The national political environment is generally characterized by large-scale policy changes,

competing policy images, and political manipulation (True, Jones, & Baumgartner, 2007). The positive feedback increases the impulse for change, overcome inertia, and produce major changes from status quo (True, Jones, & Baumgartner, 2007). The GPRA (1993) was defined positively as an attempt to improve the efficiency and the effectiveness of government services by focusing on customer service and responsiveness through adoption of private sector concepts (Bruel & Kamensky, 2008).

The use of strategic planning during the development of performance measures in county governments can therefore be viewed as a major policy change brought about by demands for accountability by the public, and involves the participation of several stakeholders. Therefore, this study examined whether there is any relationship between strategic planning in Texas county governments and the development of performance measures. The following hypothesis was tested:

Hypothesis 2**:** There is a positive relationship between strategic planning processes in Texas County governments and the development of performance measures.

3.4.3. Resource Availability

The literature on budgeting reforms link the failure of previous reform initiatives such as Planning-Programming Budgeting System and Zero-Based

Budgeting on the lack of technical competence, qualified personnel, information technology, and financial resources (Lee, Johnson, & Joyce, 2008). Berman & Wang (2000) argue that the development of performance measures in the counties is greatly influenced by the county's organizational capacities to collect, analyze, and interpret performance data. The availability of information technology and support from elected officials enhances the possibility of developing performance measures (Berman & Wang, 2000). The research shows that many performance measures in governments are poorly designed and result in fewer performance improvements. Caiden (1998) explains that most government agencies face significant challenges during the development of performance measures due to limited budgetary resources and lack of skilled personnel.

Berman (2002) argues that the development of performance measures in government agencies is not widespread because of measurement problems and insufficient capacity to use information technology. The development of performance measures depends on the availability of resources to acquire and use information technology to manage performance data (Berman, 2002). The study shows that only 57.5% of the counties had the information technology capability to process performance data (Berman, 2002).

The budgeting systems process and produce a variety of information that is intended to provide stakeholders with different types and quantity of information for decision making, such as resources and programs information (Lee, Johnson

& Joyce, 2008). The resource information provides the details on the availability of funds and the data on personnel, while program information specifies governmental goals and objectives. The information generated during the budgeting process is used to make decisions on the allocation of funds to various programs in the federal agencies (Lee, Johnson & Joyce, 2008).

Several decision making theories have been advanced to explain how decisions are made during the budgeting process to allocate funds and resources (Lee, Johnson & Joyce, 2008). The theories are based on the recognition that decision makers have limited ability to process all the information collected and presented for decision making. The incremental decision making theory is relevant for analyzing policy making during the allocation of resources during budgeting (Lee, Johnson & Joyce, 2008). The incremental model of policy making involves conflict of interest among various stakeholders motivated by self-interests (Hayes, 2007). The policy making process is initiated when agenda is raised by interest groups who request or demand changes from status quo. The participants involved in the policy making process start from different perspectives about the problem, and are likely to differ on specific objectives (Hayes, 2007). Because of limited time and the inability of participants to process all the available information, only a few alternative policy options are considered by the participants (Hayes, 2007). The policy making process is therefore based on consensus arrived at through the political bargaining and the negotiation

processes. Any major changes to policy occur gradually as participants gain experience with enacted policies (Hayes, 2007).

One of the most important characteristics of the incremental decision making is the emphasis on the fact that policy making is a political process (Hayes, 2007). The incremental decision making is a process in which actors with different points of view, negotiate, and bargain to reach a consensus. Small incremental adjustments to the status quo are made in cases where policy issues are more complicated, and present difficulties in reaching a consensus (Hayes, 2007). The incremental decision making process does not entail collection of detailed information or agreement among policy makers on objectives, but focuses on the problems that require solutions rather than on the abstract ideals to be attained (Hayes, 2007). Each participant in the policy making process contributes portion of the knowledge required to analyze the problem, and no single actor needs to possess comprehensive information on the problems under consideration (Hayes, 2007). The time constraints and the information processing capabilities preclude a comprehensive analysis of all alternative solutions. Therefore, policy makers limit their attention to the few selected and manageable numbers of options by limiting their focus to incremental alternatives (Hayes, 2007).

There are two important conditions that the incremental model of decision making must meet to produce good public policies (Hayes, 2007). All actors with

interests in the policy issues must be represented, and there should be a balance of resources available to all the actors (Hayes, 2007). However, this condition is difficult to achieve because of the free rider problems and the socioeconomic bias (Hayes, 2007). The free rider problem affects the mobilization and the creation of unified groups that can wield more bargaining power, compared to the many small and diffuse groups that might not be effective during the negotiations (Hayes, 2007).

Socioeconomic bias affects all forms of political participation, including voting and membership in organized interest groups (Hayes, 2007). The economically advantaged groups are easy to mobilize than economically disadvantaged groups, and since some interest groups are dependent on group membership for financial support, free rider problems are likely to persist (Hayes, 2007). The equitable distribution of resources to all interested actors pose great challenges because the organized groups have some advantages over the unorganized groups in terms of resources and networking capabilities (Hayes, 2007).

The main strength of incremental model of policy making is that it is a prescriptive model that suggests what should be done, and it provides the solutions to the limitations of rational model of decision making (Hayes, 2007). The rational model requires gathering of comprehensive information or agreement among policy makers on objectives (Hayes, 2007). The incremental model has

been used to explain a large number of policy decisions at both the federal and the local government levels (Hayes, 2007). Its major weaknesses include the assumptions that the problems can be easily defined, and it does not explain major policy changes. The decision making in this model results from the selection of the best alternative based on experience, learning, limited time, and limitations on processing all the available information (Hayes, 2007).The incremental model of decision making is consistent with bureaucratic political theory model (Model III) advocated by Graham Allison in 1971 (Frederickson & Smith, 2003). The model proposes that decision making in the government institutions is a political process and a product of bargaining and compromise among various stakeholders with divergent views and agendas (Frederickson & Smith, 2003).

This study examined if there is any relationship between availability of resources and the development of performance measures by investigating whether executives and legislatures allocate enough resources during the budgeting process for performance measurement programs. The following hypothesis was tested:

Hypothesis 3: There is a positive relationship between resource availability and the development of performance measures.

3.4.4. Incentive Systems

Kasdin (2010) argues that the use of incentives can have a positive impact on the development of performance measurement systems during the budgeting process. The incentives are used to motivate staff to improve performance and commitment towards achieving the set objectives (Kasdin, 2010). Some of incentives used to motivate agency staff include financial rewards, promotion or recognition by management of those individuals who are part of the programs that achieved the set goals. Joyce (2003) argues that incentives are used to motivate departmental staff to collect, analyze, and report performance information. The incentives can be based on individual or team performance within departments, and are used as motivating factors to improve staff commitments in achieving the set organizational goals (Joyce, 2003).

Nelson and Quick (2006) define motivation as "the process of arousing and sustaining goal-directed behavior (p.150). There exists a wide variety of motivational theories that attempt to explain and predict the complexity of human behavior in organizations (Nelson & Quick, 2006). Although there have been some agreements among researchers on the basic definition of motivation, the major difficulties faced by the organizations is how to measure the work motivation (Wright, 2001). Attempts to develop a universal theory of work motivation have been based on the importance of setting goals that influence behavior of employees in organizations. Wright (2001) argues that there has been

scant attention to the work motivation in the public sector despite the fact that the public sector has been under constant pressure to improve productivity and reduce costs.

The public sector employees are generally described as lazy or self-serving, and therefore a better understanding of what motivates them is important in order to improve the efficiency and effectiveness of public services (Wright, 2001). The public sector has been under sustained pressure to adopt private sector business concepts to improve the provision of goods and services (Wright, 2001). However, there has been intense debate among scholars as to whether there are any significant differences between the public and private sectors in terms of employee characteristics and work environment. Wright (2001) explains that the work contents in the public and the private sectors are different because of the different roles the sectors plays in the society.

The public sector provides goods and services that cannot be exchanged in economic markets, and therefore there are no economic indicators of efficiency such as prices and profits that are available in the private sector (Wright, 2001). The public sector is financed by taxpayers who demand from the government efficiency, equity, accountability, and responsiveness in the provision of goods and services (Wright, 2001). The public sector has multiple and conflicting goals because of external influence, and the absence of markets for goods and services (Wright, 2001). The public sector therefore operates in environments that make

the development of performance measurements difficult, stifle employee innovation, and make designing of effective compensation systems for employees difficult. The poorly designed compensation policies in public organizations result in poor performance due to lower satisfaction and morale among employees (Wright, 2001).

The Goal-Setting theory advanced by Edwin Locke in 1960 may be relevant to the public sector work motivation (Rainey, 2009). The theory explains that setting specific and difficult to achieve goals can lead to higher levels of performance. This is because difficult goals make employees mobilize effort, direct their attention to the assigned tasks, and look for strategies to achieve the set goals (Rainey, 2009). The feedback on employees' performance is assumed to increase the employees' commitment towards achieving the set goals, and therefore acts as a motivational factor. The linking of the incentives to the set goals is assumed to increase goal commitment, and further motivate employees to higher levels of performance (Rainey, 2009).

The goal commitment is a function of self-efficacy, which is an individual's judgment of his or her abilities to accomplish given tasks, and an individual's view of whether the assigned tasks are important (Wright, 2001). Higher levels of self-efficacy is linked to higher levels of performance because the individuals who believe they can accomplish assigned tasks are more likely to put more effort

and persistence to get the tasks done despite any obstacles they may encounter (Wright, 2001).

One of the major advantages of goal-setting theory includes the use of goal setting in designing incentive systems for employees to complete work more quickly and effectively. It is assumed that goal setting leads to better performance by increasing motivation, effort, and feedback quality (Rainey, 2009). However, some of the limitations of goal-setting theory include the fact that at times, organizational goals are in conflict with the managerial goals. The lack of skills and competence to perform tasks essential for achieving specific goals can result in failure and undermine the performance of both the employees and the organizations (Rainey, 2009).

However, one of the major challenges of linking incentives to employees' performance in public organizations is the existence of structured and externally imposed personnel procedures (Rainey, 2009). The Civil Service Reform Act of 1978 and the National Performance Review of 1993 were aimed at reducing constraints on compensation and personnel procedures in the federal government, and to decentralize personnel rules concerning pay and incentives to employees (Rainey, 2009). Despite these attempts, public sector managers are still facing constraints on their authority to administer incentives such as pay and promotion based on employees' performance because of complex and constraining personnel rules and procedures (Rainey, 2009). The relationship between performance and

rewards is weak in the public sector and some of the incentives used to motivate employees include bonus and reward systems, pay-for-performance, broad banding of the payment grades, and participative management and decision making processes (Rainey, 2009).

The process of motivation can be further explained by expectancy theory advocated by Vroom, and based on the perception of performance and reward systems (Nelson & Quick, 2006). According to expectancy theory, people believe that there is a relationship between effort to accomplish given tasks, the level of performance, and the reward that is linked to performance (Nelson & Quick, 2006). The expectancy theory of motivation is based on the value people attach to the reward (valence), the belief that hard work will lead to performance (expectancy), and the belief that there is a relationship between performance and reward (instrumentality). The expectancy theory has been used to develop performance planning and evaluation systems to promote the belief that effort results in better performance and better performance leads to rewards (Nelson & Quick, 2006).

This study therefore examined if there is any relationship between the use of incentive systems and the development of performance measures. The following hypothesis was tested:

Hypothesis 4: There is a positive relationship between incentive systems and the development of performance measures.

3.4.5. Population Size

The population size of Texas Counties for this study is based on the U.S. Census Bureau data for the years 2010. The population growth and regional problems such as water supply, pollution control, and solid waste disposal have put pressure on the county governments to act as regional problem solvers (Cigler, 1995). Most counties are now working together and coordinating with other municipalities to increase the effectiveness of service deliveries and to eliminate duplication of services. Most counties are now developing performance measures to set targets and monitor the quality of services provided to their residents (Cigler, 1995).

The population size of Texas counties ranges from 82 in Loving County to 4 million in Harris County (U.S. Census Bureau, 2010). Generally, Texas counties are highly fragmented, with about 254 counties and over 3,048 locally elected officials (Brooks, 2012). Dolan (1990) define local government fragmentation as the subdivision of local governmental in a given region into several autonomous or semi-autonomous governing units. The local government fragmentation occurs in four basic forms: Incorporated communities within a metropolitan area; overlapping of city and county boundaries; formation of special districts; and the extension of metropolitan boundaries across states (Dolan, 1990). The organization of urban governments in the U.S. is based on two basic theoretical

perspectives, the Classic civic reform perspective and the 'New' reform movements' perspective (Lyons & Lowery, 1989).

The classic civic reform perspective is based on the assumption that the American local governments are socioeconomically interdependent, and highlights the problems faced by the fragmentation of governments on the provision of services (Lyons & Lowery (1989). The solution to the problem of fragmentation according to this perspective is to reduce the number of governmental units to a single unified unit of government (Lyons & Lowery, 1989). The advantage of consolidating fragmented local governments is economics of scale necessary to produce efficiencies in service deliveries, and the political responsiveness to regional problems (Lyons & Lowery, 1989). The proponents of consolidation (monocentrists) argue that fragmentation leads to ambiguity in responsibility, political unresponsiveness, duplication of efforts and services, higher per unit costs, and instability in policymaking affecting programs implementation (Dolan, 1990).

The monocentrists, who support consolidation of governmental units, argue that consolidated governments are better than fragmented governments because consolidated governments have economies of scale necessary to provide goods and services more efficiently than fragmented governments (Nelson & Foster, 1999). The monocentrists argue further that consolidated governments are more efficient in the production of goods and services, and can rely on a large reservoir

of resources to offer a wider variety of services to residents and businesses (Nelson & Foster, 1999). The consolidated governments can support urban developments, reduce regional inequalities, and spur investment in inner city re-development programs (Nelson & Foster, 1999).

The 'New' reform perspective on local government fragmentation is based on public choice theory, and focus on the need to maintain numerous units of local government to maximize opportunities for individual citizens to choose from a range of services offered by various governmental units (Lyons &Lowery, 1989). The public choice theorists have put forward several suggestions concerning the effects of fragmentation (polycentrism) versus consolidation (monocentrism), on how residents assess and make decisions based on the local governments and services they provide (Lyons &Lowery, 1989).

The New reform perspective views consolidated governments as large, remote, and more bureaucratic than fragmented governments. The citizens living in the consolidated local governments are less informed and knowledgeable about the nature of local tax service packages than those living in fragmented local governments, who are more informed and knowledgeable about services provided by governments (Lyons &Lowery, 1989). The consolidated large bureaucratic local governments are unresponsive to citizens' demands, and might discourage citizens from participating in the political process and on the management of the local governments. The citizens might feel frustrated due to their inability to

influence public policy processes within their local governments (Lyons &Lowery, 1989).

According to Nelson and Foster (1999), polycentrists argue that fragmented governmental structures offer greater choice among service tax and fee bundles for residents and firms with diverse preferences. The polycentric government structures reduce the cost of local governments through competition, improve overall government performance through experimentation by many units of governments, and increase the level of political representation and participation by individuals (Nelson & Foster, 1999). The main advantages of polycentricism are the production of the right quantity and quality of goods and services demanded by residents due to competition among governmental units (Nelson & Foster, 1999). The existence of several units of local governments trigger responsiveness by the governments to the diverse demands by residents, and the realization that different urban services achieve efficient production levels at different scales (Nelson & Foster, 1999).

The fragmented local governments are better than large consolidated local governments in promoting good citizenship because it is assumed that the larger the size of a local government, the lower the level of citizen participation in the policy making processes (Lyons & Lowery, 1989). The citizens living in the consolidated local governments are not very satisfied with services provided because of the single tax systems that cannot satisfy the differing tax-service

preferences of citizens (Lyons & Lowery, 1989). The fragmented local governments provide citizens with a variety of tax-service packages from which to choose from, and therefore their citizens are assumed to be more satisfied because of the opportunities to find several tax-service packages that fit their unique needs and desires (Lyons & Lowery, 1989).

The fragmented local governments stimulate competition among local governmental units, and tend to be more responsive and efficient in the provision of goods and services (Lyons & Lowery, 1989). The competitions among the local governments occur as various governmental units try to attract residents and businesses that seek out the best price for goods and services. The competition creates an atmosphere in which units of local governments must become efficient to compete effectively (Dolan, 1990). The fragmentation of local governments create a sense of identity for the communities, provide the platforms for playing a more active role in politics, and allow a large number of people to influence policymaking processes (Dolan, 1990).

Tiebout (1956) advanced the argument that a better arrangement would be a market for public goods and services. Instead of one centralized agency in one jurisdiction, the citizen as a customer have a broad variety of tax or service packages from which to choose from, and could move to the locations that best fit their preferences (Tiebout, 1956). The competition would force multiple

governmental units to produce high quality public goods and services at low cost; otherwise they will be abandoned by the public.

Tiebout (1956) based his argument on the relationship between citizens as consumers, and public agencies as producers of public goods and services. Tiebout (1956) argues that a competitive market for public goods and services could be created if mobile citizens could shop across local governmental units for the packages of public services and tax burdens that best suited their preferences. If citizens as consumers shopped around for preferred tax-service packages, the competitive pressure would force producers of public goods and services, such as local governments and public agencies, to respond to citizen's preferences (Tiebout, 1956). The result would be efficiently produced public goods and services that reflect public demand for goods and services (Frederickson, & Smith, 2003).

The Tiebout (1956) hypothesis led to several empirical research efforts to assess the difference between monocentric (centralized, single jurisdiction) and polycentric (fragmented, multi-jurisdictional) governments in terms of service provisions (Frederickson & Smith, 2003). According to public administration orthodoxy, highly fragmented institutional arrangements for public services result in inefficient duplication of services and higher levels of spending (Frederickson & Smith, 2003). But according to the Tiebout hypothesis, fragmentation stimulates competition, creates incentives for efficiency and responsiveness, and

lowers spending on public goods and services. However, the empirical research at the macro level by Boyne (1998) did not conform or reject the Tiebout hypothesis (Frederickson & Smith, 2003).

The Tiebout model is an attempt to explain the conditions under which public goods and services could be provided more efficiently (Fisher, 2007). The differences in demand for public goods can be resolved by consumers sorting themselves out to form groups with similar preferences and demands (Fisher, 2007). The consumers may then influence fiscal choices of local governments by participating in the local political process or by "voting with one's feet" (Fisher, 2007, p.100). If differences exist in the tax structure or the service levels between jurisdictions, then consumers will select the jurisdictions that offers the best bundle of tax structure or services that satisfies their preferences (Fisher, 2007).

The assumptions of the Tiebout model includes perfectly mobile consumers, the existence of large numbers of communities to choose from, and that consumers have full information about goods and services provided in the market (Fisher, 2007). The model assumes further that all the income is generated from dividends, the public services provided have no spillover effects, and there is at least one input factor that is in fixed supply. The communities that are not at optimum size seek to attain equilibrium through population growth or decline (Fisher, 2007). According to Tiebout model, consumers will reveal their

preferences by moving to communities that provide goods and services that satisfies their demands (Fisher, 2007).

However, the Tiebout model can be criticized on the basis of stability (Fisher, 2007). The model is not stable because individuals may not be fully mobile, and most local public goods and services are not necessarily financed by local property tax. The existence of externalities in urban communities, such as traffic congestion and air pollution, may affect the efficiency of goods and services rendered (Fisher, 2007). The individual consumers may not be fully mobile as assumed because moving costs are high due to fixed costs, such as selling a house to move might not be easy as it takes a lot of time (Fisher, 2007). The individuals who construct cheaper houses in neighborhoods with more expensive houses might trigger movements by residents who live in more expensive houses to other neighborhoods. This will make it difficult to attain the equilibrium necessary to provide more affordable goods and services (Fisher, 2007).

The model assumes that local goods and services are financed by interest, but this might not be the case since most local public goods and services are financed by local property taxes (Fisher, 2007). The externalities, such as pollution and congestion, are prevalent in the urban communities and will affect the efficiency of the amount of services offered in affected communities because

the actual social cost of providing the services will not have been reflected in the cost structure of the polluting firms (Fisher, 2007).

Texas counties are highly fragmented and it is significant to assess whether counties that have developed performance measures have improved their services, and thus have attracted residents from counties that have not developed performance measurements. It is also significant to assess whether performance measurements improve provision of goods and services offered to county residents. This study examined if there is any relationship between population size and the development of performance measures in Texas counties. The following hypothesis was tested:

Hypothesis 5: There is a positive relationship between population size and the development of performance measures.

3.4 Model Specification and Hypotheses

The following hypotheses were tested to assess if there are any significant relationships between the dependent variables, output and outcome measures, and the independent variables, stakeholders' involvement, strategic planning, incentive systems, resource availability, population size, per capita income, percentage population growth, and the metropolitan status of the county.

OM = Output/Outcome Measures: the number of outcome/output performance Measures developed by counties to measure service functions.

SI = Stakeholders Involvement: the number of counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that stakeholders are involved in the development of performance measures.

SP = Strategic Planning: the number of counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that strategic planning is used during the development of performance measures.

RA = Resource Availability: the number of counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that availability of resources are important to the development of performance measures.

IS = Incentive System: the number of counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that incentive systems are used to encourage the development of performance measures.

PS = Population Size: County population size based on U.S. Census Bureau data for year 2010.

PI = Per Capita Income: the county's per capita income for the year 2010.

PG = Population Growth: the percentage population growth between years 1990 and 2010.

MS = Metropolitan Status: Dummy variable, codded 1 for urban and 0 for rural counties.

$$Y_{i} = f\,(SI + SP + RA + IS + PS + PI + PG + MS) + \epsilon_i$$

$$PM = \beta_0 + \beta_1 SI_1 + \beta_2 SP_2 + \beta_3 RA_3 + \beta_4 IS_4 + \beta_5 PS_5 + \beta_6 PI_6 + \beta_7 PG_7\ \beta_8 MS_8 + \epsilon_i$$

H_0: $\beta_1 = 0$. There is no relationship between stakeholders' involvement and the development of performance measures.

H_A: $\beta_1 \neq 0$. There is a relationship between stakeholders' involvement and the development of performance measures.

H_0: $\beta_2 = 0$. There is no relationship between strategic planning and the development of performance measures.

H_A: $\beta_2 \neq 0$. There is a relationship between strategic planning and the development of performance measures.

H_0: $\beta_3 = 0$. There is no relationship between resource availability and the development of performance measures.

H_A: $\beta_3 \neq 0$. There is a relationship between resource availability and the development of performance measures.

H_0: $\beta_4 = 0$. There is no relationship between use of incentives and the development of performance measures.

H_A: $\beta_4 \neq 0$. There is a relationship between the use of incentives and the development of performance measures.

H_0:$\beta_5 = 0$. There is no relationship between county population size and the development of performance measures.

$H_0\beta_5 \neq 0$. There is a relationship between county population size and the development of performance measures.

H_0:$\beta_6 = 0$. There is no relationship between county per capita income and the development of performance measures.

$H_0\beta_6 \neq 0$. There is a relationship between county per capita income and the development of performance measures.

H_0:$\beta_7 = 0$. There is no relationship between county percentage population growth and the development of performance measures.

$H_0\beta_7 \neq 0$. There is a relationship between county percentage population growth and the development of performance measures.

H_0:$\beta_8 = 0$. There is no relationship between county metropolitan status and the development of performance measures.

$H_0\beta_8 \neq 0$. There is a relationship between county metropolitan status and the development of performance measures.

The operationalization of the variables is shown on Table 3.1.

Table 3.1. Operationalization of Independent Variables

Independent Variables	Definition	Measurement
Stakeholders involvement	Participation by stakeholders such as managers, supervisors, employees, elected officials, and citizens during the development of performance measures.	The number of counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that stakeholders' are involved in the development of performance measures.
Strategic planning	The use of strategic planning process to develop mission, goals, and objectives of county governments.	The number of counties that agree or disagree (scale of 5-1) that strategic planning is used during the development of performance measures.
Resource availability	The allocation of adequate funds during budgeting, the availability of information technology, and qualified staff to collect, analyze, and interpret performance data.	The number of counties that agree or disagree (scale 5-1) that resources are allocated to develop performance measures.
Population Size	County population size.	County population size based on U.S. Census Bureau data for the year 2010.
Incentive system	The use of incentive system such as bonuses, increased funding, expanded responsibility, and transferability of funds to encourage staff to develop performance measures.	The number of counties that agree or disagree (scale 5-1) that incentive systems are used encourage staff and departments to develop performance measures.

Chapter 4

Research Design and Methodology

4.1. Dependent Variable

The dependent variable for this study is the number of output and outcome measures developed by Texas counties to assess effectiveness of services rendered to the residents. Respondents were asked, using the survey questionnaire (Appendix A), to identify service functions in their counties that have developed output or outcome measures. The service functions include: Personnel, finance, fire, parks and recreation, health, welfare, transportation, library, housing, education, code enforcement, street maintenance, hospitals, economic development, solid waste, corrections, police, and animals.

The development of output or outcome measures is operationalized as the number of county service functions that have developed output and/or outcome measures. The response from each county was reported by counting the number of service functions that use output measures and the number of service functions that use outcome measures. For example, a county that has ten service functions, four output measures and six outcome measures, is given a score of four for output measures and a score of six for outcome measures. The respondents were asked to choose from a total of eighteen service functions provided on the

questionnaire (Appendix A), and to mark the service functions in their counties that use output or outcome performance measures. The numbers of output and outcome measures marked by the counties were recorded for further analysis.

4.2 Independent Variables

The independent variables for this study are stakeholders' involvement, strategic planning, resource availability, incentive systems, and population size. The survey questionnaire (Appendix A) was used to collect data on the independent variables using a five-point Likert scale, ranging from Strongly agree (5), Agree (4), Don't Know (3), Disagree (2) to Strongly Disagree (1). The respondents were asked to state whether they agree or disagree with the questions that measure a specific independent variable. Finally, all responses were averaged to measure the impact of all individual items on the specific independent variable. The Cronbach alpha index was used to measure the internal reliability of the average measurement of the independent variables. Cronbach alpha is an internal consistency index that measures how items grouped together measure a specific concept (Frankfort-Nachmias & Nachmias, 2008). The Cronbach alpha value greater than 0.7 is assumed to indicate that the items included in the measurement instrument accurately measure the specified concept (Frankfort-Nachmias & Nachmias, 2008).

The study analyzed the participation of the following specific stakeholders: County judge/administrator, managers, supervisors, employees, citizens, and legislatures. Stakeholders' involvement was measured by asking the respondents to state whether they agree or disagree with the following statements: County Judge/administrators support the development of performance measures; managers support the development of performance measures; supervisors support the development of performance measures; employees support the development of performance measures; legislatures support the development of performance measures; and citizens support the development of performance measures. An average measurement that combined all the responses to the statements was developed to measure the impact of all the individual statements on stakeholders' involvement on the development of performance measures. The internal reliability of how the statements measure stakeholders' involvement was measured using the Cronbach alpha index.

Strategic planning was measured by asking the respondents to state whether they agree or disagree with the following statements about managers and stakeholders: they regularly set missions, goals and objectives; develop and update performance measures; establish accountability for performance; measure performance against set targets; analyze and review performance data; evaluate and utilize performance data; and report performance information to stakeholders. An average measurement that combined all the responses to the statements was

developed to measure the impact of the statements on the development of performance measures in Texas counties. The internal reliability of the average measurement for strategic planning was assessed using the Cronbach alpha index.

Resource availability was measured by asking the respondents to state whether they agree or disagree with the following statements: Funds are allocated to collect and analyze performance data; departments have qualified staff to develop performance measures; departments have adequate information technology to collect and analyze performance data; and departments have cost-based accounting systems to process performance data. An average measurement that combined the responses to all the statements was developed to measure the impact of all the individual statements on the development of performance measures in Texas counties. The internal reliability of the statements measuring resource availability was assessed using the Cronbach alpha index.

The incentive system was measured by asking the respondents to state whether they agree or disagree with the following statements: Awards or bonuses are used to motivate staff to achieve set performance measures; increased funding is used to motivate departmental staff to achieve set performance measures; formalized recognition or accolade are used to motivate staff to achieve set performance measures; and expanded responsibility is used to motivate staff to achieve set performance measures. An average measurement that combined all the responses to the statements was developed to measure the impact of all the

individual statements on the use of incentive systems during the development of performance measures in Texas counties. The internal reliability index for the items measuring incentive system was measured using the Cronbach alpha index.

The population size of Texas counties in this study is based on the U.S. Census Bureau data for the year 2010. Texas counties are fragmented, with population sizes ranging from about 82 in Loving County to about 4 million in Harris County. Counties that have developed performance measures are assumed to have improved the quality of services rendered to their residents. If this assumption is correct, then we would expect that counties that have developed performance measures such as outputs and outcomes will attract more residents to their counties than counties that have not developed performance measures.

4.3 Control Variables

The control variables used in this study include the county per capita income, the county percentage population growth between the years 1990 and 2010, and the metropolitan status of the county - whether the county is located in urban or rural areas. The variables are used to control for the significant variations in county population sizes, and the fiscal disparities between the counties. Texas counties population size ranges from 82 to 4 million, and larger counties are assumed to be under pressure from residents to provide

more services than smaller counties. Therefore, larger counties are assumed to be more likely to develop performance measures than smaller counties.

The rapid growth in a county population size is assumed to put more pressure on services provided by county and as a result, counties that experience higher percentage of population growth rates are more likely to be under pressure to provide more services. The counties that experience higher population growth rates are therefore more likely to develop a higher number of performance measures than counties that experience low population growth rates. The counties that have developed performance measures, and have improved the quality and efficiency of their services, are assumed to be more likely to attract more residents, and therefore experience higher population growth rates, and pressure to provide more services to their residents.

Per capita income is used to compare the fiscal capacity of the counties based on the assumption that more revenues and expenditures are required to provide services to counties with larger populations than counties with smaller populations (Fisher, 2007). The counties with higher populations are assumed to have higher tax incomes that can support more services than counties that have lower populations and lower tax incomes. Therefore, it is assumed that counties with higher populations are more likely to develop a higher number of performance measures than counties with lower populations. Urban counties are more likely to have higher populations and are therefore expected

to provide more services to their residents than rural counties. Urban counties are therefore more likely to develop a higher number of performance measures than rural counties.

4.4. Data Collection

This study is based on a survey of Texas counties using a survey questionnaire (Appendix A), secondary data analysis of county budget documents, and telephone interviews. The survey questionnaire and letters sent to the respondents were reviewed by the University of Texas at Arlington's Institutional Review Board (IRB) under the exempt status. The purpose of the review was to ensure that the rights and confidentiality of the participants were safeguarded.

Information was solicited from county budget officials by asking them to express their opinions, attitudes, or previous experience with the development of performance measurements in their counties. The purpose of the survey research was to use the information and data collected to study the factors that influence the development of performance measurements in counties. The analysis of the secondary data was used to compare information obtained from the respondents and information obtained from budget documents and strategic plans to assess consistency of information provided by the respondents. The survey research method was the preferred form of data collection for this study because of its faster turnaround times in data collection (Creswell, 2009) The survey was cross-

sectional because data was collected at one point in time using self-administered questionnaires (Creswell, 2009).

A survey questionnaire (Appendix A) was sent to county budget officials in 254 Texas counties. The Texas Counties Association directory (2013) was used to identify the names and the addresses of the county officials to be contacted. The survey questionnaires were sent with a cover letter explaining the purpose of this research, and a list containing the definition of terminologies used in the questionnaires to ensure consistency in understanding and responding to specific questions. The questions contained both continuous and categorical scales.

A five-phase administration process of the survey questionnaire used to ensure a high response rate (Salant & Dillman, 1994). Introductory letters were sent to county treasurers, auditors, or budget officers explaining the purpose of the survey and requesting their cooperation in filling out the survey questionnaires. The survey questionnaires with pre-addressed return envelopes and postage stamps were then mailed seven days after the introductory letters. The letters reminding non-responders were sent out seven days after mailing the survey questionnaires. A second batch of letters to non-responders, questionnaires, and pre-addressed return envelopes with stamps were mailed to non-responders seven days after the first batch of letters reminding non-responders. Finally, the non-responders were contacted by phone seven days after mailing the second personalized letters as a final reminder to fill out the questionnaires, and also to

find out the reasons for not responding. About 50 non-respondents were randomly selected and contacted by phone to establish if their responses were significantly different from those of respondents.

4.5. Data Analysis and Interpretation

Data analysis is based on how Texas Counties have developed performance measures, the impact, and the challenges of developing performance measures. The extent to which stakeholders' involvement, strategic planning, availability of resources, population size, incentive systems, percentage population growth, per capita income, and the metropolitan status of the counties affect the development of performance measures is analyzed. Quantitative data analysis is based on multiple regression analysis, using SPSS statistical software package, to analyze the factors that influence the development of performance measures in Texas Counties. Multiple regression analysis is based on the Ordinary Least Squares method (OLS).

Descriptive statistics analysis of the data was done to determine the mean, standard deviation, and the range of scores for the variables. Descriptive statistics are used to summarize data collected during the survey, and to present quantitative data analysis in a manageable format (Frankfort-Nachmias & Nachmias, 2008). Inferential statistics are computed to determine if there are any relationships between the dependent variables and independent variables. The

interpretation of multiple regression results is based on regression analysis outputs that include βeta coefficient, t-statistic, standard error, p-value, F-Statistic, and adjusted R-Square.

Chapter 5

Data Analysis and Interpretation of Results

5.1 Introduction

During the months of July, August, and September 2013, a survey was conducted in Texas counties to assess the extent to which performance measurement systems have been developed to monitor the effectiveness of services provided to the county residents. The survey questionnaire was sent to county officials in charge of budgeting in each of the 254 counties in Texas. The Texas County Association directory (2013) was used to identify the names of county officials to be contacted. The officials contacted included County treasurers, auditors, Budget officers, or budget directors. A total of 131 (51.6%) officials responded to the survey and 84 (64.1%) of the respondents reported the presence of performance measures, while 47 (35.9%) respondents reported the absence of performance measures in their counties. The survey response rate is reported in Table 5.1.

Table 5.1. Survey Response Rate

	N	%
No. of Participants	254	100.0
Respondents	131	51.6
Respondents with PM	84	64.1
Respondents with no PM	47	35.9

Note. N = number of counties; PM = Performance Measures.

The counties that have developed performance measures and the counties that have no performance measures differed in terms of population size, per capita income, percentage population growth, and metropolitan status. The descriptive statistics of counties with performance measures, counties without performance measures, and counties that did not respond to the survey are shown on Table 5.2.

Table 5.2. Comparative Analysis of Texas Counties

	Counties	N	Range	Min.	Max	Mean	Std. Dev.
Pop. Size	Response with PM	84	2367	1	2368	115	298
(thousands)	Response No PM	47	53	0	53	13	13
	No Response	123	4092	0	4092	148	490
P. C. Income	Response with PM	84	37	21	58	36	8
($ thousands)	Response No PM	47	39	23	62	37	9
	No Response	123	43	22	65	36	7
Population Growth	Response with PM	84	236	-30	206	31	48
(%)	Response No PM	47	83	-40	43	3	23
	No Response	123	116	-49	66	12	22
Metropolitan Status	Response with PM	84	1	0	1	0.4	0.5
	Response No PM	47	0	0	0	0	0
	No Response	123	1	0	1	0.25	0.4

Note: PM =performance measures, pop.= population, P.C.= per capita, N= number of counties

The population sizes of counties with performance measures ranged from a minimum of one thousand to a maximum of 2.4 million, while counties without performance measures have a minimum population size of less than one thousand

and a maximum of 53,000. The counties that did not respond to the survey had a maximum population size of 4 million and a minimum of 416. The per capita income for counties with performance measures ranged from a minimum of $21, 000 to a maximum of $58,000, while the per capita income for counties without performance measures ranged from a minimum of $23,000 to a maximum of $62,000. The counties that did not respond to the survey have a maximum per capita income of $65,000 and a minimum of $22,000. However, there was no significant difference in the mean per capita income for counties that did not respond, counties that responded and reported development of performance measures, and the counties that responded and indicated absence of performance measures.

The percentage population growth between the years 1990 and 2010 for counties with performance measures ranged from a minimum of -30% to a maximum of 206%. The counties without performance measures had a percentage population growth of -40% minimum and a maximum of 43%. The counties that did not respond to the survey had a maximum percentage population growth of 66% and a minimum percentage population growth of -49 %. About 35% of counties with performance measures are located in urban areas, compared to 16% of the counties that did not respond to the survey. Counties that indicated absence of performance measures are all located in the rural areas.

The counties that have developed performance measures have a higher population size and a higher percentage population growth. There are no significant differences between counties with performance measures and counties without performance measures in terms of per capita income. The study focused specifically on counties that have developed performance measurement systems, and counties that reported absence of performance measures in their counties were excluded from the study.

5.2 Descriptive Statistics

The counties that have developed performance measurement systems differed markedly on the number of service functions offered and on the number of output and outcome measures to monitor the provision of services. The descriptive statistics of the number of services provided in the counties and the types of measures used are shown on Table 5.3.

Table 5.3. Number of Service Functions in Texas Counties.

	N	Range	Min.	Max.	Mean	Std. Dev.
No. of Services	84	12	3	15	8.29	3.044
No. of Output Measures	84	14	1	15	5.79	3.097
No. of Outcome Measures	84	15	0	15	4.07	3.188

Note. N = number of counties with performance measures.

The average number of services offered in the counties is about 8, ranging from minimum of 3 to maximum of 15 service functions. The average number of output measures is approximately 6, ranging from a minimum of 1 to a maximum of 15, while the average number of outcome measures is about 4, ranging from 0 to 15. On average, 60% of the services use output performance measures, while 40% of the services use outcome measures.

The types of services in Texas counties are shown on Figure 5.1.

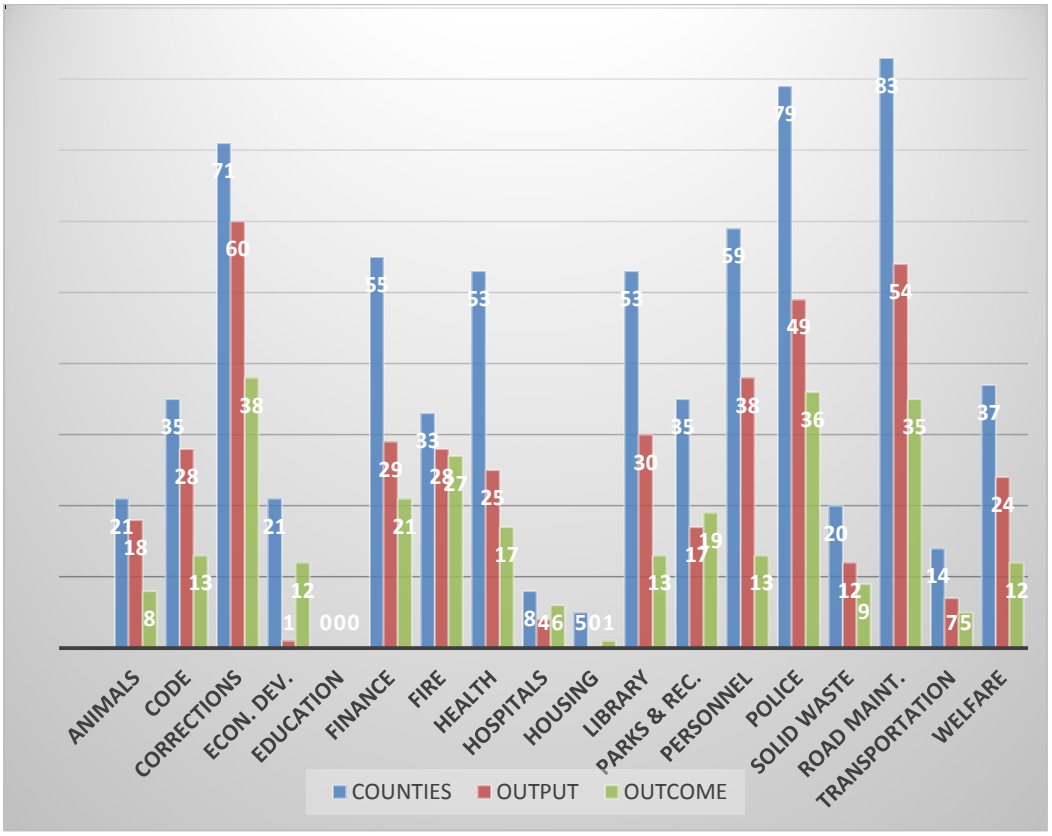


Figure 5. 1. Types of Services in Texas Counties

The most common type of services offered by the 84 counties studied includes road maintenance, police, corrections, and personnel services. The least common service functions in counties are hospitals and housing services. Among the services offered by the counties, output and outcome measures are more common in correction, road maintenance, and police services.

The respondents were asked to state the major benefits or impacts of developing performance measurements in their counties. About 67% of respondents agreed that developing performance measures have increased accountability to their residents and stakeholders, 52% of the respondents agreed that the development of performance measures have improved the quality of decision making, and 58% of respondents agreed that performance measures have improved communications between departments. Only 11% of the respondents agreed that performance measures are used to set performance targets for services provided by the counties. The results of the impact of performance measures in Texas counties are reported on Table 5.4.

Table 5.4. The Impact of Performance Measures on County Operations.

	N	Agree	%
Increased accountability	84	56	66.7
Improved service efficiency	84	22	26.2
Improved service effectiveness	84	20	23.8
Set performance targets for services	84	9	10.7
Improved communications with external stakeholders	84	27	32.1
Improved quality of decision making	84	44	52.4
Eliminated services no longer needed	84	25	29.8
Improved communications between departments	84	49	58.3

Note. N = the number of counties that have developed performance measures.

The development of performance measures poses significant challenges to county governments. About 71% of the respondents agreed that support from elected officials is a significant challenge to the development of performance measures, and 74% of respondents agreed that lack of incentives to motivate staff is a challenge to the development of performance measures. The other challenges faced by counties in developing performance measures include developing relevant performance measures (57%), measurement problems (38%), and inadequate technology to collect and process performance data (31%). The least challenges to the development of performance measures in the counties are support from senior managers (11%), support from citizens (13%), and support

from employees and supervisors (19%). The results of the survey are shown on Table 5.5.

Table 5.5. The Challenges of Developing Performance Measures in Texas Counties.

	N	Agree	%
Developing relevant performance measures	84	48	57.1
Measurement problems	84	32	38.1
Capacity to collect, analyze, and interpret data	84	21	25.0
Support from elected officials	84	60	71.4
Allocation of resources for PM	84	19	22.6
Lack of incentives to motivate staff	84	62	73.8
Inadequate technology to collect and process data	84	26	31.0
Support from citizens	84	11	13.1
Support from supervisors	84	16	19.0
Support from employees	84	16	19.0
Support from senior managers	84	9	10.7

Note. N = number of counties with performance measures, PM = Performance measures.

The respondents were also asked to give their opinions on the extent to which performance measurement systems are integrated with the budgeting process. In order to assess the integration of performance measures with the budgeting process, respondents were asked to state their opinions as to whether performance measures are used to justify executive budgets; whether output and outcome measures are linked to the county's strategic plans; whether legislatures use performance measures to review executive budgets and make funding decisions; whether funding of programs are based on performance expectations;

and whether performance measures are used to ensure compliance with program performance. The results of the survey are shown on Table 5.6.

Table 5.6. The Integration of the Budgeting Process with Performance Measures

Budgeting Process	N	Agree	%
Performance measures used to justify executive budgets	84	41	48.8
Outputs and outcome measures are linked to strategic plans	84	30	35.7
Legislatures use performance measures to review budgets	84	18	21.4
Legislatures use performance measures to make decisions	84	20	23.8
Legislatures specify performance expectations for programs	84	30	35.7
Program funding based on performance expectations	84	36	42.9
PM used to ensure compliance with program performance	84	35	41.7

Note. PM= performance measures, N = number of counties.

About 49% of the respondents agreed that performance measures are used to justify executive budgets during the budget preparation stage, 43% agreed that funding of county programs are based on performance expectations, 36% of the respondents agreed that output and outcome measures are linked to the strategic planning, and 42% of the respondents agreed that performance measures are used to ensure compliance with program performance. Only 21% of the respondents agreed that legislatures use performance measures to review executive budgets,

and 24 % of the respondents agreed that legislatures use performance measures to make funding decisions during the budgeting.

The data shows that the integration of the budgeting process with performance measurement systems is not very widespread among the counties studied. Only 29% of the counties agreed that performance measurements are integrated with the budgeting process. The low integration of the budgeting and performance measurement systems can be partly explained by the lower usage of performance measures by the county legislatures to review executive budgets and make funding decisions.

5.3. Bivariate Analysis

This study hypothesized that there is a positive relationship between the number of output and outcome measures in Texas counties and the independent variables stakeholders' involvement, strategic planning, availability of resources, incentive systems, population size, per capita income, percentage population growth, and metropolitan status. The dependent variables, output and outcome measures, are operationalized as the number of output and outcome measures developed by the counties to monitor the effectiveness of services provided to the residents. The independent variables are measured on a Likert scale, ranging from 5 (strongly agree) to 1 (strongly disagree), and are treated as ordinal variables. Spearman's correlation coefficients (r_s) are used to analyze the relationship

between the independent variables and the number of output and outcome measures. The Spearman's rank correlation coefficient is used because it is suitable for measuring the correlation between ordinal variables (Gray & Kinnear, 2012). The results of the bivariate analysis are presented in Table 5.7.

Table 5.7. Spearman's Correlation Coefficients (r_s) between Variables**.**

Independent Variables	Spearman's Correlation Coefficients(r_s)	
	No. of Output Measures	No. of Outcome Measures
Stakeholders' Involvement	0.412**	0.028
Strategic Planning	-0.268*	0.486**
Resource Availability	-0.247*	0.474**
Incentive Systems	-0.008	0.303**
Population Size	0.265*	-0.047
Per Capita Income	0.124	-0.035
% Pop. Growth	0.246*	-0.132
Metropolitan Status	0.161	0.047

Note. *$p < .05$. **$p < .01$ *** $p < .001$

The data shows that the number of output measures developed in counties are positive and significantly correlated with stakeholders' involvement (r_s = 0.412, $p < .01$), are negative but significantly correlated with strategic planning (r_s = -0.268, $p < .05$) and resource availability (r_s = -0.247, $p < .05$). There is a positive and significant correlation between population size and percentage population growth and the number of output measures. The data indicates a positive and significant correlation between the number of outcome measures and

strategic planning, resource availability, and incentive systems. Stakeholders' involvement and metropolitan status have a positive but insignificant correlation with the number of outcome measures.

5.3.1 Hypothesis 1: Stakeholders' Involvement

Stakeholders' involvement was measured by asking the respondents to state whether they agreed or disagreed with the statements that County administrators, managers, supervisors, employees, legislatures, and citizens support the development of performance measures. The study hypothesized a positive relationship between the number of output and outcome performance measures and stakeholders' involvement. The results are shown on Table 5.8.

Table 5.8. Stakeholders' Involvement in the Developing Performance Measures

Hypothesis 1	N	Agree	%
County administrator support development of PM	84	60.0	71.4
Managers support development of PM	84	59.0	70.2
Supervisors support the development of PM	84	52.0	61.9
Employees support the development of PM	84	47.0	56.0
Legislatures support the development of PM	84	28.0	33.3
Citizens support the development of PM	84	53.0	63.1
Aggregate Score for Cronbach alpha = 0.774	84	50	59.3

Note. N = number of counties with performance measures.

The data indicates that development of performance measures is supported by County administrators (71%), managers (70%), citizens (63%), supervisors (62%) and employees (56%). The results show that support for performance measures is high among senior county administration officials at about 70%, but low among county legislatures at 33%. On average, 59% of the counties studied agreed that stakeholders are involved in the development of performance measures. The internal reliability index for the items measuring stakeholders' involvement, measured by Cronbach alpha (Appendix C1), is high at 0.774, indicating that the items accurately measure the participation of stakeholders during the development of performance measures.

5.3.2 Hypothesis 2: Strategic Planning

The study hypothesized that there is a positive relationship between the number of output and outcome measures and the use of strategic planning process in counties. Strategic planning was measured by asking the respondents to state whether they agreed or disagreed with the following statements: managers set missions, goals, and objectives through strategic planning processes; managers develop and update performance measures; managers establish accountability for performance measures; managers measure performance against set targets; managers analyze and review performance data; managers evaluate and utilize

performance information; and managers' report performance information to stakeholders.

The data indicates that the use of strategic planning process during the development of output and outcome measures is not widespread in the counties. On average, only 40% of the respondents from the counties studied agreed that strategic planning is used during the development of performance measures. The results of the survey are shown on Table 5.9.

Table 5.9. The Use of Strategic Planning During the Development of Performance Measures.

Hypothesis 2	N	Agree	%
Strategic Planning			
Managers and staff regularly set mission, goals, objectives	84	34	40.5
Managers and staff regularly develop and update PM	84	39	46.4
Managers establish accountability for PM	84	28	33.3
Managers measure performance against set targets	84	35	41.7
Managers analyze and review performance data	84	36	42.9
Managers evaluate and utilize performance information	84	34	40.5
Managers regularly report performance information	84	30	35.7
Aggregate Score for Cronbach alpha = 0.915	84	34	40.1

Note. N = number of counties with performance measures.

The data indicates that 46% of the respondents agreed that managers and staff regularly develop and update performance measures, while 43% of the respondents agreed that managers analyze and review performance data. The

establishment of accountability for performance measures by managers is low at 33%, and reporting of performance information to stakeholders by managers is also low at 36%. The items included in the survey had a high internal reliability index of 0.915 (Cronbach alpha, see Appendix C2) indicating that they accurately measure the underlying construct.

5.3.3 Hypothesis 3: Resource Availability

Resource availability is hypothesized to be positively related to the number of output and outcome performance measures. The survey items that were used to measure resource availability included the response to questions as to whether enough funds are allocated for performance measurements; whether there are qualified staff to develop performance measures; whether there is information technology to collect and process performance data; and whether cost-based accounting systems are available to manage performance data. The internal reliability index for the items is high with Cronbach alpha of 0.857 (Appendix C3) indicating that the items accurately measure the availability of resources during the development of performance measures.

The results of the survey, shown on Table 5.10, indicate that 49% of the counties studied agreed that availability of resources is important during the development of performance measures. About 58 % of the respondents agreed that they had information technology to process performance data, and 50% of the

respondents agreed that they have cost-based accounting systems to manage performance data.

Table 5.10. The Availability of Resources during the Development of Performance Measures.

Hypothesis 3	N	Agree	%
Resource Availability			
Enough funds are allocated to manage performance data	84	38	45.2
Qualified staff to develop performance measures	84	34	40.5
Information technology to manage performance data	84	49	58.3
Cost-based accounting system to manage performance data	84	42	50.0
Aggregate Score for Cronbach alpha = 0.857	84	41	48.5

5.3.4 Hypothesis 4: Incentive Systems

Incentive systems were measured by asking respondents to state whether they agreed or disagreed with the statements that awards or bonuses, increased funding, recognition, and salary increments are used to motivate staff and departments to develop performance measures. The internal reliability measured by Cronbach alpha is high at 0.874 (Appendix C4). The study hypothesized a positive relationship between incentive systems and the number of output and outcome performance measures. The results of the survey indicate that on average, only 14% of the respondents agreed that incentive systems are used by counties to motivate staff and departments to develop output and outcome performance measures.

About 18% of the respondents agreed that increased funding is used to motivate departments to develop performance measures, and 19% agreed that formalized recognition and salary increments are used as a way of motivating staff who have achieved the set performance targets. Only 11% of the respondents agreed that bonuses are given to those who have achieved their performance targets. The survey results are shown on the Table 5.11.

Table 5.11. The Use of Incentives during the Development of Performance Measures

Hypothesis 4	N	Agreement	%
Incentive System			
Awards or bonuses	84	9	10.7
Increased funding for the departments	84	15	17.9
Formalized recognition or accolade	84	16	19.0
Salary increments based on performance targets	84	15	17.9
Aggregate Score for Cronbach alpha = 0.874	84	14	16.4

Note. N = number of counties with performance measures.

The summary of the factors affecting the development of performance measures are shown in Appendix D.

5.3.5 Hypothesis 5: Population Size

The study hypothesized that there is a positive relationship between population size and the number of output and outcome performance measures.

The counties with population sizes above 250,000 have an average of 11 services provided, 9 output measures and 5 outcome measures compared to counties with population below 50,000 that have an average of 8 services, 5 output measures, and 4 outcome measures. The counties that experienced higher population growth rates of 100% and above between the years 1990 and 2010 have an average 9 services, 6 output measures, and 5 outcome measures compared to counties that experienced population growth below 100% with average 8 of services, 5 output measures, and 3 outcome measures. The counties that experienced negative percentage population growth between the years 1990 and 2010 are located in the rural areas. However, there is no difference between the counties that experienced positive and negative population growth rates in terms of number of services provided and the number of output and outcome measures.

The urban counties have an average population size of 290,000, an average population growth of 66%, and an average per capita income of $38,000 compared to rural counties with an average population size of 22,000, an average population growth of 13%, and an average per capita income of $35,000. Urban counties have an average of 9 services, 7 output measures, and 4 outcome measures. All urban counties that responded to the survey had positive population growth rates, while 62% of the rural counties that responded had a negative percentage population growth between the years 1990 and 2010. About 77% of

Texas counties are located in the rural areas and 23% are located in Metropolitan areas (U.S. Census Bureau, 2010).

A comparative analysis of the average population size (thousands), percentage population growth rates between 1990 and 2010, per capita income (thousands of dollars), number of services, and the number of output and outcome measures for the urban and rural Texas counties are shown on Table 5.12.

Table 5.12. A Comparative Analysis of Urban and Rural Texas Counties.

	Urban Counties	Rural Counties
Population Size (000)	291	22
Population Growth (%)	66	13
Per Capita Income ($, 000)	38	35
Number of Services	9	8
Number of Output Measures	7	5
Number of Outcome Measures	4	4

Note. The figures are average measures (Mean).

5.4. Multiple Regression Analysis

The multiple regression analysis, based on Ordinary Least Squares (OLS) technique, was used to assess that effect of independent variables on the number of output and outcome performance measures. The scores for dependent and independent variables were used in the multiple regression analysis. The scores for output and outcome measures represent the number of services that use output or outcome performance measures. The independent variable scores represent the

average score of multiple items used to measure a specific independent variable. For example, the score for independent variable stakeholders' involvement is the average of the items that ask the respondents to state whether County administrators, managers, supervisors, employees, legislatures, and citizens support the development of output and outcome measures.

5.4.1 Multiple Regressions on Output Performance Measures

The average scores for all the independent variables were regressed on the number of output performance measures. The study hypothesized a positive relationship between the number of output measures and stakeholders' involvement, strategic planning, resource availability, incentive systems, population size, per capita income, percent population growth rates (1990-2010), and the metropolitan status of the county.

Regression Model 1. Output Measures

OM= Output Measure: the number of output performance measures developed by counties to assess service functions.

SI = Stakeholders' Involvement: counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that stakeholders are involved in the development of output measures.

SP = Strategic Planning: counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that strategic planning is used

during the development of output measures.

RA = Resource Availability: counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that availability of resources is important during the development of output measures.

IS = Incentive Systems: counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that incentives are used during the development of output measures.

PS = Population size: Natural log of Texas counties population size (U.S. Census Bureau, 2010).

PI = Per capita Income: Natural log of Texas counties per capita income (U.S. Census Bureau, 2010).

PG = Population Growth (%): Texas counties % population growth between 1990 and 2010.

MS = Metropolitan Status: Dummy variable coded 1 for urban counties and 0 for rural counties.

$$\begin{matrix} & & & & & & & & \\ & + & + & + & + & + & + & + & + \end{matrix}$$

$$Y_i = f\,(SI + SP + RA + IS + PS + PI + PG + MS) + \epsilon_i$$

$$OM = \beta_0 + \beta_1 SI_1 + \beta_2 SP_2 + \beta_3 RA_3 + \beta_4 IS_4 + \beta_5 PS_5 + \beta_6 PI_6 + \beta_7 PG_7 + \beta_8 MS_8\ \epsilon_i$$

The regression results show that the adjusted R Square is 0.167, indicating that the independent variables, stakeholders' involvement, strategic planning,

resource availability, incentive systems, population size, per capita income, percentage population growth, and metropolitan status explains only 16.7% of the variation in the dependent variable, the number of output performance measures. Adjusted R Square is used to measure the "goodness of fit" of a regression model. It is a sample statistic that measures how well the model fits the sample data and therefore indicates the usefulness of the regression model (Mendenhall & Sincich, 2012). It explains the proportion of the variation in the dependent variable that is explained by the independent variables in the regression equation. The regression results are shown on Table 5.13.

Table 5.13. The Development of Output Performance Measures

	Number of output Performance Measures			
Independent Variables	B	Std. Error	Beta	t
Constant	-3.845	4.147		-0.927
Stakeholders' Involvement	1.490**	0.539	0.325	2.765
Strategic Planning	-0.553	0.474	-0.148	-1.166
Resource Availability	0.237	0.337	0.084	0.703
Incentive Systems	0.365	0.293	0.129	1.246
Population Size	0.431	0.347	0.211	1.242
Per Capita Income	-0.019	0.158	-0.013	-0.120
% Pop. Growth	0.013	0.009	0.180	1.365
Metropolitan Status	-0.768	1.078	-0.109	-0.712
Adjusted R Square	0.167			
F-Statistic	3.074			

Note. N = 84; t = t-statistic; df = 75, *p< .05. **p < 0.01. ***p < .001

The regression results shows that one unit increase in agreement, measured on a scale of 5 (strongly agree) to a scale of 1 (strongly disagree), for stakeholders' involvement increases the number of output measures by 1.490, holding constant strategic planning, resource availability, incentive systems, population size, per capita income, percentage population growth, and metropolitan status. Since the calculated value of t-statistic of 2.765 for stakeholders' involvement is greater than the critical t-statistic value of 2.000, we reject the null hypothesis that there is no relationship between stakeholders' involvement and the number of output measures. We therefore conclude that stakeholders' involvement is positively related to the number of output measures.

One unit decrease in agreement, measured on a scale of 5 (strongly agree) to a scale of 1 (strongly disagree,) for strategic planning reduces the number of output measures by -0.553, holding constant stakeholders' involvement, resource availability, incentive systems, population size, per capita income, percentage population growth, and metropolitan status. Since the calculated t-statistic value of -1.166 for strategic planning is less than the critical t-statistic value of 2.000, we do not reject the null hypothesis that there is no relationship between strategic planning and the number of output measures. The conclusion is that strategic planning is negatively related to the number of output measures.

One unit increase in agreement, measured on a scale of 5 (strongly agree) to 1 (strongly disagree), for resource availability increases the number of output

measures by 0.237, holding constant stakeholders' involvement, strategic planning, incentive systems, population size, per capita income, percentage population growth, and metropolitan status. Since the calculated t-statistic value of 0.703 for resource availability is less than the critical t-statistic value of 2.000, we do not reject the null hypothesis that there is no relationship between resource availability and the number of output measures. We therefore conclude that resource availability is negatively related to the number of output measures.

One unit increase in agreement, measured on a scale of 5 (strongly agree) to 1 (strongly disagree), for incentive systems increases the number of output measures by 0.365, holding constant stakeholders' involvement, strategic planning, resource availability, population size, per capita income, percentage population growth, and metropolitan status. The calculated t-statistic value for incentive systems is 1.246 and since the value is less that the critical t-statistic value of 2.000, we do not reject the null hypothesis that there is no relationship between incentive systems and the number of output performance measures. The use of incentive systems is therefore negatively related to the number of output measures.

The metropolitan status of the county is a dummy variable coded 1 for urban counties and 0 for rural counties. A unit decrease in metropolitan status of the county represents a move from 1 (rural county) to 0 (urban county). The results

indicate that counties located in rural areas are less likely to develop output performance measures by -0.768 than counties located in the urban areas.

The most important independent variables explaining the number of output measures are stakeholders' involvement and county population size, with beta coefficient of 0.325 and 0.211 respectively. This means that an increase in stakeholders' involvement and population size by one standard deviation unit will cause an increase in the number of output measures by 0.325 and 0.211 standard deviations respectively. The strategic planning, with the lowest beta coefficient of -0.148 is the least important variable in explaining the number of output measures. A decrease in the use of strategic planning by one standard deviation will cause a reduction in the number of output measure by -0.148 standard deviations. An increase in percentage population growth rate by one standard deviation increases the number of output measures by 0.180 standard deviation units. A decrease in county per capita income by one standard deviation decreases the development of output measures by -0.013 standard deviations.

The regression analysis data shows that the value of F- Statistic is 3.074 compared to a critical F- statistic value of 2.100. The F-statistic is a test of the overall significance of the model and since the calculated F-Statistic value of 3.074 is higher than the critical value of 2.100, we reject the null hypothesis that there is no relationship between the number of output performance measures and

the independent variables. We therefore conclude that the output performance measures equation is statistically significant at 5-percent level of significance.

5.4.2. Multiple Regressions on Outcome Performance Measures.

The independent variables average scores were regressed on the number of outcome measures (OM). The study hypothesized that there is positive relationships between the number of outcome measures developed in the counties and stakeholders' involvement, strategic planning, resource availability, incentive systems, population size, per capita income, percent population growth rates between the years 1990 and 2010, and the metropolitan status of the county.

Model 2 Outcome Measures.

OM= Outcome Measure: the number of service functions that have developed outcome performance measures.

SI = Stakeholders' Involvement: counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that stakeholders are involved in the development of outcome measures.

SP = Strategic Planning: counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that strategic planning is used during the development of outcome measures.

RA = Resource Availability: counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that availability of resources is

important during the development of outcome measures.

IS = Incentive System: counties that agree or disagree on a scale of 5 (strongly agree) to 1 (strongly disagree) that incentives are used during the development of outcome measures.

PS = Population size: Natural log of Texas counties population size (U.S. Census Bureau, 2010).

PI = Per capita Income: Natural log of Texas counties per capita income (U.S. Census Bureau, 2010).

PG = Population Growth: Texas counties percentage population growth (1990 to 2010).

MS = Metropolitan Status: Dummy variable coded 1 for urban counties and 0 for rural counties.

$$Y_i = f(SI + SP + RA + IS + PS + PI + PG + MS) + \epsilon_i$$

$$OM = \beta_0 + \beta_1 SI + \beta SP2 + \beta_3 RA_3 + \beta_4 IS_4 + \beta_5 PS_5 + PI + PG + MS + \epsilon_i$$

The data for the regression analysis shows that the Adjusted R Square is 0.270 and F-statistic value is 4.844. The result shows that the independent variables, stakeholders' involvement, strategic planning, resource availability, incentive systems, population size, per capita income, percentage population growth rates, and metropolitan status explains only 27% of the variation in the dependent variable, number of outcome performance measures. The F-statistic

measures the overall significance of the model and since the calculated F-statistic value of 4.844 is higher than the critical value of 2.100, we reject the null hypothesis that there is no relationship between the number of outcome performance measures and the independent variables. We therefore conclude that outcome performance measures equation is statistically significant at 5-percent level of significance. The results of the regression analysis are shown on Table 5.14.

Table 5.14. The Development of Outcome Performance Measures

	Number of outcome Performance Measures			
Independent Variables	B	Std. Error	Beta	t
Constant	5.831	2.380		2.449
Stakeholders' Involvement	-0.372	0.309	-0.132	-1.204
Strategic Planning	0.429	0.272	0.187	1.577
Resource Availability	0.484**	0.193	0.280	2.502
Incentive Systems	0.510**	0.168	0.295	3.035
Population Size	-0.376	0.199	-0.300	-1.886
Per Capita Income	-0.185*	0.091	-0.206	-2.041
% Pop. Growth	-0.006	0.005	-0.144	-1.167
Metropolitan Status	1.779**	0.619	0.412	2.875
Adjusted R Square	0.270			
F-Statistic	4.844			

Note. N = 84, t = t-statistic, df = 75, *p< .05. **p < 0.01. ***p < .001

The results shows that one unit decrease in agreement, measured on a scale of 5 (strongly agree) to 1 (strongly disagree), for stakeholders' involvement reduces the number of outcome measures by -0.372, holding constant strategic planning, resource availability, incentive systems, population size, per capita income, percentage population growth, and metropolitan status. Since the calculated t-statistic value of -1.204 is less that the critical t-statistic value of 2.000, we do not reject the null hypothesis that there is no relationship between stakeholders' involvement and the number of outcome performance measures. We therefore conclude that stakeholders' involvement is negatively related to the number of outcome measures.

One unit increase in agreement, measured on a scale of 5 (strongly agree) to 1 (strongly disagree), for strategic planning increases the number of outcome measures by 0.429, holding constant stakeholders' involvement, resource availability, incentive systems, population size, per capita income, percentage population growth, and metropolitan status. Since the calculated t-statistic value of 1.577 for strategic planning is less than the critical t-statistic value of 2.000, we do not reject the null hypothesis that there is no relationship between strategic planning and the number of outcome performance measures. We therefore conclude that strategic planning is not related to the number of outcome performance measures.

One unit increase in agreement, measured on a scale of 5 (strongly agree) to 1 (strongly disagree), for resource availability increases the number of outcome measures by 0.484, holding constant stakeholders' involvement, strategic planning, incentive systems, population size, per capita income, percentage population growth, and metropolitan status. Since the calculated t-statistic value of 2.502 for resource availability is greater that the critical t-statistic value of 2.000, we reject the null hypothesis that there is no relationship between resource availability and the number of outcome performance measures. We therefore conclude that resource availability is positively related to the number of outcome measures.

One unit increase in agreement, measured on a scale of 5 (strongly agree) to 1 (strongly disagree), for incentive systems increases the number of outcome measures by 0.510, holding constant stakeholders' involvement, strategic planning, resource availability, population size, per capita income, percentage population growth, and metropolitan status. Since the calculated t-statistic value of 3.035 is greater than the critical t-statistic value of 2.000, we reject the null hypothesis that there is no relationship between incentive systems and the development of outcome measures. The conclusion is that the use of incentive systems is positively related to the development of outcome measures.

The population size calculated t-statistic value of -1.886 is less that the critical t-statistic value of 2.000, and we therefore do not reject the null hypothesis

that there is no relationship between population size and the number of outcome performance measures. Population size is therefore negatively related to the number of outcome measures. The metropolitan status of the county is a dummy variable coded 1 for urban counties and 0 for rural counties. There is a positive and significant relationship between the metropolitan status of the counties and the number of outcome measures. The results indicate that counties located in urban areas are more likely to develop 1.779 more outcome performance measures than counties located in rural areas.

The variables with the greatest impact on the development of outcome measures are metropolitan status, incentive systems, and resource availability, with beta coefficients of 0.412, 0.295, and 0.280 respectively. This means that an increase in the metropolitan status of a county (urban counties), the use of incentive systems, and the resource availability by one standard deviation units will cause an increase in the number of outcome measures by 0.412, 0.295, and 0.280 standard deviations units respectively. The least important variables explaining the development of outcome measures are the county population size and per capita income, with beta coefficients of -0.300 and -0.206 respectively. Similarly, a decrease county population size and per capita income by one standard deviation unit will cause a reduction in the number of outcome measures by -0.300 and -0.206 standard deviation units respectively.

The detailed regression analysis results for both output and outcome measures are included in appendix E, F, and G.

Chapter 6

Discussions, Conclusions, and Recommendations

6.1. Introduction

This chapter consists of five sections. The first section summarizes the findings from the study based on the hypotheses. It compares the findings from the study with the literature reviewed and the theories underlying the development of performance measures. The second section summarizes the implications of the findings from the study to the development of performance measures and to various stakeholders. The third section is a summary of the main findings of the study, and the last two sections describe the recommendations based on the findings and the suggestions for further research.

6.2. Discussions

The findings of this study indicate that the development of performance measures in Texas county governments is related to the involvement of stakeholders, the use of incentive systems, the county metropolitan status, and the availability of resources. The development of output measures is significantly influenced by the participation of various stakeholders, while the development of outcome measures is greatly influenced by the metropolitan status of the county,

allocation of resources for performance measurement programs, and the use of incentive systems to motivate staff.

The study hypothesized a positive relationship between the number of output and outcome measures and the involvement of various stakeholders. The number of output measures is positively related to stakeholders' involvement, while there is a negative relationship between the number of outcome measures and participation of stakeholders. The development of performance measures is considered a response by governments to the demand by citizens for accountability and service quality. Therefore, support from managers, legislatures, and employees are important to the development of performance measures.

The findings are consistent with the previous work done by Berman and Wang (2000) that found that participation of stakeholder is important during the development of performance measures in county governments. The study findings also support the theories of bureaucratic politics that assumes that both the legislatures and the executives should be involved in policymaking and policy implementation processes in government institutions (Frederickson & Smith, 2009).

Output measures are more common in the counties than outcome measures. The counties have an average of eight service functions, six use output measures (60%), while outcome measures are used in only four functions (40%). The findings are consistent with the work done by Berman and Wang (2000) that

found that output measures are used in 70% of the county service functions, while outcome measures are used in 45% of the county functions. Output measures are internal organizational measures used to assess the number of units, products or services produced by organizations. Examples of output measures in counties include miles of roads constructed, number of children immunized, or number of criminals apprehended. The measures are more prevalent in counties because output performance data are easy to collect and process.

Outcome measures are used to measure the benefits associated with a product or service delivered by an organization. The findings of this study indicate that there is a negative relationship between the number of outcome measures and the participation of stakeholders. The development of outcome measures have posed great challenges to public organizations because of measurement problems, lack of skilled personnel to develop relevant outcome measures, and inadequate technology to collect and process performance data. The findings of the study support the previous work done by Berman and Wang (2000) that found that only 29.1 % of the counties surveyed had staff capable of conducting scientific surveys to collect outcome performance data. Caiden (1998) found that it is difficult to link performance measures to resource allocation decisions during the budgeting process due to difficulties in assessing how outcome measures affect changes in program funding levels.

Although stakeholders might be involved in the development of outcome measures, not much progress has been made in developing more outcome measures in county governments. The data from the study indicates that there are fewer outcome measures (40%) compared to output measures (60%). This could explain why there is a negative relationship between the number of outcome measures and stakeholders' participation despite the fact that 59% of the respondents agreed that stakeholders' involvement is important during the development of performance measures in counties.

The study hypothesized that there is a positive relationship between strategic planning and the number of output and outcome measures. The findings of the study indicate a negative relationship between the number of output measures and strategic planning and a positive relationship between the number of outcome measures and strategic planning. The negative relationship between strategic planning and output measure can be explained by the fact that managers can develop output measures without necessarily engaging in strategic planning processes. Output measures are internal organizational processes that do not necessarily involve external stakeholders. They are part of the responsibility of the management and can be done without elaborate planning process.

Denhardt (1985) argues that few state and local governments apply strategic planning for their operations because it is not considered worth the cost in terms of data collection and analysis, staff assigned to planning functions, and

consultation fees. Korosec (2006) explains that application of strategic planning process improves decision making, responsiveness, efficiency, and teamwork. However, it is has not been successfully applied in public organizations due to diverse background of stakeholders participating in the planning process, and the possibility that the participants might not agree on strategic goals and objectives of the organization. Steinberg (2009) explains that although public organizations might engage in strategic planning processes to set goals and objectives, it does not necessarily guarantee the development of performance measures in government institutions.

The number of outcome measures was found to be positively related with availability of resources, incentive systems, and the metropolitan status of the county. This is consistent with the work done by Poister and Streib (2005) that found application of strategic planning in municipal governments to be positively related with allocation of resources to fund strategic plans and objectives. Strategic planning is geared towards long-term planning based on results and developing outcome measures to assess the effectiveness of services provided by organizations.

Availability of resources was hypothesized to be positively related to the number of output and outcome measures. The study findings indicate that the number of output and outcome measures is positively related with availability of resources. Developing outcome measures involves strategic planning in which

resources for performance measurement programs are planned and allocated during the budgeting process. The findings support the work by Wang and Berman (2000) who found a positive relationship between availability of resources and the development of outcome measures. Berman (2002) argues that development of performance measures in public agencies depends on availability of resources to acquire and use information technology to collect, process, and analyze performance data. Caiden (1998) explains that public institutions face significant challenges during the development of performance measures due to limited budgetary resources and lack of skilled staff to collect and process performance information.

This study hypothesized a positive relationship between use of incentives in the counties and the number of output and outcome performance measures. The findings indicate that there is a positive relationship between use of incentives and the number of output and outcome performance measures. Only 14 counties (16%) out of 84 counties studied agreed that incentives are used during the development of performance measures. The study by Melkers and Willoughby (2005) found that 20% of counties used some form of incentives to support development of performance measures compared to 27% in city governments.

Wright (2001) argues that the public sector provides goods and services that cannot be exchanged in economic markets, and therefore lack economic indicators of efficiency. The public sector has multiple and conflicting goals due

to external influence from several stakeholders. These conditions make the development of performance measures difficult and result in poor design of compensation policies in the public sector. The result is poor performance due to low satisfaction and morale among employees and managers due to lack of incentives to motivate staff.

Rainey (2009) argues that one of the major challenges of linking incentives to employee's performance in public institutions is the use of inflexible personnel procedures and compensation systems designed for all public employees irrespective of the type of agency. As a result, public managers are facing difficulties because they have no authority to design incentives such as bonuses, awards or promotions based on employees' performance. They have no flexibility and authority to design relevant incentive systems for their employees to motivate employee to higher levels of performance.

The results of this study is based on self-reports from the county budget officials, and the accuracy of the data depends on honesty of the respondents when answering the questions on the survey questionnaires. In order to improve the validity of this study, the research study was designed to improve the following types of validity: content, internal, and external validities. Frankfort-Nachmias and Nachmias (2008) define content validity as the use of research instrument that includes all the attributes of the concept being measured. This study used survey questionnaire based on the eight elements of Performance

Measurement Process Model developed by the National Performance Review committee in 1997. The eight elements includes strategic planning, developing performance measures, accountability for performance, measuring performance, analyzing and reviewing performance, evaluating and utilizing performance information, performance reporting, and stakeholders input (NPR, 1997). The elements cover all the attributes of performance measurement development as specified by the performance measurement process model.

The internal validity refers to the extent to which the research design produces data that can allow the researcher to make accurate conclusions about cause-and-effect relationships between the dependent and the independent variables (Leedy & Ormrod, 2010). This study used the following two methods to improve the internal validity of the study: multiple sources of data and control variables. The secondary analysis of data was based on analyzing the county budget documents and strategic plans to ensure consistency with the data collected by the survey questionnaires. There were no major differences between responses on the questionnaires and the results of the analysis of budget documents and strategic plans. The control variables were used to reduce the influence of any extraneous variable that might contribute to changes in the dependent variable. The control variables used in the model includes percentage population growth, per capita income, and the metropolitan status of the counties.

External validity is the extent to which the results of a research study can be generalized to other populations (Leedy & Ormrod, 2010). Although no attempt is being made to generalize the findings of this study to other county governments outside Texas, the performance measurement process model used for this study can be used to assess the factors that influence the development of performance measures in any county governments. The sampling method used for this study was not based on random sampling, and therefore it is difficult to generalize the study findings to other county governments.

6.3. Implications of the Study

This study was designed to investigate the factors that affect the development of performance measurements in Texas counties. The findings from this study can contribute to the understanding of the administrative reform efforts in county governments on how provision of goods and services can be improved through the development of performance measurement systems. The study identified the factors that are important during the development of output and outcome measures. Knowledge of the factors can help county administrators, managers, and legislators in making decisions about development of performance measurement programs.

The study findings can inform scholarship on public policymaking and implementation by contributing knowledge on the role played by various

stakeholders during policy making processes, especially the role played by the legislature in supporting policy implementations in county governments. The findings from the study indicate that support for the development of performance measures is low among legislatures (33%). The finding can form the basis for future research on why legislatures are reluctant to support the development of performance measures in county governments.

The research design and methodology used for the study can be used by local governments as a descriptive model to study the factors that influence the development of output and outcome performance measurements in their institutions. The Performance Measurement Process Model used for this study was developed by the National Performance Review Committee in 1997 to be used by the federal government to understand the steps, phases, and issues arising from the development of performance measurement systems. The model is descriptive and not prescriptive, and shows the steps that can be followed during the development of output and outcome performance measures. The model consists of eight steps to be followed during the development of performance measures: Strategic planning, developing performance measures, establishing accountability for performance measurements, measuring performance, analyzing and reviewing performance, evaluating and utilizing performance information, reporting performance information to stakeholders, and stakeholder's input into the next phase of the model. The model can provide a useful reference point for

counties interested in developing output and outcome measures, taking into account unique differences and opportunities among the county governments.

6.4. Conclusions

The output and outcome performance measures are used to assess the effectiveness of goods and services delivered to the public. Output measures are more prevalent in counties than outcome measures due to the difficulties of developing and measuring outcome measures. Stakeholder's participation was found to be related to the development of output measures, while the metropolitan status of the county, the use incentive systems, and the availability of resources were found to be related to the development of outcome measures.

The major impacts of the development of performance measures in Texas counties include increased accountability, improved quality of decision making, and improved communication between departments and with external stakeholders. Accountability includes delegating specific responsibility for data collection, analysis and reporting of performance data to stakeholders, and providing resources for performance measurements. Decision making on the operations of the counties is based on using performance information to evaluate the performance of programs and make resource allocation decisions and to eliminate services no longer needed. Performance measures have improved communication between departments through regular meetings to discuss

performance, and with the external stakeholders through reports about performance of counties. External stakeholders include citizens, professional organization, interest groups, and researchers.

The integration of performance measurement systems and the budgeting process is not widespread among the counties studied, mainly due to the failure of the legislatures to use performance measures to review executive budgets and make funding decisions. The linking of output and outcome measures with strategic plans is not very widespread in counties, and therefore efforts to integrate performance measures with the budgeting process have not been very successful.

The major challenges faced by counties in developing performance measures include lack of incentives to motivate staff, support from elected officials, developing relevant performance measures, and measurement problems. The use of incentives in public institutions has been difficult due to constraints on public managers to design incentive systems based on performance because of structured personnel procedures and compensation systems. Legislatures are reluctant to support the development of performance measures and this can affect the prevalence of performance measurement programs in counties. Developing relevant performance measures, especially outcome measures, have been a challenging task to public institutions because not all measures can be quantified, lack of skilled personnel, and the failure to allocate resources for performance

measurement programs. Measurement problems include issues of accuracy of measures developed, reliability, and comparability of performance over a period of time.

6.5. Recommendations

The recommendations stem from the findings of this study and are based on how the results can be used to solve problems of developing performance measures in counties and other public institutions. Performance measures should be used to set performance targets for goods and services produced and delivered by counties. Only 11% of the respondents agreed that managers use performance measures to set targets for services in Texas counties. If performance targets for services are not set, then it becomes difficult to assess the effectiveness of services provided by the counties. The low incidences of the use of performance targets could affect legislative use of performance measures to review executive budgets and to make funding decisions. Therefore, counties should set clear and measurable targets to assess performance of services provided and to help in making decisions about the allocation of resources based on program performance.

The second recommendation is that more effort should be put into improving the working relationships between the legislatures and the executives. The findings of this study indicate that one of the major challenges of developing performance measures in counties is lack of support from elected officials (71%

of the respondents). The legislatures are major stakeholders in the policy making and implementation process since they control the resources needed to fund programs, and therefore their support is crucial to the development of performance measures. The legislatures should be involved at every stage of the development of performance measures so that they can understand the impact of using performance measures to improve accountability, quality of decision making, and provision of services to county residents.

The third recommendation is that counties should recruit staff capable of developing relevant performance measures to reduce measurement problems such as accuracy, reliability, and comparability of performance data. The staff should be capable of developing outcome measures and should be able to conduct scientifically based surveys to collect, process, and analyze performance information. Outcome measures are being used in only 40% of the county functions compared to output measures at about 60% of the county functions due to measurement problems and developing relevant outcome performance measures.

6.6. Suggestions for Further Research

There is need to investigate how strategic planning can be used by counties to set clear mission statements, goals and objectives for their governments. It is difficult for counties to develop relevant and accurate output, outcome, and

efficiency measures if they do not have clearly defined missions, goals and objectives. Although few state and local governments are engaged in strategic planning (Denhardt, 1985), counties can use strategic planning to link their goals, capabilities, and public demands to plan how to provide effective services to their residents, and how to achieve long term goals. Further studies should investigate what organizational capacities in counties affect the use of strategic planning to develop missions, set relevant goals and objectives, and develop relevant performance measures.

Future research should also focus on the identification of stakeholders, both external and internal, whose participation is important to the development of performance measurement systems in county governments. Previous research efforts have not been specific on the methods used to engage stakeholders, and how effective the methods are in bringing the stakeholders together to discuss the development of performance measures. Methods such as town hall meetings are known to be poorly attended and cannot be very effective in engaging external stakeholders. There is need to investigate other methods that can be used to engage external stakeholder, such as citizens, professional associations, researchers, and journalists during the development of performance measures. The effectiveness of methods such as social media should be explored to find more practical and easy ways of reaching the larger audience.

Appendix A

Survey Questionnaire

1. Does the county develop performance measures to monitor and evaluate service delivery?

Yes --------
No -------

2. Which of the following best describes the functions/services offered by your county? (Please mark all items that apply)

Code enforcement ----------	Health ----------	Welfare ----------
Parks & Recreation ---------	Corrections --------	Education ------
Road maintenance ----------	Housing ----------	Police --------
Transportation ----------	Solid waste--------	Personnel--------
Economic development----------	Library ----------	Hospitals--------
Finance --------	Fire ----------	Animals----------

Others (specify) ----------

3. What type of performance measures are developed by the county to monitor the type of services provided? (Please mark 1 for output, 2 for outcome based on the definition in the glossary).

Personnel	1 2	Economic development	1 2	Code enforcement	1 2
Finance	1 2	Health	1 2	Road maintenance	1 2
Police	1 2	Welfare	1 2	Solid waste	1 2
Fire	1 2	Transportation	1 2	Hospitals	1 2
Corrections	1 2	Library	1 2	Education	1 2
Housing	1 2	Animals	1 2	Parks and Recreation	1 2

4. Who influences the development of performance measures in the county? (Please mark all the items that apply), (5) Strongly Agree (4) Agree (3) Don't Know (2) Disagree (1) Strongly Disagree

County administrator support development of performance measures
5 4 3 2 1
Managers support development of performance measures
5 4 3 2 1
Supervisors support the development of performance measures
5 4 3 2 1
Employees support the development of performance measures
5 4 3 2 1
Legislatures support the development of performance measures
5 4 3 2 1

Citizens support the development of performance measures

5 4 3 2 1

5. Do the managers and staff engage in the Strategic Planning Process to set County mission, goals and objectives? (Mark all that apply)

Managers and staff regularly set mission, goals and objectives

5 4 3 2 1

Managers/ staff regularly develop and update performance measures

5 4 3 2 1

Managers establish accountability for performance measures

5 4 3 2 1

Managers measure performance against set performance targets

5 4 3 2 1

Managers analyze and review performance data

5 4 3 2 1

Managers evaluate and utilize performance information

5 4 3 2 1

Managers regularly report performance information to stakeholders

5 4 3 2 1

6. Are resources available for developing and using performance measurements? Departments have: - (Please mark all the items that apply)

Enough funds allocated to collect and analyze performance data

5 4 3 2 1

Qualified staff to develop and use performance measures

5 4 3 2 1

(i)

Adequate information technology to collect and analyze data

5 4 3 2 1

Cost-based accounting system used to analyze data
5 4 3 2 1

7. The following Incentives are used to motivate staff/department to achieve set performance measures. (Please mark all that that apply)

Awards or bonuses
5 4 3 2 1
Increased funding for department
5 4 3 2 1
Formalized recognition or accolade

5 4 3 2 1

Salary increments based on achieving performance goals
5 4 3 2 1

8. How is performance measures used during the budgeting process in your County? (Please mark all the items that apply), (5) Strongly Agree (4) Agree (3) Don't Know (2) Disagree (1) Strongly Disagree

Performance measures used to justify executive budget requests
5 4 3 2 1
Outputs and outcomes measures are linked to the strategic plans
5 4 3 2 1
Legislatures use performance measures to review executive budgets
5 4 3 2 1
Legislatures use performance measures to make funding decisions
5 4 3 2 1

Legislatures specify performance expectations for programs
5 4 3 2 1

Program funding based on performance expectations

5 4 3 2 1

P M used to ensure compliance with program performance
5 4 3 2 1

9. What impacts have performance measurements had on the management of county affairs? (Please mark all the items that apply)

Increased accountability ----------

Improved service efficiency ----------

Improved service effectiveness ----------

Set performance targets for services ----------

Improved communication with external stakeholders ----------

Improved quality of decision-making ----------

Eliminated services no longer needed ----------

Improved communication between departments ----------

10. What challenges have you encountered when developing performance measurements? (Please mark all the items that apply)

Developing relevant performance measures ----------

Measurement problems (accuracy, reliability, and comparability) ----------

Capacities to collect, analyze, and interpret data ----------

Support from elected officials ---------

Allocation of resources for performance measurement ----------

Lack of incentives to motivate staff ---------

Inadequate technology to collect and process data --------

Support from citizens ---------

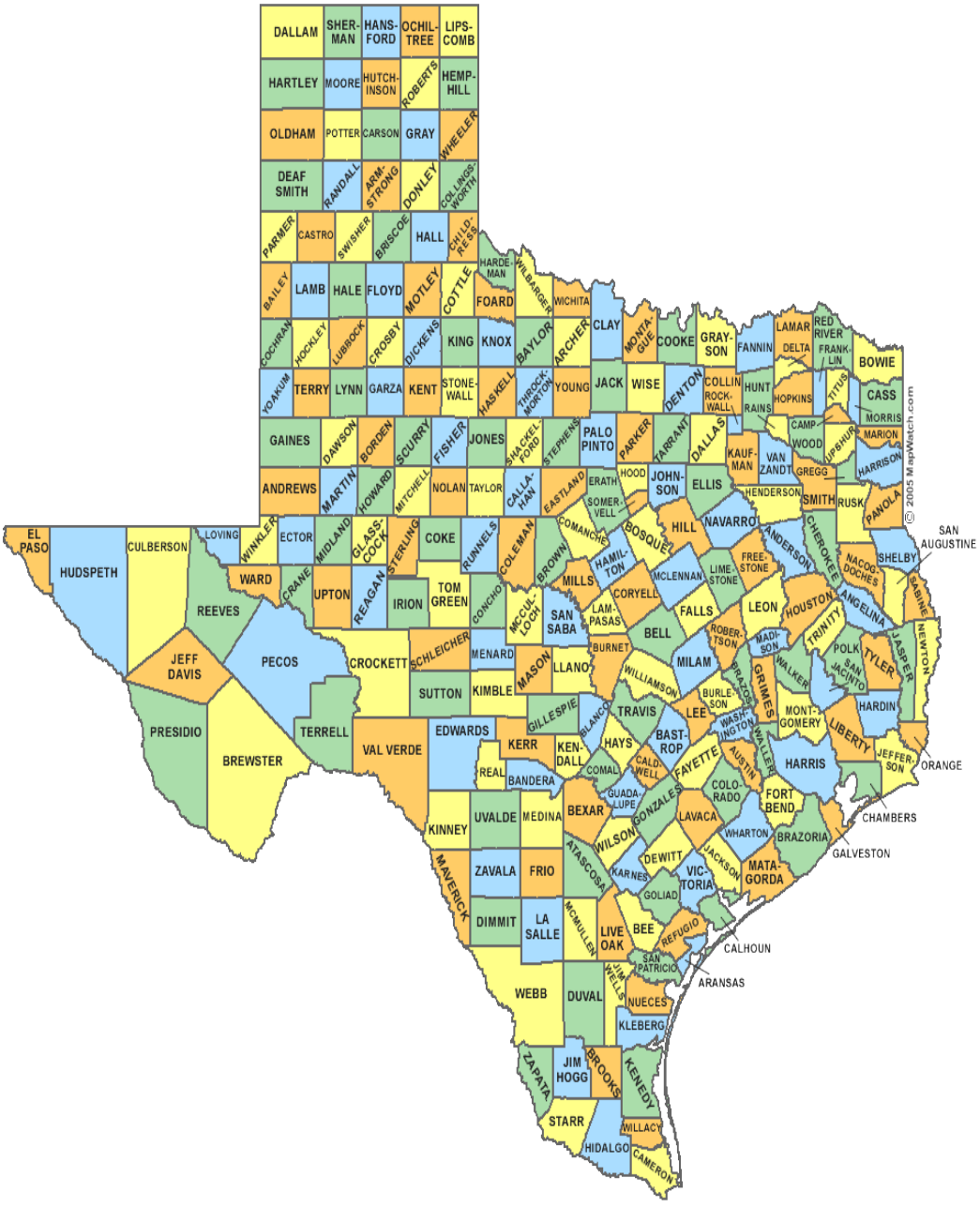
Support from supervisors ----------

Support from employees ----------

Support from senior managers	----------

Appendix B

The Map of Texas Counties



The Map of Texas Counties (source U.S.Census Bureau 2010)

Appendix C

Cronbach Alpha Internal Reliability Index

C1. Stakeholder's Involvement

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded[a]	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.774	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Judge	20.06	11.021	.568	.729
Managers	20.12	10.106	.705	.692
Supervisors	20.17	10.719	.693	.701
Employees	20.35	10.494	.665	.704
Legislatures	21.17	12.960	.127	.852
Citizens	20.29	11.363	.522	.741

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
24.43	15.308	3.913	6

C2. Strategic Planning Process

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded[a]	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.915	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Goals	23.33	28.586	.622	.915
Measures	23.32	27.209	.760	.900
Accountability	23.18	28.197	.777	.899
Targets	23.26	26.870	.837	.892
Data	23.25	27.346	.837	.893
Information	23.21	27.809	.855	.892
Report	23.51	27.675	.579	.924

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
27.18	37.136	6.094	7

C3. Reliability Index for Resource Availability

Case Processing Summary

		N	%
Cases	Valid	84	97.7
	Excluded[a]	2	2.3
	Total	86	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.857	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Funds	10.61	11.856	.741	.801
Staff	10.07	12.139	.736	.804
Technology	10.08	11.547	.828	.765
Accounting	10.45	12.974	.525	.894

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.74	20.581	4.537	4

C4. Reliability Index for Incentive System

Case Processing Summary

		N	%
Cases	Valid	84	100.0
	Excluded[a]	0	.0
	Total	84	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.874	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Bonus	7.10	13.340	.703	.850
Funding	6.79	12.050	.805	.808
Recognition	6.75	12.961	.710	.847
Salary	6.83	12.406	.706	.850

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.15	21.650	4.653	4

Appendix D

The Factors Affecting the Development of Performance Measures

Hypothesis 1	N	Agree	%
Stakeholders Involvement			
County administrator support development of PM	84	60	71
Managers support development of PM	84	59	70
Supervisors support the development of PM	84	52	62
Employees support the development of PM	84	47	56
Legislatures support the development of PM	84	28	33
Citizens support the development of PM	84	53	63
Aggregate Score (Cronbach alpha = 0.774)	84	50	59
Hypothesis 2	N	Agree	%
Strategic Planning			
Managers and staff regularly set mission, goals, and objectives	84	34	41
Managers and staff regularly develop and update PM	84	39	46
Managers establish accountability for PM	84	28	33
Managers measure performance against set targets	84	35	42
Managers analyze and review performance data	84	36	423
Managers evaluate and utilize performance information	84	34	41
Managers regularly report performance to stakeholders	84	30	36
Aggregate Score (Cronbach alpha = 0.915)	84	34	40
Hypothesis 3	N	Agree	%
Resource Availability			
Enough funds are allocated to manage performance data	84	38	45
Qualified staff to develop performance measures	84	34	40
Information technology to manage performance data	84	49	58
Cost-based accounting system for performance data	84	42	50
Aggregate Score (Cronbach alpha = 0.857)	84	41	49
Hypothesis 4	N	Agree	%
Incentive System			
Awards or bonuses	84	9	11
Increased funding for the departments	84	15	18
Formalized recognition or accolade	84	16	19
Salary increments based on performance targets	84	15	18
Aggregate Score (Cronbach alpha =0.874)	84	14	16

Appendix E

Descriptive Statistics for the Variables in the Regression Model.

E1. Descriptive Statistics for Number of Output Measures**.**

Descriptive Statistics

	Mean	Std. Deviation	N
Output	6.35	3.367	84
Stakeholders	4.21	.734	84
Planning	3.94	.900	84
Resources	3.56	1.197	84
Incentives	2.31	1.195	84
Pop2010	10.39	1.650	84
Per Capita Income	10.65	2.300	84
Pop. Growth	31.29	47.663	84
Metro Status	.35	.478	84

E2. Descriptive Statistics for Number of Outcome Measures.

Descriptive Statistics

	Mean	Std. Deviation	N
Outcome	3.39	2.065	84
Stakeholders	4.21	.734	84
Planning	3.94	.900	84
Resources	3.56	1.197	84
Incentives	2.31	1.195	84
Pop2010	10.39	1.650	84
Per Capita Income	10.65	2.300	84
Pop. Growth	31.29	47.663	84
Metro. Status	.35	.478	84

Appendix F

Multiple Regression Analysis Outputs

F1. Number of Output Measures and Independent Variables

Descriptive Statistics

	Mean	Std. Deviation	N
Output	6.35	3.367	84
Stakeholders	4.21	.734	84
Planning	3.94	.900	84
Resources	3.56	1.197	84
Incentives	2.31	1.195	84
Pop2010	10.39	1.650	84
Per Capita Income	10.65	2.300	84
Pop. Growth	31.29	47.663	84
Metro Status	.35	.478	84

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.497[a]	.247	.167	3.074	1.827

a. Predictors: (Constant), Metro Status, Incentives, Per Capita Income, Resources, Stakeholders, Pop. Growth, Planning, Pop2010
b. Dependent Variable: Output

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	232.364	8	29.045	3.074	.005[b]
	Residual	708.625	75	9.448		
	Total	940.988	83			

a. Dependent Variable: Output
b. Predictors: (Constant), Metro Status, Incentives, Per Capita Income, Resources, Stakeholders, Pop. Growth, Planning, Pop2010

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-3.845	4.147		-.927	.357		
	Stakeholders	1.490	.539	.325	2.765	.007	.728	1.375
	Planning	-.553	.474	-.148	-1.166	.247	.626	1.597
	Resources	.237	.337	.084	.703	.484	.701	1.428
	Incentives	.365	.293	.129	1.246	.217	.931	1.074
	Pop. 2010	.431	.347	.211	1.242	.218	.347	2.880
	Per Capita Income	-.019	.158	-.013	-.120	.905	.862	1.160
	Pop. Growth	.013	.009	.180	1.365	.176	.575	1.740
	Metro Status	-.768	1.078	-.109	-.712	.479	.428	2.336

a. Dependent Variable: Output

Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.82	10.70	6.35	1.673	84
Std. Predicted Value	-2.705	2.601	.000	1.000	84
Standard Error of Predicted Value	.493	3.013	.959	.305	84
Adjusted Predicted Value	1.26	10.98	6.45	1.766	84
Residual	-6.486	7.322	.000	2.922	84
Std. Residual	-2.110	2.382	.000	.951	84
Stud. Residual	-2.244	2.519	-.008	1.006	84
Deleted Residual	-7.334	8.191	-.105	3.361	84
Stud. Deleted Residual	-2.308	2.616	-.005	1.019	84
Mahal. Distance	1.147	78.763	7.905	8.628	84
Cook's Distance	.000	.571	.020	.065	84
Centered Leverage Value	.014	.949	.095	.104	84

a. Dependent Variable: Output

F2. Outcome Measures and Independent Variables

Descriptive Statistics

	Mean	Std. Deviation	N
Outcome	3.39	2.065	84
Stakeholders	4.21	.734	84
Planning	3.94	.900	84
Resources	3.56	1.197	84
Incentives	2.31	1.195	84
Pop2010	10.39	1.650	84
Per Capita Income	10.65	2.300	84
Pop. Growth	31.29	47.663	84
Metro. Status	.35	.478	84

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.584[a]	.341	.270	1.764	1.966

a. Predictors: (Constant), Metro Status, Incentives, Per Capita Income, Resources, Stakeholders, Pop. Growth, Planning, Pop2010
b. Dependent Variable: Outcome

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	120.604	8	15.075	4.844	.000[b]
	Residual	233.432	75	3.112		
	Total	354.036	83			

a. Dependent Variable: Outcome

b. Predictors: (Constant), Metro Status, Incentives, Per Capita Income, Resources, Stakeholders, Pop. Growth, Planning, Pop2010

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5.831	2.380		2.449	.017		
	Stakeholders	-.372	.309	-.132	-1.204	.232	.728	1.375
	Planning	.429	.272	.187	1.577	.119	.626	1.597
	Resources	.484	.193	.280	2.502	.015	.701	1.428
	Incentives	.510	.168	.295	3.035	.003	.931	1.074
	Pop2010	-.376	.199	-.300	-1.886	.063	.347	2.880
	Per Capita Income	-.185	.091	-.206	-2.041	.045	.862	1.160
	Pop. Growth	-.006	.005	-.144	-1.167	.247	.575	1.740
	Metro Status	1.779	.619	.412	2.875	.005	.428	2.336

a. Dependent Variable: Outcome

Residuals Statistics

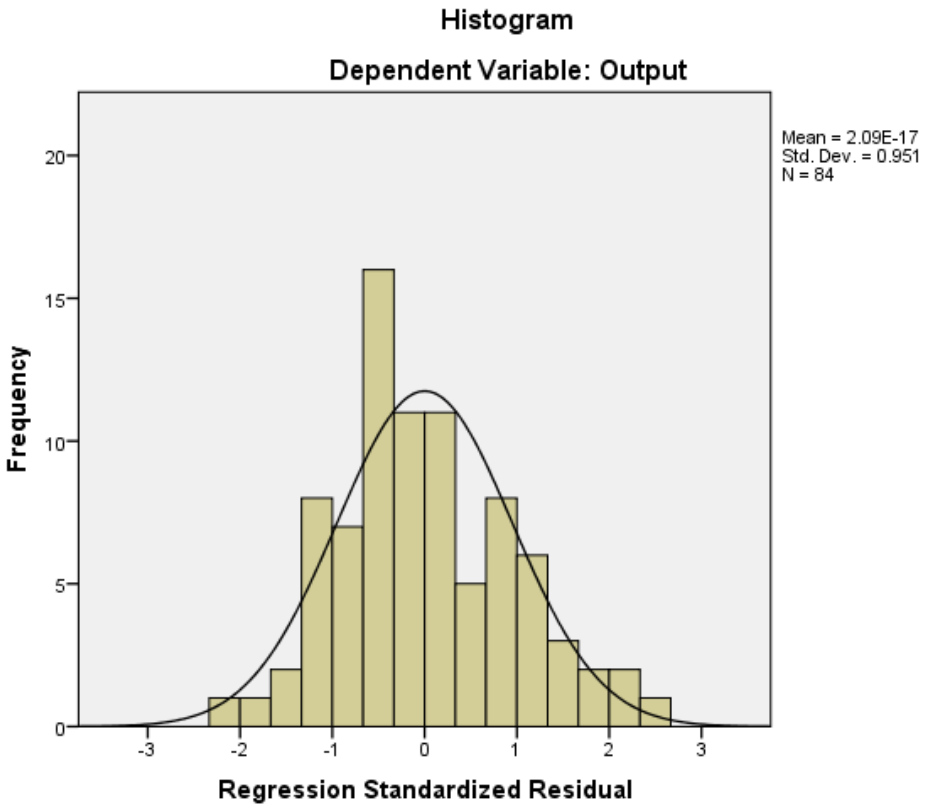
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.24	6.16	3.39	1.205	84
Std. Predicted Value	-3.011	2.298	.000	1.000	84
Standard Error of Predicted Value	.283	1.729	.551	.175	84
Adjusted Predicted Value	-6.06	6.55	3.32	1.551	84
Residual	-3.163	5.990	.000	1.677	84
Std. Residual	-1.793	3.395	.000	.951	84
Stud. Residual	-1.898	3.681	.008	1.006	84
Deleted Residual	-3.547	7.041	.075	1.984	84
Stud. Deleted Residual	-1.933	4.040	.013	1.030	84
Mahal. Distance	1.147	78.763	7.905	8.628	84
Cook's Distance	.000	1.260	.028	.140	84
Centered Leverage Value	.014	.949	.095	.104	84

a. Dependent Variable: Outcome

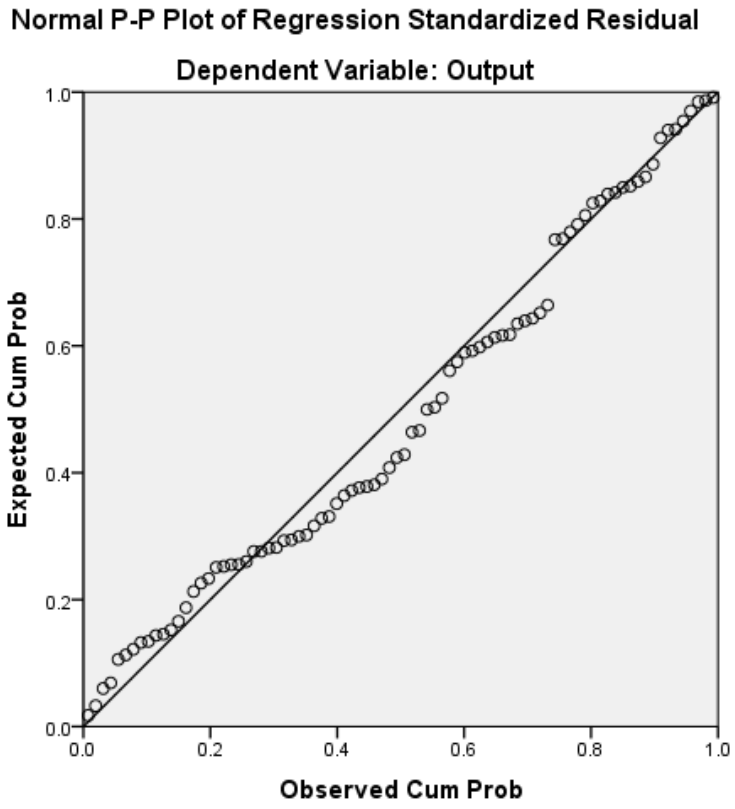
Appendix G

Regression Analysis Charts for Output Measures

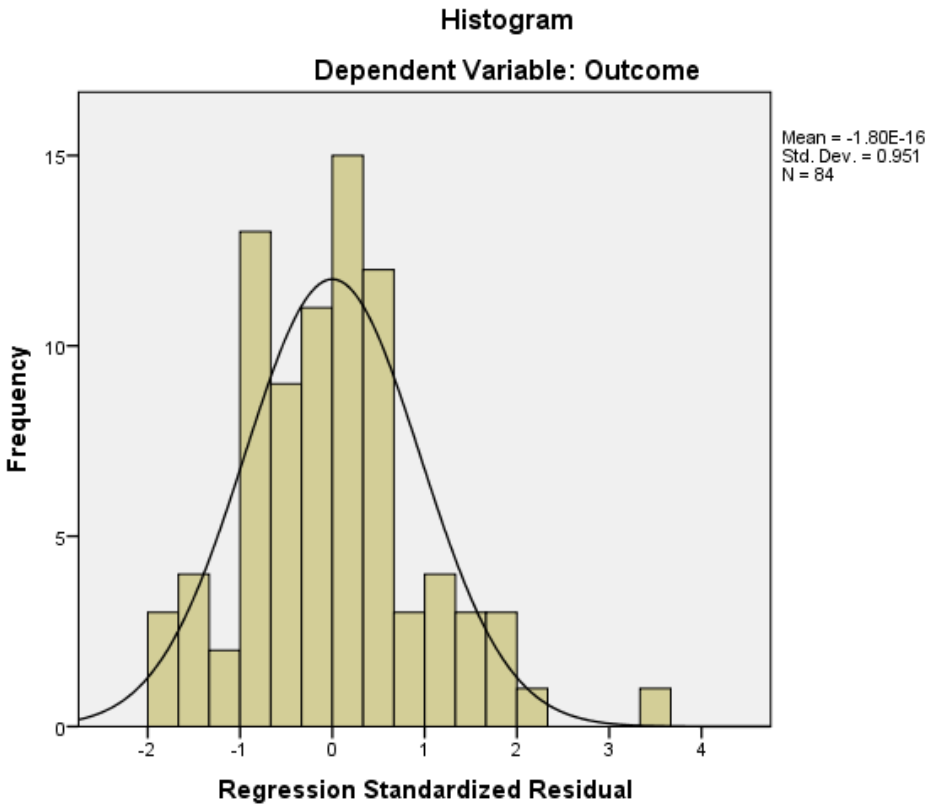
G1 Histogram for Number of Output Measures



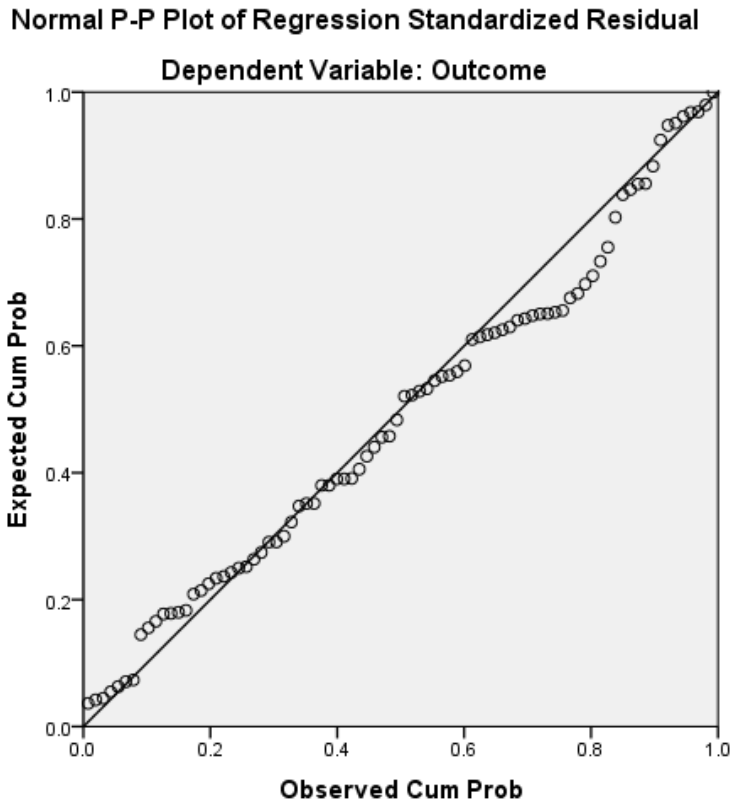
G2 Plot of Regression Standardized Residuals for Output Measures.



G3 Histogram for the Number of Outcome Measures



G4. Plot of Regression Standardized Residuals for Outcome Measure.



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