

PUBLIC MANAGEMENT REFORM IN DEVELOPING COUNTRIES: AN
EMPIRICAL INVESTIGATION OF OPERATIONAL AND FINANCIAL
EFFICIENCY OF PRIVATE VERSUS PUBLIC AIRPORTS
IN LATIN AMERICA AND THE CARIBBEAN

by

ALVIN H. BROWN, JR.

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DEDICATION

This dissertation is dedicated to my Peggy for her love, patience and continued faith in my ability to complete this journey and to my mother, your vision made possible so many things in my life and enlightens me in many ways. Today, I am successful because I have both of you, especially you mom. I really can't thank both of you enough.

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ABSTRACT

PUBLIC MANAGEMENT REFORM IN DEVELOPING COUNTRIES: AN EMPIRICAL INVESTIGATION OF OPERATIONAL AND FINANCIAL EFFICIENCY OF PRIVATE VERSUS PUBLIC AIRPORTS IN LATIN AMERICA AND THE CARIBBEAN

Alvin H. Brown, Jr., PhD.

The University of Texas at Arlington, 2008

Supervising Professor: Dr Alejandro Rodriguez

Public enterprises in Latin American and Caribbean developing nations (LACDNs) are constantly struggling to make their public infrastructures in sectors such as banking, energy; telecommunications, trade, and aviation operate more efficiently and effectively. Public management reform is used to analyze the problems of government and provide solutions. The problems encountered are the growing cost of the public sector in conjunction with inefficient and unresponsive bureaucracies in LACDNs. Accordingly, the solutions involve governments focusing on ensuring that public enterprises are performing efficiently and effectively by adopting a holistic market approach for operating public enterprises.

The purpose of this study is to examine the performance of private versus public airports in LACDNs. This study is an effort to help fill this research gap. A public management reform model is proposed for LACDNs consisting of four dimensions: privatization, organizational governance, strategic human resources management and performance based-budgeting. This model can help to improve the performance of many public enterprises by assisting public managers to identify ways of removing the barriers to effective management.

This study makes three contributions: first, it provides operational and financial efficiency performance scores of airports in LACDNs; second, it develops and adopts a public management reform model for LACDNs; and third, it provides airports in LACDNs with operational and financial efficiency scores which can be compared to other airports in the region.

This study utilizes a mixed method approach of a cross-sectional and qualitative design containing three different data sets: primary, archival, and face-to-face survey data. The statistical analysis will be conducted using data envelopment analysis (DEA), censored and ordinary least squared (OLS) regression.

The study found that that privatization (PRIV) organizational governance (GOVN) and strategic human resources management (SHRM) are significant across all three censored and OLS regression models. Although performance-based budgeting was not significant in any of the models, the findings largely support the proposed reform model that privatized airports practicing organizational governance, strategic

human resource management, and performance-based budgeting are financially and operationally more efficient than government owned airports.

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CHAPTER 1

INTRODUCTION AND STATEMENT OF THE RESEARCH PROBLEM

1.1 Identification of the Problem

Governments in Latin American and Caribbean developing nations (LACDNs) are struggling to make their public enterprises into more efficient and effective organizations. Public enterprises play a key role in building the infrastructure necessary for economic survival and development because they often dominate the most important sectors of industry, such as banking, energy, telecommunications, trade, and aviation. Furthermore, the public enterprises that make up these different industries require large and growing investment of financial resources in order to operate (Ozgediz, 1983; Shirley, 1985). For that reason, governments are focused on determining whether public enterprises are performing efficiently.

For the most part, public enterprises are differentiated from government departments because they are expected to generate their revenue by charging for goods and services, managing their own accounting system, and having their own separate legal identity (Shirley, 1985). According to Shirley (1985), many institutions, such as hospitals and universities, are excluded from the public enterprise designation because they are not expected to produce a return on investment unlike utilities, telecommunication and airport facilities. Thus, a public enterprise is treated with less

control than a government department because of its legal characteristics (Shirley, 1985). No matter what the environment in which the public enterprise is operating, whether partially or wholly government managed, governments are battling to ensure that the public enterprise is operating efficiently (Ozgediz, 1983; Shirley, 1985). In many LACDNs the themes that resonate at the core of the poor performance of many public enterprises are conflicting objectives, insufficient autonomy, different styles of management, and a lack of performance measures. According to Jones, Guthrie and Steane (2001), there remains a pervasive view that public enterprises are inefficient, ineffective, too large, too costly, and unresponsive to public needs.

As Batley and Larbi (2004) note, from the 1950s to present, Latin American and Caribbean countries have recognized that public enterprises have to overcome the chains of the past in order to contend with the challenges of national development. The legacy of colonialism in many of the Latin American and Caribbean countries is important to understanding the existing circumstances faced by these countries. For instance, Farazmand (1996) suggests that colonialism was a major force in increasing the presence of public enterprises globally. To this end, the European powers, including Britain, France, Spain, and Portugal, have left a lasting impact on the administrative systems of many developing countries, especially in Latin America and the Caribbean, even after independence (Batley and Larbi; 2004; Dominguez et al., 1993; Farazmand, 1999; Subramaniam, 1996; Ramanadham, 1984).

The existing administrative systems in many of the Latin American and Caribbean countries were set up by the colonialists with the primary functions of

exerting political control and exploiting the natural and human resources of these countries (Farazmand, 1996; Garcia-Zamor, 1971, 1977). Jamaica, Trinidad, and Tobago are good examples of Britain's colonial administration within the Commonwealth Caribbean that goes from 1625 to their independence in 1962. The independence of these colonies sparked a dramatic growth of public enterprises; however, Latin American and Caribbean governments lacked the managerial and institutional capacity to make the needed adjustments in light of their new realities (Batley and Larbi, 2004; Farazmand, 1999; Garcia-Zamor, 1971).

Consequently, during the 1970s and 1980s, to cover their shortfalls and debts, governments tried to sustain the level of employment and spending for service delivery by borrowing from international lending agencies, such as the International Monetary Fund, the World Bank, and other countries, (Batley and Larbi, 2004). The challenges of their historical background, declining services, and the government's lack of capacity to perform and to deliver public services formed the basis for public management reform approaches to improve the role and management of public enterprises (Batley and Larbi, 2004; Sicherl, 1983).

Dinavo (1995) holds that many policymakers throughout the world, especially in developing nations, recognize that public enterprises are losing money and that public sector management is just not working. In fact, the fiscal stress of running some of these public enterprises has resulted in governments coming to their rescue by subsidizing the operation of these enterprises (Cowan, 1987; Dinavo, 1995; Vernon, 1988). Leibenstein (1978) argues that there is an expectation that public enterprises are

less efficient than private enterprises because the concept of efficiency seen in the private sector is not possible in the public sector. Thus, according to Vernon (1988), these ideas, in conjunction with their own inefficiencies, impede developing nations from reaching their goals of growth and economic development through public enterprises.

Many international institutions, such as the World Bank and the International Monetary Fund (IMF), along with industrialized nations including the United States, Britain, and Japan, have called for developing nations to adopt transformational public sector reform methods found in structural adjustment loans (SAL). The SAL program was designed by the World Bank to aid developing countries to facilitate economic growth and development. According to Garcia-Zamor, (1991), the dilemma faced by most LACDNS is that they are caught between the World Bank's desire for development and the IMF's focus on financial stability. The public sector reform movement in developing nations, especially in Latin America and the Caribbean (LAC), should consider a back-to-basics approach to public management reform—which for the purposes of this study is an alignment of the core propositions of public management and market-based solutions—instead of attempting to run government purely as a business.

This study argues that improving the public sector's performance necessitates the integration of four salient tools and methods of reform: privatization, organizational governance, strategic human resources management, and performance-based budgeting so that they approach reform in a systematic and integrative fashion. Particular

innovations and practices, in one or more of these dimensions, have been successful in improving the efficiency, accountability, and responsiveness in public service delivery in Latin American and Caribbean nations (Dinavo, 1995; Shirley, 1985; Sicherl, 1983); however, to the best of this author's knowledge, evidence showing a systematic improvement has not been shown.

1.2 Purpose of the Study

The purpose of this dissertation is to examine the efficiency and performance of public enterprises (airports) in LACDNs. Airports will be used as an example of a public enterprise. A public management reform model is proposed consisting of four interconnected dimensions: privatization, organizational governance, strategic human resources management, and performance based-budgeting. This model would help to improve the performance of public enterprises by assisting public managers to identify ways of removing the barriers to effective management. This would be accomplished by improving the allocation of human, financial, and operational resources while focusing on performance goals. Thus, the first objective is to examine to what extent airports in LACDNs countries exhibit the characteristics of these dimensions in the public management reform model.

The second objective of the study is to focus on the privatization dimension of the model. The research question that summarizes the second objective can be posed in the following way: Does airport privatization in LACDNs enhance efficiency and performance? By definition, airport privatization depends on the infusion of capital by the private sector to gain partial or total control over an airport's activities and facilities

(Vasigh and Haririan, 2003). According to Vasigh and Haririan (2003), the Mexican government sold Cancun Airport on the New York Stock Exchange for over \$400 million dollars. The government of Jamaica privatized Sangster International Airport in Montego Bay to Vancouver Airport Services (YVR), a Canadian company, for over \$200 million dollars (Vasigh and Haririan, 2003). LAC nations are not strangers to airport privatization. However, what has yet to be determined is whether privatizing these and other airports in the region enhances efficiency and performance. Therefore, the second question: Does privatization influence airport efficiency?—is very important.

1.3 Theoretical Perspectives

The timeless debate of whether public or private management is better was introduced by Woodrow Wilson in his 1887 essay, “The Study of Administration.” According to Wilson (1887), “it is the objective of the study of administration to discover what government can properly and successfully do” “and to do these things efficiently and with the least cost or energy” (1). Wilson (1887) argues that the field of administration is the field of business that should be free of inefficiencies. The literature regarding the public versus private management debate remains inconclusive, but this has not stopped advocates from continuing to champion opposing views of management practices.

The public-private management debate centers on three different positions (Abbott, M. 2002). First, Murray (1975) concludes that public and private management are not inherently different. Whatever differences do exist, he attributes to formalities

and superficialities instead of actual differences in procedures or methods. By contrast, Allison (1979) concludes that public and private management of organizations are as different as they are similar, but these differences are more important than the similarities. On the other hand, Rainey et al. (1976) take a different view based on their examination of propositions about the differences between public and private organizations. Based on empirical research, they conclude that the body of literature has not provided clear and concise answers to support or rebut any of the earlier propositions by Murray and Allison.

The inconclusive status of the public-private management debate does not do anything to improve the management of agencies and public enterprises, especially in the developing countries of Latin America and the Caribbean. Lacking are studies that should consider bridging the gap so that Latin American and Caribbean countries can improve the performance of their public enterprises instead of perpetuating the similarities–differences debate. The aim of this dissertation is to examine these shortcomings through the lens of the public management reform model for Latin American and Caribbean developing countries.

1.4 Definitions of Terms

In this section of the study, key terms will be defined so that they can be precisely used and understood.

Allocative Efficiency - Allocative efficiency is the efficiency of a production process in converting inputs to outputs. The cost of production is minimized for a given

set of input prices. Allocative efficiency can be calculated by the ratio of cost efficiency to technical efficiency.

Decision Making Unit (DMU) - Decision making unit is the designator for units being analyzed in a data envelopment analysis model. Use of this term can be applied to any unit based enterprise that controls its mix of inputs and decides on which outputs to produce (Cooper et al., 2000).

Efficiency Frontier - Efficiency frontier is the frontier represented by the best performing decision making units. The units most efficient at transforming their inputs into outputs are classified as 100% efficient usually with a value of 1. Any unit not on the frontier with an efficiency rating of less than 1 is considered inefficient (Cooper et al., 2000).

Efficiency Score/ Relative Efficiency - Efficiency score or relative efficiency is a score given to a DMU as a result of data envelopment analysis. This score is between 0 and 1 (i.e. 0 and 100%). A unit with a score of 1 is relatively efficient; any unit with a score of less than 1 is relatively inefficient. For example, a unit with a score of .60 is only 60% as efficient as the best performing units in the data set analyzed. Scores are relative (not absolute) to the other units in the dataset (Cooper et al., 2000).

Input - Input is any resource used by a DMU to produce its outputs products and services (Cooper et al., 2000).

Output - Output is the product (goods or other outcomes) that results from the processing and consumption of inputs (Cooper et al., 2000).

Productive Efficiency - Productive efficiency is often referred to as efficiency; it is a measure of the ability of the unit to produce outputs from a given set of inputs. The efficiency of the decision- making unit is always relative to the other units in the set being analyzed, so the efficiency score is always a relative measure (Thanassoulis, 2001).

Scale Efficiency - Scale efficiency is defined as an optimal unit size of operation. It is the reduction or increase of which will decrease efficiency. It is calculated by dividing aggregate efficiency by technical efficiency. A scale-efficient unit operates at optimal returns to scale.

Slack - Slack is the underproduction of outputs or the overuse of inputs. It represents the improvements (in the form of an increase/decrease in inputs or outputs) and is needed to make an inefficient unit become efficient.

Technical Efficiency - Technical efficiency is defined as maximization of output per unit of input used.

Weights - Weights are defined within data envelopment analysis models as unknowns that are calculated to determine the efficiency of the units. The efficiency scores are the weighted sum of outputs divided by the weighted sum of inputs for each unit. The weights are calculated to solve the linear program in such a way that each unit is shown in the best possible light. Weights indicate the importance attached to each factor (input/output) in the analysis.

Performance Measures - Performance measures are used to examine the conversion process of inputs into outputs (Doganis, 1987).

Productivity - Productivity is an output/input measure defined as the ratio of operational output (i.e. number of passengers enplaned) to a given operational input (i.e. number of employees); or financial output (i.e. revenue generated) to a given financial input (i.e. operating costs) (Doganis, 1987).

Performance - Performance can be measured based on financial and operational efficiency, which is the measure of the relationship between providing a service (output) and the inputs used to achieve and deliver a product or output (Downs and Larkey, 1986).

Financial Efficiency - Financial efficiency is the use of resources in such a manner that the cost per unit of output for that rate of output is the very least possible (Bazargan and Vasigh, 2003). For example, airport-A takes \$1,000,000 to move 3,000,000 passengers and airport-B takes \$800,000 to move 3,000,000.

Operational Efficiency - Operational efficiency is a ratio measure relating outputs to inputs. For example, airports use the inputs of employees in providing the main function, which is to move passengers and cargo (Downs and Larkey, 1986).

1.5 Organization of the Dissertation

This study is divided into five chapters. This chapter discusses the background, the research problem and rationale for conducting the study. It examines the ongoing problem of many governments in Latin American and Caribbean developing nations of operating more efficiently and effectively.

Chapter two consist of the literature review used to explore the field of public management in developing countries, the historical roots, the competing views of

public management, and the influence of colonialism on public management in Latin America and the Caribbean. This chapter will discuss public management experiences and the development of public sector reform in this region.

In addition, chapter two highlights the literature used in proposing a public management reform model for Latin American and Caribbean countries; it consists of four mutually supporting dimensions: privatization, organizational governance, strategic human resources management, and performance based budgeting.

Chapter three focuses on the methods for operationalizing and testing the hypotheses advanced in chapter three. The research design is described by specifying a mixed method of a cross-sectional and qualitative design containing three different data sets: primary, archival, and face-to-face survey data.

Chapter four presents the research findings. In chapter five the findings are discussed in terms of the implications of the study, its possible value to policymakers in the region, and recommendations for further research are provided.

1.6 Significance of the Study

This study examines the important issue of public management reform of public enterprises in Latin American and Caribbean developing nations. The unit of analysis is managers and executives at airports. The focus is on whether privatization improves the efficiency and productivity of airports in Latin America and the Caribbean. There is a shortage of studies that evaluate the efficiency and productivity of the airports in Latin America and the Caribbean. Since most of the literature focuses on airports in Europe and Asia, this study addresses the lack of literature on airport efficiency studies in Latin

American and Caribbean nations by comparing the operational and financial efficiency of private versus public airports.

This study approaches this issue from a realistic standpoint that airport privatization in Latin American and Caribbean nations is important for the future economic development, efficiency, and productivity, which will ensure that they are globally competitive. There is a tremendous void in the airport privatization literature for Latin America and the Caribbean that uses contemporary research methods, statistical techniques, and public management theoretical frameworks. This theory—based study is built on the strong foundation of the mixed methods of quantitative and qualitative design. To the best of this author’s knowledge, this is the first attempt at a comprehensive mixed research method study of airport operational and financial efficiency in Latin American and Caribbean nations.

Another significance of this study is that it adds to the research on airports in developing nations, particularly Latin America and the Caribbean by using DEA, Tobit analysis, and Ordinary Least Squares (OLS) regression methods. While there have been many studies done on airports using ratio analysis, there are none that have used DEA frontier analysis, Tobit and OLS techniques as an approach to measure and understand the sources of efficiency in the Latin America and Caribbean region.

1.7 Why is an Airport Efficiency and Productivity Study Important?

Airport productivity, the study of the relationship between inputs and outputs of airport operations, is useful for airport managers because it enables them to plan, monitor, and manage their airports more effectively. In addition, it allows managers to

benchmark their operational and financial performance with other airports and to set appropriate output targets for improving their business. Monitoring and comparing airport performance was not a widely used method during the early 1990s because there was little pressure from the public or business sector for airports to develop benchmarking techniques. This was the case in many developing countries until airport privatization was introduced by the British government.

The advent of airport privatization has introduced an interest in airport performance comparisons and measures. According to Graham (2003), as airports become more commercially-oriented, they have been eager to identify the strong performers in the industry and to adopt what they view as best practices. Hooper and Hensher (1997) point out that the growing importance of airport performance measurement is accompanied by a growing trend toward privatized airports. In a recent survey of the world's top 200 busiest passenger airports, Francis, Humphreys and Fry (2002) found that airport managers are now using several performance measures to monitor their businesses.

Evaluating airport operational and financial efficiency is important, argues Sarkis (2000) and Bazargan and Vasigh (2003), for a number of reasons, including a community's reliance on airports for economic well being, an air carrier's ability to choose among competing airports due to deregulation, identification and selection of more efficient airports on which to base their operations. Similarly, countries would benefit from efficient airports in terms of attracting business and passengers, assisting government in making effective decisions on optimal allocation of resources to airport

improvement programs, and evaluating the effectiveness of such programs on the bottom line efficiency of airports. Finally, operation managers' benchmarking their own airports against comparable airports is one way to ensure competitiveness (Sarkis and Talluri, 2004).

There is growing literature that recognizes the need to measure the operational and financial efficiency at airports around the world. Recently, a number of studies have been conducted comparing operational and financial efficiency of airports around the world, including Australia; (Abbott and Wu, 2001; Hooper and Hensher, 1997), U.K.; (Parker, 1999), United States; (Bazargan and Vasigh, 2003; Gillen and Lall, 1997, 1998; Sarkis, 2000; Sarkis and Talluri, 2004), Spain; (Martin and Roman, 2001), Brazil; (Fernandes and Pacheco, 2001, 2002, 2005; Pacheco and Fernandes, 2003), and Japan; (Yoshida, 2004; Yoshida and Fujimoto, 2004). Occasionally, the scope has been expanded beyond a country to one continent, such as Europe (Pels, Nijkamp and Rietveld, 2001, 2003) and international level (Adler and Berechman, 2001; Oum and Yu, 2004; Oum, Yu and Fu, 2003).

Literature has not focused on studying the operational and financial efficiency of airports operating in the specific market regions of Latin America and the Caribbean. Moreover, what remains is the need to develop operational and financial efficiency measures for airports in Latin America and the Caribbean.

The theoretical significance of this study is grounded in its attempt to demonstrate that airport privatization is a viable public management reform measure for

Latin American and Caribbean nations by answering the question: does privatization of public enterprises in Latin America and the Caribbean enhance efficiency and productivity?

The practical significance of this study is to clarify the societal benefits of airport privatization which may result in economic growth and development. The study helps to culminate a body of knowledge and opinions from scholars who have done comprehensive research on airport privatization and/or practitioners involved in the formulation and/or implementation of airport privatization and other privatization programs. Finally, this study makes contributions to help address public policy and management issues encountered by the airport industry in Latin American and Caribbean nations. It provides a back-to-basics theoretical framework on how to approach public management reform of public enterprises.

CHAPTER 2

LITERATURE REVIEW

2.1 The Nature and Development of Public Sector Management: Introduction

Public management in developing countries is concerned with the management and organization of public sector institutions. A continuing challenge for many developing countries during the last four decades has been an increasing demand for more services, reduction of poverty, and economic growth. These phenomena made the state responsible for redistributing wealth and providing social welfare programs. Underdeveloped infrastructures, competition for scarce resources, and a dysfunctional private sector moved developing countries to take on the responsibilities of providing much needed employment for the growing professional and middle classes. Consequently, government expenditures increased precipitously. For instance, between 1960 and 1979 public consumption as a percentage of gross domestic product rose from 7% to 20% in Jamaica, 6% to 12% in Mexico, and 9% to 15% in Trinidad and Tobago (World Bank 1981). The international debt crisis of the 1980s brought more attention to many of the developing countries' inability to service their debts as a result of their growing government size and the unclear role of their public institutions.

In many developing countries, governments were criticized for their inefficient and ineffective delivery of public services. These public management failures were the

result of fiscal irresponsibility and a certain level of political unaccountability. This lack of accountability stemmed from their legacy of colonialism which was reflected in a centralized and authoritarian government (Burrows-Giles, 2002; Haque, 1997). The unsatisfactory performance, criticisms, and fiscal mismanagement of the public sector institutions served as the catalyst for public management reform in many developing countries. One such early reform measure was the development of the structural adjustment loan (SAL) program in the 1980s. The main goal of the SAL program was to cut fiscal deficits, curtail government intervention in the economy, and develop sustainability through private sector initiatives. These goals would be achieved through smaller bureaucracies and improved allocation of public resources. Implemented by developers, the World Bank and the International Monetary Fund (IMF), structural adjustment loan programs provided financial and development assistance to developing countries conditioned upon civil service reform, free market policies, and better management of delivering public services.

In numerous developing countries the public sector usually serves as the example of organizational governance and politics. Accordingly, it is the driving force of reform even though its institutions are often the object of public management reform. Many developing countries are faced with constantly changing global socioeconomic and political environments. As a result, it is incumbent on these countries to recognize their growing need for a more dynamic and malleable public sector focused on the continuous improvement of the public management and organization of their public sector institutions.

2.2 The Field of Public Management

The origins of the field of public management are quite elusive to identify. Lynn (2003) contends that the founding of public management might start with any of the following statements: (1) The contemporary study of public management has its origins in the 1970s: in America, in the curriculums and research of the new public policy schools and efficiency driven managerial reforms originating in Britain and New Zealand (Aucoin, 1990; Pollitt, 1990). (2) What is now termed the field of public management has its roots in the scientific study of the modern administrative state in America beginning in the late nineteenth and early twentieth centuries (Minogue, et al., 1998; Mosher, 1975; Waldo, 1955). (3) The origins of the field of public management are found in a systematic study and practice of cameralism which began in seventeenth and eighteenth century Germany and Austria (Barker, 1964; Rosenberg, 1958). (4) The field of public management is rooted in bureaucratic government and administrative doctrines in ancient China and in medieval regimes in the Orient (Creel, 1964; Lepawsky, 1949).

Naturally, the statements opened an inquiry into the definition of “field” and of the term “public management”. By field, this study follows Bordieu’s (1990) definition “an arena for the play of intellectual forces and power relationships” (qtd. in Lynn 2003, p. 1). Of course, such play is not constrained to academia but includes what Hood and Jackson (1991) refer to as common knowledge for the implementation of the affairs of state. Thus, this would include training of government officials in airport management and other areas. The term public management refers to a major segment of

public administration or public affairs, which encompasses organizational structures, managerial practices, and the institutional values of public managers that implement the will of the sovereign authority (Lynn, 2003).

As a field of study, public management has adopted various conceptual, methodological and theoretical forms of analysis (Frederickson 2003). Through history these forms of analysis seek to help achieve a fuller understanding of where ideas originate, the current trends of development and society's knowledge apparatus (Spicer, 2004). Until now, public management and public administration were inextricable terms used to describe the functions and processes of management at all levels of government (Ott, 1991). As a segment of modern public administration, public management's roots can be traced back to the founding of American public administration.

The earliest date of scholarship in public administration, according to Ott et al (1991), was Woodrow Wilson's essay "*The Study of Administration*" (1887). The forward-thinking wisdom of Wilson's 1887 essay was the first conscious effort towards a new progressive public management reform movement. His approach advocated reform through better efficiency of government and the strengthening of the executive at the federal level, a Hamiltonian ideal (Raadschelders, 2000). Wilson viewed administration from the perspective that it is the "detailed and systematic execution of public law" in which public administrators exercise their own discretion to carry out the elected official's policies (p. 8).

Wilson called for public administration to focus on effectiveness and efficiency instead of just personnel reform found in the Pendleton Act of 1883. He stressed that administrative study must “rescue executive methods from the confusion and costliness of empirical experiment and set them up on foundations laid in stable principle” (p.7). Wilson proposed that politics and administration be separated because “the field of administration is a field of business removed from the hurry and strife of politics” (p.7). The central theme of the new science of administration was to improve the executive function in government because it rests “outside the proper sphere of politics” (p. 7).

Basic to Wilson’s implementation of the study of administration was the comparative method of learning other administrative approaches because “without comparative studies and government we cannot rid ourselves of the misconception that administration stands upon an essentially different basis in a democratic state than that on which it stands and in a non-democratic state” (p.7). Thus, there are four foundations for the study of administration that characterize public management today: (1) government as the primary organizational setting; (2) the executive function as the proper focus; (3) the discovery of principles and techniques for more effective management as a key to developing administrative competence; and (4) comparison as a method for study and advancement of the field. Like Wilson, Taylor argues that the introduction of scientific management into all businesses would result in higher production and a standardized way to work. Frederick Taylor’s theory of scientific management centered on what were the processes of the workman and the role the managers should play in developing those processes. In his book *Principles of Scientific*

Management (1911), Taylor identifies that rules of thumb methods and traditional knowledge were the main causes of inefficiency (Behn, 1998). Taylor believed that the introduction of scientific management into all business would result in higher production, no labor strikes and a better relationship between labor and management that would result in increased efficiency.

According to Taylor, scientific management requires that management personnel voluntarily accept additional duties, what he called a mental revolution (Taylor, 1911). Under scientific management, Taylor proposed that managers assume new burdens, new duties, and responsibilities never dreamed of in the past. The managers assume, for instance, the burden of gathering together all of the traditional knowledge, which in the past has been possessed by the workmen, and then of classifying, tabulating, and reducing this knowledge to rules, laws, and formulae, which are immensely helpful to the workmen in doing their daily work. He outlines the following four principles of scientific management: (1) the management must gather knowledge from the workmen and develop rules, laws and formulae that can be applied to the work of the workmen; (2) the management must study the workmen under them, get to know them, and then deliberately train the workmen to do better work and then pay increased wages for that work; (3) the management must then bring together the science that has been accumulated and the worker who has been studied; (4) the management must institute a complete re-division of the establishment's work with the management taking over a section of the work previously done by the worker (Taylor,

1911). Taylor's (1911) reproach of the rule of thumb method of management struck a chord that scientific management can be applied across the private and public spheres.

Leonard White's Introduction to the Study of Public Administration (1926) accepts the politics administration dichotomy and uses the term management to refer to the distinctive content of public administration. Clearly, White's work was influenced by Wilson who believed there were special concerns regarding the execution of policies that had to be addressed, such as personnel recruitment, classification promotion, discipline, and retirement in "the management of men and materials in the accomplishment of the purposes of the state" (White, 1926, p. 5). Although White (1926) recognizes that public administration and American business are conducted differently, in the public arena there is greater emphasis put on public accountability; nevertheless, he feels that the business model is a good one for government to copy (Ott et al., 1991). The writings of Wilson, Taylor, and White thrust forward the idea and articulation of basic principles of administration.

In the 1930s Luther Gulick and Lyndall Urwick's influential essay "Notes on the Theory of Organization" (1937) represented the high noon of orthodoxy in public administration (Ott et al., 1991). This brought credibility and prestige to the field of public administration by applying scientific management to government through their famous mnemonic POSDCORB, which represents the seven major functions of public managers: planning, organizing, staffing, directing, coordinating, reporting, and budgeting. As society became more complex, organizations and governments grew

immensely, requiring a more effective means to deal with the challenges of management and organizing.

Max Weber's seminal work entitled Bureaucracy (1946) outlines a framework that considers bureaucracy as a rational and efficient form of organization. Weber's ideal type bureaucracy is intended as a mental construct that categorizes thoughts and helps capture reality (Fry, 1998). The bureaucracy introduced the concept of hierarchy that carried out the goals of the organization and addressed the challenges of managing bureaucracies (Behn, 1998). In his bureaucratic structure, which applied to public and private organizations, Weber describes the ideal role of its public official or bureaucrat. It outlines in detail the structure and environment of the bureaucracy, as well as an ideal job description and benefits package that would allow the public official to be effective (Shafritz and Hyde 1997; Weber 1946).

The characteristics of the bureaucracy consist of administration that is carried out on a continuous basis through a hierarchical structure of authority referred to as a chain of command. The tasks in the bureaucracy are divided among specialized workers in order to improve productivity. At the same time, there are clear lines of authority and responsibility with positions reporting to superiors who are considered to have expert training. The control in the bureaucracy is predicated on impersonality, which means the treatment of people is based on merit principles. Thus, all citizens who are served by the organization are treated equally, according to rules, and records are maintained to assure that rules are followed.

Weber's model is important to the evolution of public management because it is the first to focus entirely on the position of the official in a hierarchal setting. Second, it sustains most of Wilson's essential ideas that there should be a center of power, specialization, strong executive, and a hierarchal organization to maximize efficiency. Third, his theories reinforce Wilson's position that perfection in bureaucratic administration depends upon rigorous exclusion of politics from the routines of administration (Ostrom, 1974).

The origin of the field of public management may be hard to pin down, but it is no different than those of public administration and bureaucratic theory. As part of the field's development, Lynn (2003) argues that historical knowledge is a requirement in dealing with the larger purposes and development of public management. Public management focuses on the functions and processes of management in agencies and all of roles of government by addressing the methods used in implementing public policy. In other words, it is concerned with the managerial tools, techniques, knowledge, and skills that can be used to turn policy into programs of action (Ott et al., 1991). The public manager should be acquainted with some of the techniques and competencies necessary to effectively manage at all levels of government. Their proficiencies should include, but not be limited to knowledge in the areas, such as position classification systems, recruitment and selection procedures, performance based budgeting analysis and formulation, strategic human resources management, privatization and organizational governance. Public management has many blurred boundaries and is

often influenced by competing views and the larger realities of public policy and politics.

2.3 Competing Views of Public Management

The competing views of public management are reminiscent of the period when public administration was supposedly searching for its identity. According to Bozeman (1993), public management found its beginnings more as a creature of institutional revolution than of intellectual development. As a field of study and of educational enterprise, public management seems to have started during the late 1970s and early 1980s from two very different institutions—business schools and schools of public policy.

Exactly, which school has more prominence in the evolution of public management is still in debate. However, Bozeman (1993) suggests that the schools of public policy seem to have contributed more to its development and the business school to its initial core. This notion certainly begs the question, what about public administration programs at these different schools? Interestingly, most faculties in graduate public administration programs point out that public management has always been part of the daily practice in public agencies and that others are still discovering it.

The main point to understand is that during the late 1970s two competing views of public management emerged— the business school version (B-approach) and the public policy school version (P-approach). During this period many business schools changed their names from schools of business administration to schools of management because they were focusing on strategy and business policy rather than practical

application. The public policy schools, such as Harvard's Kennedy school, Michigan's Institute for Public Policy Studies, Minnesota's Humphrey Institute, and Berkeley's School of Public Policy, were founded as a negation of traditional public administration. Policy schools were more focused on formal quantitative analysis because they believed it gave the field of public management credibility and determination (Lynn, 2003). Not surprisingly, the policy schools started to recognize that their approach had a serious flaw. When operating in the public sector, the policy schools realized that there was not much need for quantitative analysis or grand policy designs. What emerged was a growing need for management. The policy schools were looking for something close to public administration, but without the traditional characteristics of the field (Bozeman, 1993; Bozeman and Straussman 1990). The answer was public management, which arrived on the scene in the mid 1970s.

As a complement for policy analysis, one of the significant aspects of public management is that none of the scholars from the policy schools actually have any background in public administration. In fact, some are economists and political scientists while others are more practitioners than academics (Bozeman, 1993). Public policy oriented public management crystallized and developed its own identity through the years. The P-approach has focused on more high-level policy management rather than the day-to-day management of agencies. That is, a strong emphasis is placed on the role of the manager or political executive instead of senior level civil servants. What this signifies is an unavoidable political reality of public management from the

perspective of the policy school. The literature representative of public policy oriented public management is mostly non-quantitative and lacks theoretical rigor.

In contrast, the business oriented public management school consists of scholars who are aligned with traditional public administration. The difference between the business approach and the public policy approach, according to Bozeman (1993), is considerable. First, the P-approach does not believe that there is not much difference between public and private organizations whereas the B-approach makes distinctions between the public and private sectors. Second, the business approach to public management is focused on empirical theory explaining the differences between public and private organizations. Quite the opposite, the public policy school on public management just assumes the differences between public and private organizations are unimportant. Third, the B-approach embraces public administration and the P-approach keeps public administration at a safe distance. Finally, the P-approach concentrates more on policy, politics and the executive while the B-approach is more process oriented. Consequently, the business school oriented public management is interested in organizational topics, such as personnel, organizational structure design and budgeting.

Drawing from the schools of policy analysis and business oriented public management, the scope and relationship between public administration and public management should be clearly delineated. The following section attempts to explain the various distinctions of public administration and public management.

2.4 Differentiating between Public Administration and Public Management

Differentiating between public administration and public management has been a standing argument for decades in American literature (Lynn, 2001b; Lynn, 2003). Embedded in the background of this debate is the notion that since the 1970s traditional public administration has not met the challenges of government growth in terms of effectively managing the various government programs. Holzer and Gabrielian (1998) suggest as models of administration become more proactive in balancing operational, structural, and personnel issues, public administration is being reformulated as public management. Ultimately, this study does not subscribe to the idea that traditional public administration is being reformulated, reinvented, reconceptualized, or renamed as public management. Instead, the position of this study is that of the two, public management is a major segment of the broader field of public administration (Lynn, 2003; Ott et al., 1991).

The first textbook on public administration, published in 1926 by Leonard D. White, denounces the idea that public law should be the cornerstone of public administration scholarship. White (1926) argues that “the study of administration should start from the base of management rather than the foundation of law” (p. vii). According to Fayol (1930), “it is important not to confuse administration with management. To manage is to conduct an organization toward the best possible use of all the resources at its disposal; for example, to ensure the smooth working of the essential functions (qtd. in Lynn 2003, p.2). Van Riper (1990) points out that the words *administration* and *management* have always been treated the same. Waldo’s (1984)

view is that “perhaps as much as any other one thing, the management movement has molded the outlook of those to whom public administration is an independent inquiry or double discipline” (qtd. in Lynn 2003, p.2.) Another perspective argued by Ott et al. (1991), is that as a part of the broader field of public administration, “public management focuses on public administration as a profession and on the public manager as a practitioner of that profession” (p.1). Agreeing with this idea that public management is a profession, Perry and Kraemer (1983) state that public management is a new approach that has developed as an answer to inadequacies in other management fields. They view public management as the merger of the normative aspect of traditional public administration and the orientation of generic management, a strategic approach aligning organizational goals with motivating individuals toward achieving them. Until now these terms have been used as one and the same. According to Graham and Hays (1986), the difference is important because public management is one aspect of public administration. One thinks about public administration as an expression that encompasses activities that involve the establishment and implementation of public policies. It is a concept that has been perceived by many academics and even practitioners as part of the politics of bureaucracies and the interaction between the executive, legislative, and judicial branches of government. In other words, public administration addressing the questions of equity, representation and the control of administrative discretion is instrumental in determining the role public administrators play in implementing public policies and programs.

As an element of public administration, public management is more concerned with the activities that take place within government agencies than with being inhibited by the political process; public management is focused on policy implementation (qtd. in Ott et al., 1991). This is not to say that public managers do not deal frequently with political problems and relationships; however, their attention is directed toward procedures and practices by which civil servants carry out their assigned tasks with efficiency and accountability among their priorities. One of the disadvantages pointed out by Graham and Hays (1986) is that important philosophical questions may be neglected when public administration is examined strictly from an applied perspective, such as public management. This is a risk that they are willing to take because the benefits that could be gained from a more efficient and accountable delivery of public services would be beneficial. Clearly, if public managers perform in an effective and efficient manner, progress would be made in achieving the goals and aspirations of many public policies and programs.

During the mid 1970s, the public manager came under scrutiny, especially, after the new public administration movement (Fredrickson, 1976; Marini, 1971). What developed was a concern by public administration with the public manager's role in fostering and sustaining relationships between citizens and government agencies (Lynn, 1996). The debate over the salient distinctions of public administration and public management is defined by the big questions of public management and the big questions of public administration. A good example of the important differences between public management and public administration can be heard in the debate

between Behn (1995), Newman (1996) and Kirilin (1996) arguing that most fields are defined by the big questions they ask. Behn (1995) proposes the following big questions in public management:

1. Micromanagement: how can public managers break the micromanagement cycle- an excess of procedural rules, which prevent public agencies from producing results leading to more procedural rules, which leads to less results.
2. Motivation: how can public manager motivate people (public employees as well as those outside the formal authority of government) to work in a manner leading toward achieving public purposes?
3. Measurement: how can public managers measure the achievements of their agencies in ways that help to increase these achievements?

Behn's (1995) big questions in public management directly support the position that public management focuses on the manager, their actions and achievements.

Responding to Behn, Newman (1995) and Kirilin (1996) propose a totally different set of big questions for public administration. Newman (1996) recognizes that Behn has raised important questions and that these questions are "of application, not probes into the origins or basic nature of the discipline" (p. 410). Newman's (1996) big questions are as follows:

1. What is the nature of organization and of a public organization?
2. How is the public organization related to its environment?
3. What does it mean to manage or to administer the public organization?

Kirlin (1996) contends that because Behn's questions focus on public managers "it gives the management of organization primacy over the democratic polity and it ignores political and legal aspects of public administration" (p.416). Kirlin (1996) proposes the following big questions of public administration in a democracy:

1. What are the instruments of collective action that remain responsible both to the democratically elected officials and to core societal values?
2. What are the roles of nongovernmental collective action in society, and how can desired roles be protected and nurtured?
3. Whether the appropriate tradeoffs between governmental structures based on function (which commonly eases organizational tasks) and geography (which eases citizenship, political leadership and societal learning)?
4. How shall tensions between national and local political arenas be resolved?
5. What decisions shall be isolated from the normal processes of politics so that some other rationale can be applied?
6. What balance shall be struck among neutral competence, representativeness and leadership?
7. How can processes of societal learning be improved, including knowledge of choices available, and consequences of alternatives, and how to achieve desired goals, most importantly, the nurturing and development of a democratic polity?

Kirlin (1996) concludes that the big questions of public administration in a democracy should satisfy the following:

1. Achieving a democratic polity.

2. Rising to the societal level even in terms of values is also important at the level of individual public organizations.
3. Confronting the complexity of instruments of collective action.
4. Encouraging more effective societal learning.

The theoretical questions abound; the differences between public administration and public management are sometimes viewed in blurred degrees of variation (Simon, Smithberg and Thompson, 1950). In a similar vein, the following section discusses the differences and similarities of public and private management.

2.5 Understanding the Public and Private Management Puzzle

Scholars and practitioners in the field of management are painfully aware of the puzzle created by similarities and differences between public and private sector management (Baldwin, 1993; Murray, 1975). There is a large amount of literature in the management field that acknowledges the prevalence of the public-private management debate. Unlike Weinberg (1983) who suggests that the debate is exaggerated, this study contends that the differences between public and private sector organizations are not overemphasized. In fact, the distinctions are at the core of how public and private organizations are viewed by society. This section will explore the relationship between public and private management by following Allison's (1979) argument that public and private management are different and similar; however, the differences are more important than the similarities. The important question that must be addressed is what areas of the public-private management debate should be compared? The main focus of this section is to define public and private organizations

and then dismantle the public and private management puzzle by answering the following questions: (1) How are public and private management similar? (2) How are public and private management different? (3) How are roles and functions of public and private managers different?

2.6 Defining Public and Private Organizations

Prior to delineating the similarities and differences between public and private management, it is instructive to define the two types of organizations. To simply toss around generic terms, such as public and private, is not useful because they both have ownership and financial implications. Accordingly, many private firms are considered public because the general public can own them through stock purchases. Similarly, government agencies can make a profit because they generate revenue over and above their costs. There is no consensus in the literature on a definition of public and private organizations that is singularly useful in organizational analysis. According to Perry and Rainey (1988), public-private distinctions have been used for centuries as they relate to everyday issues and the values of society.

The common sense approach used by society is the distinction based on ownership. On the other hand, Boyne (2002) argues that the contrast of public-private ownership is evident in how each entity is funded. Public agencies are funded by taxation; whereas, private firms obtain their funding through the market fees paid by customers. Another view offered by Perry and Rainey (1988) is the multidimensionality of the public-private distinction that ownership and financial characteristics do not fully capture. The definitions that are offered in the literature assume that public ownership

subjects the agency to controls and regulations of government instead of economic markets and other nongovernmental processes.

Indeed, government regulations are often brought to bear on private firms. Yet hybrid organizations (i.e. private ownership with public funding or public ownership with private funding), such as government corporations and government contractors, often have more independence from controls because they are formed for the purpose of expanding managerial autonomy (Allison, 1979; Boyne, 2002; Bozeman, 1993; Perry and Rainey, 1988). Another example of this multidimensionality is proposed by Benn and Gaus (1983), who point out that public-private organization can be explained along three dimensions: (1) interest— indicating whether benefits and losses are communal or restricted to individuals; (2) access— referring to the openness of facilities, resources, or information; and (3) agency— distinguishing whether a person or an organization is acting as an individual or as an agent to the community as a whole.

Although the varying definitions of public-private organizations have led to a lack of consensus regarding organizational analysis, progress has been made. There have been substantial efforts made by scholars to shape the elements of the public-private management puzzle into a comprehensible order. In an attempt to further their efforts to better explain the debate, the discussion now turns to crystallizing the elements of the management puzzle.

2.7 Disentangling the Public-Private Management Puzzle

The early claims of administrative science to render generic science for all types of organizations are now more modest in their pronouncements (Simon et al., 1950). To students of public administration and public management, the belief that there has to be one theory of organization and one ideal structure no longer has prominence in the field because there is no one-size-fits all approach to public or private management of organizations. Drucker (1997) argues “organizations will increasingly be fashioned differently: the different purposes, different kinds of work, different people, and different cultures. The organization is not just a tool, “it bespeaks values we are rapidly moving toward a plurality and a pluralism of organizations” (p.5). Simon et al., (1950) offers a similar idea:

The idea that there is one form of organization—specifically, the private corporation—that has a unique capacity for efficient action is simply a myth that ignores both the motivations and work in organizational behavior and the limits in our capacities for measuring consequences and converting them into costs and demand prices. Finally, the forms of organization in a society have much to do with the distribution of power. A plurality of organizational forms, governmental alongside private, can help to disperse power in a society. There are no simple formulas for choosing between markets and organization or between governmental and private organizations in a modern society. A great variety of patterns can be seen in the world today without clear choice among them. Simple dogmas of universal privatization or

socialization are particularly suspect for the concentration of power they encourage. There is a great deal to be said for hybrid vigor (p. 11).

A few supporters of public management may argue that while organizations vary management does not. Managers in both the public and private sector, according to this view, are carrying out essentially the same functions. The only difference is that they modify their management approach depending on scale and scope of the task and the challenges of the environment in which they are working. There are many opposing views to this idea; one in particular is that there are public problems which make situations more complex in the public sector. Much has been written about similarities and differences in public and private management.

2.7.1 How are Public-Private Management Similar?

During the early period of the high noon of orthodoxy, Gulick and Urwick's "Papers in the Science of Administration" (1937) summarizes the similarities of the chief executive and the public manager in the mnemonic POSDCORB (planning, organizing, staffing, directing, coordinating, reporting, and budgeting) (Allison, 1979; Graham and Hay, 1986). Gulick (1937) describes these basic managerial operations in the following way:

1. Planning— is working out in a board outline the things that need to be done and the method for doing them to accomplish the purpose set for the enterprise.
2. Organizing— is the establishment of formal structure of authority through which work subdivisions are arranged, defined, and coordinated for the defined objective.

3. Staffing— is the whole personnel function of bringing in and training the staff and maintaining favorable conditions of work.
4. Directing— is the continuous task of making decisions, embodying them in specific orders and instructions while serving as the leader of the enterprise.
5. Coordinating— is the important duties of interrelating the various parts of the work.
6. Reporting— is keeping those to whom the executive is responsible informed as to what is going on. This includes keeping himself and his subordinates informed through records and inspection.
7. Budgeting— consists of fiscal planning, accounting and control (Gulick and Urwick, 1937).

POSDCORB maintains its relevancy even today and there is no argument that POSDCORB is entrenched in the major management activities that are performed in both public and private organizations (Graham and Hay, 1986). According to Allison (1979), in both a public and private management environment, the challenge for managers is to apply these elements to their day-to-day operations and to achieve results (Stewart and Ranson, 1994).

2.7.2 How are Public and Private Management Different?

Although numerous studies embrace the idea that public and private management are more alike than different, some authors believe that there are fundamental management differences. Allison (1979) suggests that public managers should focus on the areas in which the public and private sectors exhibit fundamental

differences. Some of the more commonly identified differences between public and private management environments are summarized in Table 2.1.

Table 2.1 Public-Versus-Private Differences that Impact Management

ELEMENT	PUBLIC	PRIVATE
Time Perspective	Short time horizon dictated by political necessity	Longer time perspective oriented to market development, technical innovation, & organization building
Duration	Short service (<18 months for Assistant Secretaries)	Longer tenure in both position & enterprise foster successors
Performance Measurement	Little if any agreement on standards	Established and often explicit measurements (market share, ROI)
Personnel Constraints	Two layers of managerial officials often hostile towards each other Government employee unionization at high levels Personnel policy administration under staff control	Much more authority to direct employees Greater latitude, even under collective bargaining, in management of employees Personnel more subject to line responsibility
Equity & Efficiency	Emphasis on equity constituencies among	Emphasis on efficiency and competitive performance
Process	More open process exposed to public scrutiny	Private, internal process less exposed to public view
Role of the Press & Media	Contend regularly with press & media	Decisions less often reported in press Press has smaller impact on substance & timing of decisions
Persuasion & Discretion	Mediate discussions in response to a variety of pressures Often put together a coalition of inside and outside groups to survive Managers respond to superiors	Senior managers issue orders and direction to subordinates with little risk of contradiction Managers look to one, higher authority
Legislative & Judicial Impact	Subject to close scrutiny by legislative oversight groups or judicial orders	
Bottom Line	Rarely a clear, bottom line	Profit, market performance, and survival

Source: Allison (1979)

Although organizational theorists conclude that all managers (public and private) must deal with "structural complexity and external influences on their authority," a growing number concede that public managers "usually face more elaborate structural arrangements and constraints" (Rainey 1991, p. 118). In fact, beginning in the early 1980s, contextual differences became a popular topic in the relatively sparse public management literature. Executives with firsthand experience in both government and business began writing about the differences between the two roles (Allison 1980, 1992; Blumenthal 1983; Cervantes 1983; Chase and Reveal 1983; Rumsfield 1983). All agreed that controls, processes, and constraints impacted their managerial behavior while in government.

While the basic functions of public and private managers are nearly identical, leaders of public organizations must contend with a number of serious handicaps that are not found in business and industry. Public managers are expected, for instance, to deal with ambiguous and contradictory goals, absurdly unrealistic expectations on the part of their "owners" (the public), and inadequate control over their own administrative resources (Graham and Hays 1986, p. 4).

In addition to public opinion, public managers must contend with, among other forces, the following: (1) the agency's enabling legislation and relevant statutes, (2) court cases that further interpret authority and responsibility, (3) the influence of other agencies (with complementary or conflicting missions), (4) various interest groups, and (5) structural and procedural impediments intended to make the public manager accountable to the popular will (such as externally imposed budget levels, personnel

ceilings, and organizational structure) (Graham and Hays 1986, p. 17). More structured research supports these special perspectives. Rainey (1991) points out that "various studies of public managers show a general tendency for their roles to reflect the context of political intervention and administrative constraints" (p. 174). As cited in Rainey (1991), comparative studies conclude that public and private managers performed the same roles and functions, but the time each manager type spent in the role differed (Aberbach, Putnam, and Rockman 1981; Kauffman 1979; Kurke and Aldrich 1983; Lou, Pavett, and Newman 1980; Mintzberg 1972; Porter and Von Maanen 1983; Weinberg 1977).

As a result, many public administrators view their positions as having less autonomy because they have less control over how they allocate their own time, so they regard demands from people outside the organization as a much stronger influence on how they manage their time (Porter and Von Maanen 1983, p. 174). As Chase and Reveal (1983) argue, the key challenge of managing a public agency is the external political and institutional environment. Just as grueling, suggests Rainey (1991), is dealing with elected chief executives, coping with government agencies, legislators, and managing relations with special interest groups and the media.

Certainly, management in the public domain can learn from management in the private sector, and vice versa. Specific management ideas may be transferable; however, what is not transferable is the model of management—its purposes, conditions, and tasks. "Yet, the private sector model dominates thinking" (Stewart and Ranson 1994, p.54). As a result, the task of management in the public domain is defined negatively

rather than positively. Conflicting aspects of a public-versus-private sector model are summarized in Table 2.2.

The distinctive nature of public and private management rests in the context of the constitution of the United States. Allison (1979) points out that in the private sector the Chief Executive Officer is charged with the responsibility of the general management of the organization. In contrast, management of government is divided among the executive, legislative and judicial branches. Certainly, the constitutional objective is not to run government efficiently but to ensure that there are checks and balances of power (Shafritz et al., 2007).

Table 2.2 Private-Public Sector Model Differences

PRIVATE SECTOR	PUBLIC SECTOR
Individual Choice in the Market	Collective Choice in the Polity
Demand and Price	Need for Resources
Closure for Private Action	Openness for Public Action
The Equity of the Market	The Equity of Need
The Search for Market Satisfaction	The Search for Justice
Customer Sovereignty	Citizenship
Competition as the Instrument of the Market	Collective Action as the Instrument of the Polity
Exit as the Stimulus	Voice as the Condition

Source: Stewart and Ranson 1994, p.58

Thus, the implementation and achievement of organizational goals in the private sector are the ultimate responsibility of the chief executive officer while the same duties in the public sector are spread throughout several different agencies and individuals at the federal level (Allison 1979). These individuals include elected congressional officials and appointees. Leaders should be mindful that at the local levels where most public services are delivered there is another array of elected officials and public managers responsible for the daily management of government agencies. In a completely rational world, if one could divide organizations into concise groups of public and private, identifying similarities and differences between managers of these organizations would be easy (Allison, 1979). According to Graham and Hays (1986), the natural tendencies of individuals are to categorize bureaucrats as a different class of citizens. The truth is that the roles they play are not different from those played by their counterparts in the private sector. When examined closely, the job titles one may find in the private sector has a public sector equivalent, for example, accountants, chemists, physicians and thousands of other technical, professional, and service employees.

Public managers who supervise the activities of public employees are either elected or appointed; for example, presidents, mayors, senators, prime ministers and other judicial branches of power. Many public managers are appointed through the process of patronage (that is, through the sponsorship of elected politicians, which may or may not be followed by legislative approval), but the majority are in office through the civil service procedure. This section focuses on the appointed public manager.

These individuals make the daily decisions that run public agencies (Chase and Reveal, 1983).

According to Yates (1985), there are subtle differences between public and private organizations. For instance, elements of the public manager's job that are shared by private managers include planning and analysis, budgeting, organizational design and the dynamics of groups within the organization. There are other facets of the public-private manager differences that are also interrelated; for instance, public managers must deal with Congress, manage communication with the media, not to mention the external pressures from interest groups. On the other hand, private executives are not excluded from this type of political environment. Yates (1985) points out that executives of private organizations must contend with competing firms, bankers, investors, clients, customers, unions and government regulatory agencies. The degree of intensity with which the public manager must deal with Congress and other government agencies does not compare to the private manager. However, the private sector's growing relationships with government indicate that the private manager's environment is starting to look more like his or her public counterparts, suggesting more of a blending between public and private management (Graham and Hays, 1986; Yates, 1985). Yates (1985) suggests the question of significance between the two is hard to answer because it rests entirely on the interests of the individual. That is, political scientists recognize political problems; organizational behaviorists see inter-group problems, and public managers contend with many problems that eventually manifest themselves as issues in personnel, planning, and other aspects of management.

This study agrees with Allison (1979) in that understanding the differences between public and private are key to developing strategies and techniques appropriate in solving problems. However, it is the view of this study that tailoring a solution or approach to a specific problem within a public agency does not fall solely in the domain of public or private management. Public managers should seek solutions to public sector management issues based on the best practices of public and private management. Consider for a moment that the challenges of public managers in the United States are being transferred to their public manager counterparts in public enterprises of developing Latin American and Caribbean countries. Their ability to deal with important issues and trends depends on their view of the proliferation of public sector management. The focal concern of the following section is to examine the experience of Latin American and Caribbean countries in using public management as a tool to improve the performance of their public enterprises.

2.8 Public Enterprise Management in Developing Countries

In the developing countries of Latin America and the Caribbean, public enterprises are the main drivers for economic and social transformation (Sicherl, 1983). The concept of a public enterprise system is that governments sell goods and services to the public that consists of private, public and not-for-profit management features. Many of the challenges facing public, such as maximizing efficiency (which is an element of the marketplace) while maintaining the ideals of equity and politics of the government sector necessitate the interpretation of politics and the market (Farazamand, 1996). Gaining an understanding of the past and present issues surrounding public enterprises

in LACDNs is useful when interpreting the public enterprise as an infrastructure of development in different environments. Thus, the social and economic environment in which public enterprises were established and operate today influences the efficient and effective performance of the enterprise (Farazmand, 1996; Fay and Morrison, 2006; Khan, 1982; Sicherl, 1983).

This part of the study discusses some of the contributing factors of public enterprise management and performance. What follows is a highlight of colonialism's influence on public enterprise management, public enterprises, and service delivery.

2.9 The Forgotten Factor: How Colonialism influenced Public Management?

To better understand public enterprise management and to reform it in Latin America and the Caribbean, it is essential to be aware of how colonialism influenced public enterprise management. Farazmand (1996) argues that colonialism was instrumental in the development of public enterprises around the world. European colonial powers, including Britain, France, Portugal, and Spain, have left a lasting imprint on the administrative systems of many African, Asian, Latin American, and Caribbean nations. The development of public enterprise management and economic systems in Latin America was a product of the mercantilist Spanish and Portuguese prevailing colonial rule in the region which persisted after independence (Farazmand, 1996). Thus, many independent states of Latin America adopted the administration and economic patterns that they were exposed to during the colonial period. The purpose at this point is to examine the impact that colonialism exerted on developing nations.

Colonialism within the Commonwealth Caribbean region¹ will be highlighted to exemplify its impact on the public throughout the Latin American and Caribbean region.

2.9.1 The Legacy of Colonialism

The legacy of colonialism in developing nations is one of the prevailing features evident in the management of many government agencies. In other words, the end of colonial rule in many Latin American and Caribbean nations has not changed the colonial traditions regarding government bureaucratic structure, function, socialization, norms and attitudes (Hague, p.199).

According to Burrow-Giles (2002), colonial domination in the region resulted in British business interests gaining power and wealth through the policy of mercantilism. The impact of mercantilism on the region was manifested in very specific policies; (1) preventing colonial people from establishing manufacturing industries making them non-manufacturing dependencies; (2) keeping colonial people technologically backward; (3) maintaining colonial people as producers of primary products; (4) keeping colonial people bound to the mother country through the policy of trade exclusivity; and (5) limiting horizontal linkages between the colonies except through the British government. The obvious impact of mercantilism on the region was twofold. First, policies were designed to extract the surpluses from the region to help in the

¹ THE COMMONWEALTH CARIBBEAN is the term applied to the English- speaking islands in the Caribbean and the mainland nations of Belize (formerly British Honduras) and Guyana (formerly British Guiana) that once constituted the Caribbean portion of the British Empire. This study examines only the islands of the Commonwealth Caribbean, which are Jamaica, Trinidad and Tobago, the Windward Islands (Dominica, St. Lucia, St. Vincent and the Grenadines, and Grenada), Barbados, the Leeward Islands (Antigua and Barbuda, St. Kitts and Nevis, Anguilla, and Montserrat), and the so-called Northern Islands (the Bahamas, the Cayman Islands, and the Turks and Caicos Islands).

development of Britain; second, it distorted and impeded the development of the economies in the region.

In fact, the colonial legacy has not been totally dismantled. This is apparent in the Crown Colony Government representative system of the Grand Cayman Islands. The inherited pejorative features of bureaucracy, such as elitism, paternalism, despotism, distrust, centralization, secrecy, formalism and urban bias, are alive and well in the Grand Cayman Islands.

There are three stages to the historical evolution of colonialism. First, the era of slavery lasting until 1834 in the Commonwealth Caribbean served to place a premium on freedom and the political culture of the Caribbean. The second stage was the old representative system until the 1865 Morant Bay uprising in Jamaica². Subsequently, the Crown Colony Government (CCG) form of government was introduced to devolve government oversight from the imperial British government to the colonies. Third, the era of constitutional decolonization began with the general rise after the First World War toward greater self-government and eventual independence (Barrow-Giles, 2002; Lange 2004).

The development of colonialism was not a random event but was purposeful and conducted with extreme prejudice. At the national level of the British government, the Privy Council was the chief executive authority for the local service in the Colonies (Barrow-Giles, 2002; Khan, 1982). Other offices included the Treasury, the Office of

² The Morant Bay rebellion began on October 11, 1865, when Paul Bogle led 200 to 300 black men and women into the town of Morant Bay, parish of St. Thomas in the East, Jamaica. The rebellion and its aftermath were a major turning point in Jamaica's history, also generated a significant political debate in Britain.

the Secretary of State, the Admiralty, the War Office, and the Ordinance Board. As a result of complications with management and delays in long distance correspondence between Britain and the colonies, a Colonial Office was formed in 1854. The colonial office ensured the provision of a permanent supply of trained officials to manage and coordinate the duties of the colonies in the best interest of the Crown. Maintaining control of administration was important to the perpetuation of colonial rule because the colonial Administrative Secretariat did the bidding for the Crown and discharged its functions according to the standards set by the Crown. What is clear is that the Crown Colony ruled its colonial possessions by eliminating political competition and vesting government management and decision-making power in the supreme ruler (Governor) of the Crown Colony Government.

2.9.2 Colonial Management

Colonial management in many of the British colonies was directed by the governor, the single and supreme authority representative of the Crown Colony. The governor, as head of the executive government, the president of the legislature and the exclusive channel of communication with the Crown Colony, was responsible for the security and all interests of the colony. The governor had the power to appoint judges and dismiss, suspend or relieve public officials of their duties and responsibilities to their constituencies (Khan, 1982).

2.9.3 Civil Service

Colonial governors relied heavily on the civil service in carrying out executive functions. During the 1830s each colony hired local civil servants with input from their

respective governors in the region. Often, the higher positions such as Governor, Chief Justice, Attorney General, financial Secretary, and Colonial Secretary were made by the Crown Colony Government through a patronage system. The most important official after the Governor was the Colonial Secretariat—the office of the Colonial Secretary is the principal agent of government and the legislative council at the same time, directing the complex management service and technical departmental system. The Colonial Secretariat and the treasury department provided central management services and were the control centers of all government activities in the Colonies (Barrow-Giles, 2002; Hague, 1997; Khan, 1982; Morris, 1967).

2.9.4 Reorganization Period of the 1930s

The reorganization period of the 1930s and the inquiry of the Moyne Commission represented civil unrest and protest movements throughout the Caribbean. These events not only signaled the advent of constitutional and socio-economic change, but they also initiated the attack on the colonial administrative structure (Barrow-Giles, 2002; Benn, 2004; Khan, 1982). The Moyne Commission Report (1945) supposedly brought gradual change in the role of governments in the Caribbean. The report concluded that policymakers needed to pay attention to the development of social issues, such as housing, education, health, social welfare, and immunity improvement. Benn (2004) points out that the delivery of these services to society in the Caribbean stimulated the growth of the public sector through increased public expenditure, growth of existing departments and new government agencies. As a result of these events, a ministerial system of government dividing the Colonial Secretariat into ministries

related to housing, public works, education, and other related ministries was formed. The decentralization of the Colonial Secretariat filled with the elected members (Ministers of Parliament) did not involve them being properly trained or getting experience in delivering and maintaining services to their constituents; instead, they were getting irrelevant experience on running the ministry in menial administrative jobs and file work (Barrow-Giles, 2002; Benn, 2004; Khan, 1982). In fact, the newly elected members of parliament had no real power and authority. The governor and senior level civil servants, appointed and approved by the Crown Colony continued to exercise executive power over the elected members of parliament and the masses. Thus, the challenge for these new ministries appeared to be that the organizational elements of public management were driven by the tasks to be performed and how these tasks were divided between the different workgroups. Ultimately, division of labor should be conducted in such a manner that it meets the objectives of government. Many Caribbean countries with their newfound statehoods began to experience the realities of their new structures and responsibilities.

2.9.5 Institutional Behavior and Relations

Institutional behavior and relations in the Caribbean region have encountered many challenges in the development of harmonious relationships between the executives and the civil servants. Khan (1982) points out that these organizational problems have been compounded by confusion about leadership roles and the ministries. Colonialism has influenced this aspect of public- management because the transition has not been effectively made from the relatively simple hierarchal

organizations of the colonial period to the criteria of the new ministerial organizations. This is due in part because there is no longer one actor in the decision-making process as first encountered in the office of the Colonial Secretary. What has taken place is an evolution of the organizational structure from the colonial period represented by three actors at the top of each ministry in which the working relationship has not been clearly defined (Benn, 2004; Khan, 1982). They are the Minister, Permanent Secretary and Chief Technical Officer (CTO). Thus, direction at the ministerial level is not as strong and unified as it should be.

To create a tri-dichotomous relationship between the three officials, such as the Minister setting policy, the Permanent Secretary implementing policy and the CTO giving technical advice on policy and implementation, is naive and mistaken (Benn, 2004; Khan, 1982). It would be like agreeing to the view that there is a politics-administration dichotomy in real practice. In many Caribbean nations the linkage between policy formation, implementation, technical and managerial evaluation is still being debated and has not yet been resolved. What is generally lacking is an environment in which teamwork is encouraged. Too often in small island societies political executives and civil servants create an atmosphere that lacks social harmony and encourages conflicts that result in power struggles, uneasiness, and uncooperative behavior between ministerial levels of government and civil servants (Milne, 1970).

There appears to be a recurrent theme in the management literature of the Caribbean that suggests the conflict relationship between politicians and civil servants goes back to the days of colonial rule. According to Khan (1982), while politicians

were engaged in the independence movement, civil servants assisted the colonial power in maintaining law and order. Consequently, civil servants trained in the ways of the colonial government are not aware of the needs of a transitional independent state. Therefore, Ministers look to individuals on whom they can rely for support often resulting in nepotism and job denials to non-supporters of the party. Today there continues to be an environment of mistrust and misunderstanding between Ministers of Parliament and the civil service (Armstrong, 1980; Mills, 1970).

The introduction of colonialism into the public management system of the Caribbean was based on value premises and structural designs transferred to colonial settings incrementally (Benn, 2004; Khan, 1982). Colonial rule was easily adopted because no other choice was readily available. The adaptation of this type of rule by public-enterprise management at the local level was the result of colonial rule becoming institutionalized, not just based on acquiescence, selective recruitment, organizational socialization, value infusion, or conformity, but also on control, coercion, and containment. Accordingly, the hegemonic dominant class of the Crown Colony became the driving force of consciousness, values and customs throughout colonial societies (Lange, 2004). Eventually, the inquiry of the Moyne Commission Report (1945) and other social movements brought about change in public-management with increasing involvement and participation in public agencies by majority socio-ethnic groups. Greater acceptance of and recognition for the instrumental value of public- management became visible, especially, with the new responsibilities of public agencies to deliver social services to the masses. The discussion which

follows focuses on the concept of public enterprises and specifically airports as public enterprises.

2.10 The Concept of Public Enterprises

2.10.1 The Role of Public Enterprises

In many developing countries, public enterprises have played a central role in the development of the public sector (Aye, 1986). As a result, there has been an increased growth of public enterprises due to a number of factors. Bulkhead and Miner (1971) offer various reasons for the growth of public enterprises: (1) wars, which cause major government mobilization efforts and revenue and expenditure increases; (2) international tensions and conflicts among nations since World War Two and the following global Cold War, which induce the expansion of government activities and expenditures; (3) military technology developments requiring major government undertakings in the form of state enterprises; (4) negative externality produced by the private sector— such as environmental pollution, subsequent government intervention in the economy through regulations and other mechanisms; (5) market failure in the provision of public goods and certain semiprivate goods, along with the lack of market incentives to provide certain essential goods; (6) social overhead requirements of a mixed economy and the external costs generated by the private sector, such as unemployment compensation and pollution control; (7) provision of an infrastructure for economic development, which imposes a heavy burden on public expenditures; (8) economic planning for long-term development of all sectors; and (9) changing each and population compositions.

An argument of the factors causing the growth of public enterprises would not be complete without a perspective from certain public choice theorists. Savas (1987); Niskanen (1971); Buchanan and Tulloch (1962) and Downs (1967) suggest that government agency growth happens because bureaucrats are self-interested utility maximizers, and their behavior would result in decisions that can maximize agency budgets, patronage in ministerial agencies in developing countries, overstaffing, overpaying, and overbuilding. Another role of public enterprises offered by Slicherl, (1983) is that they are concerned not only with economic factors but also the non-economic factors and preferences that impact relations are among people. Put another way, public enterprises are only looked at as entities that are expected to fill in the gaps of service delivery and to supplement the private sector and the system as a whole. In contrast, the predominant role of public enterprises in most developing countries is considered to be the premier institution to achieve equitable relations among people and to ensure the democratic delivery of public services while upholding public purpose in all economic activity (Aye and Heisted, 1986; Bruce, 2005). A central theme in this section has been the dynamic and changing nature of government manifested from the position of the public enterprise. In many developing Latin American and Caribbean countries, the role and organizational forms of airports have experienced transformation. The following section of this study examines the considerable changes in the nature of airports as public enterprises.

2.10.2 The Business of Airport Public Enterprises

Airports are essential to the societal and economic growth of Latin America and the Caribbean island nations (Bochum, 2000; Johan, 2005). Each Latin American and Caribbean country represented in this study has one or more airports to serve the capital, in addition to other airports that serve the tourist area. During the past two decades, many governments of Latin America and the Caribbean have experienced fiscal crises that stalled the necessary investment needed to improve and maintain their national infrastructures that are critical for participation in global markets. Interestingly, although airports are one of the main infrastructures promoting growth, these public enterprises receive little attention from government officials regarding maintenance and improvement (Doganis, 2002; Fay and Morrison, 2006; Graham, 2001; Johan, 2005; Kaptur, 1995).

Airports no longer fit the traditional model of past years because they have evolved into multifaceted operations. They have hotels, conference centers, shopping malls, as well as a range of facilities and services for airlines. Consequently, they are multi-modal hubs that host a variety of economic activities. This section discusses airports as businesses by drawing attention to the wide range of activities carried out by airports. This study then explains the importance of airport functions, ownership structures, and the sources of airport revenues in island nations.

2.11 Airport Functions and Ownership

2.11.1 Activities of Airport Operators

An airport can be defined as one or more runways for aircraft, together with associated terminals and the buildings where each terminal is responsible for the orderly movement of passengers and freight (Doganis, 2002; Graham, 2001; Kaptur, 1995). Airports are complex public enterprises that act as a stage for differentiation in airport functions and interrelated activities that combine to facilitate air transport traffic and the interchange between air and surface transportation (Kaptur, 1995).

For historical, legal, and commercial reasons, the activities performed within an airport vary among countries, and often among airports within the same country. In many developing countries, the principal airport functions are typically owned and operated by a government entity, whereas in many industrialized countries, airport ownership and operations are dispersed.

Due to fiscal constraints, government entities are increasingly divesting many airport operational activities. A number of these countries have private air traffic control systems; police and security of the airport are frequently undertaken by private firms. Furthermore, ground-handling activities can either be supplied by an airport administrator or contracted under private provision to airlines while commercial activities are generally provided under private concession. Fire, ambulance, rescue services, and maintenance continue to be handled by an airport authority. Within the overall umbrella, airport services and facilities can be classified into two groups: (1) aeronautical or airside; and (2) non-aeronautical or landside (Kaptur, 1995).

2.11.1.1 Aeronautical/airside

As shown in Table 2.3, operational services and facilities services are primarily concerned with ensuring safety of aircraft and airport users. This includes air traffic control (ATC) services to facilitate the approach and landing of aircraft, meteorological services, telecommunications, police and security, fire and ambulance services (including search and rescue), and runway and building maintenance. These facilities and services are generally provided by the airports themselves or by local or central government departments. The costs for such services differ among airports.

Table 2.3 Classification of Airport Activities

Aeronautical or Airside		Non-Aeronautical
Operational	Handling	Commercial
Air traffic control	Aircraft cleaning	Duty free shops
Meteorological services	Provision of power and fuel	Other retailing shopping
Telecommunication	Luggage and freight loading and unloading	Restaurants and bars
Police and security	Processing of passengers, baggage and freight	Leisure services
Fire, ambulance and first aid services		Hotel accommodation
Runway, apron and taxiway maintenance		

Source: adapted from Betancourt and Render, 1999

As shown in Table 2.3, handling services are the numerous ground-handling activities occurring at airports. Those associated with aircraft are commonly referred to as *ground handling*. This includes cleaning, proving fuel, and processing baggage and freight. Other ground handling activities cover the various phases of processing passengers, baggage, and freight through terminals and onto aircraft. Parts of the ground handling process may be the responsibility of different authorities. In many of the airports in the region, these activities are provided by either airlines or ground handling agents. However, in several larger airports, such as Lima and Mexico, these services are provided jointly by the airlines and the airport authority.

2.11.1.2 Non-aeronautical/landside

As shown in Table 2.3, commercial activities at a number of airports are provided by concessionaires who are specialists in their fields. Airport authorities collect concession fees and/or rents from these companies. However, there are other countries where the airport authorities themselves are directly involved in running some or virtually all the commercial outlets. In addition, to the usual shops, some of the larger airports provide an extensive range of other services to their customers both within the terminal buildings and on airport property. Depending on the size of the airport, commercial activities range from duty-free shops, catering, and restaurants to car parking and car rental agencies, plus a myriad of other services.

2.11.2 Airport Ownership Structures

During the mid 1960s many of the commercial airports in Latin America and the Caribbean were viewed as strategically important. For this reason, they became

operational under government ownership (Doganis, 2002; Graham, 2001; Kapur, 1995). During the 1970s, many countries made a shift toward the formation of airport corporations or authorities under government ownership to improve efficiency and gain access to capital markets. This is the advent of private sector participation in the financing of airports in Latin America and the Caribbean.

In many Latin American and Caribbean island nations, various types of ownership and operations management exist. For the purposes of this study, airport ownership and operations are classified under public and private. The characteristics of an airport under public ownership and operations include: (1) public airport ownership and operations are managed by a government department, for example, a ministry of transportation; and (2) public ownership and operations are operated by an airport authority with no private management involvement in ownership and operations. The characteristics of an airport under private may consist of several combinations of ownership and operations. For instance, an airport may have public ownership with management and operations contracted out to the private sector. Another ownership structure not regularly utilized is private ownership and operations. This aspect of ownership means full divestiture of the airport assets that countries are unlikely to do.

2.11.3 Airport Revenue Sources

Revenues derived by airports are classified into primary sources, such as aeronautical or airside; and non-aeronautical or landside activities (Doganis, 2002; Graham, 2001; Kapur, 1995). Airside revenues result from airport traffic activities related to the operation and landing of aircraft, passengers, or freight. Landside

revenues are obtained mainly from non-aircraft-related commercial activities in terminals (e.g., shopping, restaurants, car parking, and car rentals) and rents from airlines and concessionaires. Landside revenues also can include nontraditional activities, such as hotel operations, real estate development, and consulting services.

Table 2.4 describes the various activities under the two main sources of revenue.

Table 2.4: Sources of Airport Revenue

Aeronautical or Airside	Non-Aeronautical (Commercial)
Aircraft cleaning	Duty free shops
Provision of power and fuel	Other retailing shopping
Luggage and freight loading and unloading	Restaurants and bars
Processing of passengers, baggage and freight	Leisure services
Runway, apron and taxiway maintenance	Hotel accommodation
Aircraft landing fess	
Parking fees	
Fuel and oil concessions	

Source: Kapur, 1995

Just as definitional and accounting system variations exist among countries, differences exist in traffic volumes and the mix of airport revenues as well. Findings from a representative sample of airports indicate that government department airports have the lowest average levels of aircraft movement and passenger volumes. Although

traffic volumes are low, the conventional wisdom that governments provide the safest airports may not always be true, given constraints on revenue allocations for this purpose. Government airports also have the highest dependence on airside revenue, at approximately 70% of total revenues as compared to slightly over 40% for privatized airports and about 55% on average for all other airport ownership structures (Doganis, 2002; Graham, 2001; Kapur, 1995).

At several airports, commercial facilities are operated by specialized concessionaires who pay concession fees and rents to the airport authority. Commercial sources of revenue improve operational performance, increase resiliency to cyclical economic conditions, and minimize airline dominance. In the past, airport officials typically focused on operational functions, such as baggage handling, and paid little attention to passenger food and shopping needs. At most government-owned airports, the concentration of commercial revenues has been limited to a small selection of duty-free shops and restaurant facilities and has been reduced due to the deregulation of duty-free facilities (i.e., the advent of in-flight, on arrival, and in-city duty-free shopping). A number of airports are beginning to shift from traditional "public utility management" to a more commercial perspective in response to changing market conditions. Diversifying revenues is one of the major challenges facing airport managers as governments are increasingly unable to meet their airport financial obligations (Graham, 2001, Kapur, 1995). An example of this new philosophy can be found at Sangster and Cancun International Airport, which has developed many different boutiques and culturally focused retail shops.

2.12 The Internationalization of Public Sector Management Reform

The overall performance of public management systems in Latin America and the Caribbean has exhibited minimal improvement in recent years (Bangura and Larbi, 2006). The 1980s ushered in the internalization of public sector management reform. The movement has been international in two respects. First, it has spread to countries around the world, including Africa, Australia, the United Kingdom, New Zealand, Sweden, Grand Cayman Islands, and other Latin American and Caribbean countries. Second, it has had a sweeping impact on many nations in a short period of time (Kettl, 2000). Over the past two decades attention has been given to reducing the role of government and reforming public management in these countries (Batley and Larbi, 2004; Campos and Estanhani, 1996). Farazmand (1999) argues that public enterprises are an integral part of the social and economic transformation development in most developing countries. The need for public enterprises to improve their performance, public management capacity, development strategies, political inclusiveness, political and economic stability is an indication of the increased importance developing countries have placed on public enterprises as a major part of their national development (Batley and Larbi, 2004; Campos and Estanhani, 1996; Farazmand, 1999; Sicherl, 1983). Sicherl (1983) argues that the role of government in LACDNs developing countries is no small task because it requires the competence and motivation of managers and employees who are dedicated to the vision of public enterprises in serving the public interest. Moreover, creating an environment of improved performance is not the sole responsibility of the managers and workers;

instead, it depends on the ability of government to create institutions, guidelines, controls, government ethos, strategic human resources and measures, which will assist public enterprises in properly fulfilling their responsibilities in an efficient and effective way.

The rise of public sector management reform in Latin America and the Caribbean started when the state infrastructure became too large to effectively undertake its new social roles of education, health, transport, and new economic development programs (Pereira, 2004). Thus, increased growth of the state's social responsibilities and demands on their public enterprises introduced problems of efficiency and effectiveness (Pereira, 2004). Consequently, this opened the doors for public sector management reform during the 1980s, supported by neo-liberal wave advocated by Margaret Thatcher and Ronald Reagan (Pereira, 2004). According to Nickson (2006), many Latin American and Caribbean countries launched state reform initiatives driven primarily by the forces of globalization, which put tighter constraints on government budgets and made economic performance reliant on global competition. These changes introduced new pressures for reshaping state structures. During the first phase of these measures, the IMF and the World Bank strictly enforced strategies, such as the downsizing of central government staffing levels, privatization of public enterprises, and decentralization of service provision to achieve macroeconomic fiscal balance. Although these first-generation reform measures were successful in reducing this fiscal deficit, they were unsuccessful in addressing the challenge of improving overall economic performance in the region. Nickson (2006) holds that during the

1990s many Latin American and Caribbean countries welcomed a second generation of government reforms, which emphasized what has been labeled the four Es: (1) the effectiveness of public sector intervention in terms of coverage and quality of service; (2) the economic efficiency of service delivery; (3) improved equity of service delivery through a more targeted approach to current and capital expenditure in the social sectors; and (4) the creation of an enabling environment for private sector development. Thus, even with the concerns for issues of effectiveness, efficiency, equity and empowerment of the public sector, the system of public management charged with achieving these objectives continues as the status quo for state reformers (Nickson, 2006).

2.13 Foundations of Reform

2.13.1 Models of Management Reform: Westminster and American Style

The concept of public management reform has spread across nations by building on the idea that organizational governance of the past century cannot effectively address the issues of the next century without embracing an inclusive mission, a democratic approach to service delivery, transparency, accountability, and trust between citizens and government (Kettl, 2000). To that end, developing countries, especially those in Latin America and the Caribbean, have been forced into submission to adopt management reform models, such as the Westminster and American style models, as a precondition for aid and technical training to build management capacity, economic prosperity and social stability.

The reform movement can be categorized into two models: (1) the Westminster-style reforms which are the efforts of New Zealand and the United Kingdom governments; and (2) the reinvention-style model that developed in the United States (is more incremental and prominent than the Westminster-style). Kettl (2000) points out that the New Zealand approach to the Westminster model was a more cutting edge approach because of its newly labeled concept of new public management that focused on reducing the size of government and promoting a market approach to running the government. The New Zealand reforms began with a top-down approach that sought to privatize programs wherever possible; to substitute market incentives for command and control bureaucracies; and to focus on outputs and results instead of inputs. Although the New Zealand approach represents only one of many movements with a British style parliamentary system, the British model grew throughout from the right with Prime Minister Margaret Thatcher's venture to shrink the size of the state (Kettl, 2000; Wallis and Dollery, 2001). Thatcher launched the government's financial management initiative which centered on separating the government's functions into clear responsibility and cost (accrual basis) centers focused on producing outputs while holding managers accountable for their results. As Kettl (2000) states, the British model was interpreted by many analysts as the "new public management" or "managerialism" (p. 13).

In contrast to the New Zealand approach, the United States was late in its reform initiatives. However, the reinventing government movement, also known as the National Performance Review (NPR), produced less restructuring but more aggressive

administrative changes. Implemented by the Clinton administration, the reinventing government campaign impacted more parts of government because it embraced reforms focused on changing the bureaucrat's behavior rather than transforming the fundamental character of government's structure and processes (Bale and Dale, 1998; Behn, 1998; Box et al., 2001; Bresser-Pereira, 2004; Kaboolian, 1998; Lynn, 1998; McCourt and Minogue, 2001; Osborne and Gaebler, 1993; Polidano and Hume, 1999; Wallis and Dollery, 2001). As the architects of the reinventing government movement, Osborne and Gaebler (1993) delivered the main tenets that would drive the American reform movement. They suggested that government should (1) steer, not row; (2) empower communities to solve their own problems rather than simply deliver services; (3) encourage competition rather than monopolies; (4) be driven by missions, rather than rules; (5) be results-oriented by funding outcomes rather than inputs; (6) meet the needs of the customer, not the bureaucracy; (7) concentrate on earning money rather than spending it; (8) invest in preventing problems rather than curing crises; (9) decentralize authority; and (10) solve problems by influencing market forces rather than creating public programs. Kettl (2000) argues that the era of public management reform is a never-ending tapestry of old and new propositions. For instance, the twentieth century has produced eleven major government reform measures, such as the Keep Commission (1905-09), The Budget and Accounting Act of 1921, the two Hoover Commissions (1947-49 and 1953-55) to the NPR. As a result of NPR, the products of reinvention came in the form of new strategies to provide extra control over the government's activities. Passed in 1993, The Government Performance and Results Act

(GPRA) is a product that required all Federal agencies to measure their activities and indicators. Quietly during the reinventing government movement, the federal government devolved administrative responsibilities and policy shaping decision-making to the states (Kettl, 2000).

2.13.2 Public Sector Management Reform Defined

Defining public sector management reform is no easy task because it not only involves new public management practices but also plays a major role in ensuring social accountability and redefines the logic of the state organization and its functions (Bresser-Pereira, 2004). One basic argument underlying this study is that public management reform should be concerned with the democratic character of government officials' decisions, organizational governance, development of human resources management capacity, allocation of resources, and other parts of the machinery of government that are essential to a well functioning public sector.

The World Bank defines public management reform as the capacity of government to make and implement public policy, the effectiveness of public programs, and the strength of public institutions. These elements, as defined by the World Bank, involve a number of issues. First, the bank addressed civil service reform by urging countries to reduce the size of their civil service. What the Bank realized was that reductions in the size of the civil service did not necessarily improve efficiency and productivity of the workforce. As a result, technical assistance programs dealing with improved performance and more effective management of human resources were implemented. Public management reform is gradually changing the state organization

by creating new rules, increasing its ability to protect the public and making public managers more accountable and efficient (Bresser-Pereira, 2004). Finally, the objective of public- management reform is not just to make the state organization more efficient but to build overall state capacity in accordance with democratic principles because it is citizen-oriented and depends on elements of social accountability (Bresser-Pereira, 2004). Public management reform is changing the state organization everywhere and restoring the idea that public management is a component of public administration. A pervasive theme in the public management reform literature regarding Latin America and the Caribbean is that there is a need for reform, but there is no clear method on how to achieve it. Burki and Perry (1998) suggest that the success stories in Latin America and the Caribbean are limited, so there is no clear reform paradigm. In fact, in many Latin American and Caribbean countries it is difficult to fit into any of these models because informal rules that guide public management in Latin America and the Caribbean are a byproduct of institutional conditions that often differ from those of developed countries (Burki and Perry 1998). What is very clear from examining the literature on public sector management reform is that there is still much to learn about effective reform model approaches as guides in Latin America and the Caribbean.

2.14 Public Sector Management Reform: Three Approaches

The international management reform movement has ostensibly focused on two issues. First, there is the question of policy: what should government do? The second issue is about administration's relationship to efficiency and effectiveness: what can management do to improve its delivery of services? There are three approaches that

address these questions. They include comparative public administration (CPA), structural adjustment loans (SALs) and new public management (NPM). These approaches have been employed to solve the varying pathologies of bureaucratic infrastructures in Latin America and the Caribbean developing nations. What follows is a discussion about the role and impact these approaches have had on public sector management reform.

2.14.1 Approach One: Comparative Public Administration

Comparative public administration was put together from the fabric of public administration in the United States. Wilson's (1887) essay argues for adapting the legal-rational German model of administration to the U.S., and Willoughby's (1919) text on public administration was, in essence, a comparative government textbook. One should also remember that establishment of merit-based civil service in the United States was heavily influenced by earlier British reforms (Stillman, 1991). Comparative public administration crystallized as a movement receiving attention from USAID and generous grants from the Ford Foundation to the Comparative Administration Group (CAG) of ASPA, eventually helping to create the momentum for comparative and development administration (Dviwedi and Henderson, 1991; Farazmand, 1996; Fried, 1990; Guess, 1997; Heady, 1996; Loveman, 1976). After its heyday in the 1960s and a retrenchment in the 1970s and 1980s, comparative public administration was resuscitated in the 1990s (Heady, 1996). This can be attributed in part to certain general factors: globalization, the world-wide drive for privatization, competition in public service provision, all in an attempt to improve the organization and management of public

infrastructures (Dunleavy and Hood, 1994; Garcia-Zamor and Khator, 1994; Hood 1991; OECD, 1996b; Osborne and Gaebler; 1993; Pierre, 1995). Globalization made the students of public administration and management realize that the world is interconnected, and that in an interconnected world, foreign experience may be very valuable in applying best practices to issues of management performance. The comparative public administration approach covers a broad scope of issues, cultures and problems that might not be conducive to the nature of globalization because global change is contextually and situation driven.

Public administration literature in the US does not address global change in a proficient manner. Often this is said to be a result of parochialism and ethnocentrism of American public administration that results in neglect of comparative administration (Caiden, 1994; Riggs, 1994). There are few exceptions, with the most notable one being Public Administration in the Global Village, edited in 1994 by Jean-Claude Garcia-Zamor and Renu Khator (Heady, 1996; Henderson, 1990; Luke and Caiden, 1989). Taking global change as a point of departure, rather than as a concept that should be proven, the authors discuss implications of global change for public administration. Garcia-Zamor and Khator (1994) propose four levels of analysis for public administration: (1) global system; (2) social system; (3) political system; and (4) administrative system. The suggested approach is integrative and combines not only many levels, but also many perspectives. Fred Riggs (1994) points to the limits of exporting US administrative techniques and routines without consideration of comparative political contexts. Riggs maintains that global forces are penetrating individual agencies in the US at every level and

to such an extent that the idea of singular foreign policy is misleading. Renu Khator (1994) argues that globalization, with particular reference to environmental policy, means two more types of actors in the process of politics and administration. International communities and non-governmental organizations are brought into the picture to shape policies with government agencies. She sees changes in three areas: (1) administrative context (more and more players in the game); (2) administrative style (administrators shifting from being regulators to being balancers); and (3) administrative goals (shift from efficiency, productivity and responsiveness to sustainability).

Garcia-Zamor (1994) defines development administrations as the aspect of public administration that organizes public agencies to facilitate programs through a process of applying new knowledge, techniques, and equipment to improve the social and economic standards of living for members of society. He calls for new goals in development administration: (1) population control; (2) indigenous democratization; (3) regional alliances; and (4) reversal of the brain drain flow. Farazmand (1994) is more specific in his identification of the two main directions of globalization: (1) democratization; and (2) privatization and marketization. This, in turn leads to readjustment in public and private sector relationships (mostly at the expense of the public sector, but not necessarily for the benefit of the private sector), organizational reconfiguration and redesign (with drive for more flexibility), and administrative reform (with emphasis on decentralization). The trends distinguished by Farazmand were greatly facilitated by the fall of Communism, which not only increased the appeal of market economies as more efficient means of industrial and social

organization but also brought back issues about the size and responsibilities of the state to the forefront of theoretical debates all over the world.

What was increasingly absent was a systemic theory of comparative public administration that would transcend national and institutional boundaries. In his influential essay “Trends in Comparative Study of Public Administration,” Fred Riggs (1962), the leader of the developing comparative administrative movement, identifies three broad tendencies in the study of comparative public administration: (1) the shift from normative to empirical approaches; (2) the shift from idiographic (i.e., concentrating on unique events) to nomothetic (i.e., seeking generalizations) studies; and (3) the shift from non-ecological to ecological approaches. Riggs (1962) points out that the second and third approaches were emerging. Since these developments were anticipated, there was an expectation of creating a system-based theory of comprehensive and comparative administrative science (Fried, 1990). The life cycle of comparative and development administration is constantly evolving. Heady (1996) suggests several directions in which comparative public administration is growing: (1) development administration; (2) comparative public policy; and (3) core public administration (centered on bureaucracy). The discipline of comparative and development administration is not confined to the United States. Like this study, there are comparisons made between countries in Latin America and the Caribbean about administrative and management practices frequently. There is no doubt that comparative and development administration has passed through phases over many decades. However, in an era when globalization needs efficient and effective performance for most developing countries to be

globally competitive, development administration has embraced Lynn's (1996) idea that existing theories of administration and management should be translated into practice. Consequently, Guess (1997) concludes that "new comparative administration" studies have concentrated on more "traditional areas of public budgeting, public personnel management, and intergovernmental relations" (p. 562). Still, in this area, he asserts, "for the first time a concerted effort has been made on several fronts to examine the determinants of organizational efficiency and effectiveness in a comparative perspective" (Guess, 1997, p. 542). Often, examining the efficiency and effectiveness of many public sector organizations in Latin America and the Caribbean resulted in reform adjustments that dealt specifically with the management issues. What follows is an overview of structural adjustment programs instituted in Latin America and the Caribbean.

2.14.2 Approach Two: Public Management Reforms under Structural Adjustment Programs

One of the salient features of the post independence economies of Latin America and the Caribbean was the expansion of the public sector. For that reason, government took upon itself to be a critical instrument of economic prosperity to most if not all, of the enterprises delivering services to the public. It is not surprising that the losses encountered by these enterprises in most of the region were considerable with overstaffing and unbalanced government budgets (Nunberg, 1990). Many of these governments went to the International Monetary Fund (IMF) during the 1970s and 1980s for aid. The term structural adjustment loans (SALs) was introduced by the World Bank during the early 1980s. SALs involved major policy changes, such as the evaluation of the currency, conversion of import quotas into import tariffs, the

liberalization of market controls in agriculture and domestic trade, the reform of public expenditures and taxation (Addison, 2002). Structural adjustment loans were program loans which separated development finance from specific items of investment; it is given as general support for a deficit balance of payments to facilitate imports that should increase economic growth and, hopefully, development. In addition, the loans included policy conditions, which involved national macroeconomic issues.

Structural adjustment loans (SALs) required the adoption of a variety of public management reforms. In the early versions of SALs, the conditions spread out across a range of policy areas, including trade policy, public finance, price reform in agriculture and in energy, and institutional change in the civil service, and public enterprises. In some measure these reforms were motivated by a desire to reduce government involvement in the economy, government spending, and the size of the civil service (Burrows-Giles, 2002). But these reforms were also designed to increase the capacity of the government to undertake the kinds of economic policies supported by the SALs. For example, the SALs were often designed to reduce misdirected intervention by LDC governments in specific markets.

At the very least, such reforms required retraining of government civil servants and making significant changes in the missions of important government agencies. Some of the reforms actually increased demands on government officials, forcing them to move from direct intervention to the more subtle and often more complex role of regulating a privately controlled activity. There were significant public sector management reform components in nearly all structural adjustment loans. Nunberg

(1990) found that in 1988, all 59 existing SALs included a significant public sector management reform component. She identified the most prominent issues as institutional changes required for macroeconomic and financial management, non-financial institutional reform, and trade policy and administrative reforms. The primary focus of public sector management reform under SALs was strengthening the institutions involved in economic management.

Such reforms affected managing public investment programming process, strengthening of institutional mechanisms for national planning, creating and reinforcing economic policy-making bodies, improving systems for debt management, improving institutional mechanisms for tax administration, reforming institutions involved in the budget process, reforming banking and financial institutions, and reforming systems for accounting and auditing.

These reforms were intended to control government expenditures for civil service. Thus, they involved efforts to downsize government. Many of the reforms were intended to improve the ability of the government to handle specific tasks. Programs to improve the ability of the civil service to monitor and plan for the economy were aimed at increasing government capacity. Other reforms aimed at government institutions were responsible for specific sector activities. These reforms sought to facilitate the privatization of government owned businesses and to improve the ability of the government to engage in strategic planning (Nunberg, 1990). In reforms aimed at broader civil service issues, the Bank supported changes in employment conditions, pay structures, and training. These reforms were aimed at the problem of pay compression

between the lower and higher grades, excessive numbers of civil servants, uncompetitive wages, and declining productivity. The Bank told countries to reduce their salary expense and often told how they had to do it. In addition, efforts were made to improve productivity by such measures as performance budgeting, management audits, and reforms of personnel management practices.

Public management reforms under SALs had mixed results for several reasons. First, the timing of SALs and public management reforms was out of sync. SALs normally follow a fairly short schedule of 12-18 months while management reforms take several years to properly implement. A second problem was that the conditions attached to SALs often were too extensive and varied to be properly implemented. A third problem was that government commitment to implementation and institutionalization of the reforms varied a great deal; governments might agree to implement reforms and might start doing so, but the Bank rarely monitored compliance very closely once the loan matured, implementation stopped (Addison, 2002).

After many years of implementing structural adjustment programs, the Bank soon realized that the phasing of this reform measure had other impacts on society that were not considered. As a result, structural adjustment programs are no longer just focused on economic growth. Instead, poverty reduction, gender equality and environmental protection have been added to its original concept. The challenge facing many aid donors and national organizations in developing countries is that structural reforms encounter problems of implementation and sustainability partly due to weaknesses of management and infrastructure support systems (Khan, 1994).

The lack of management capacity continues to be the theme related to the purposeful implementation of public management reform in developing countries. The reason is that international aid institutions that make reform a prerequisite for aid do not take a macro view of the development process nor carefully examine the country's management capability and policy capacity to lead the decision of public enterprises toward development goals and to make concomitant changes. The public management reform model of this study is proposed to address and improve the public manager's capacity to organize and manage a set of reform measures aimed at public enterprises on a sustainable basis. One such reform model that originated out of New Zealand is presented in the next section.

2.14.3 Approach Three: New Public Management as a Reform Tool

Discussing public management reform, one should consider the suitability of the New Public Management (NPM) movement across developing countries. Many Latin American and Caribbean countries adopted the style of NPM that involves the treatment of citizens as customers and a market-based approach to service delivery. Popularized by the analysis of Hood (1991; 1995) and Dunleavy and Hood (1994), new public management consists of seven essential traits: (1) active and discretionary professional management; (2) the focus on explicit standards of managerial performance; (3) greater emphasis on output controls; (4) a shift to disaggregation of units in the public sector; (5) encourage greater competition in the public sector; (6) emphasis on private-sector methods of management; (7) emphasis on greater discipline and parsimony in resource use. Hughes (1998) defines NPM as a "concerted

program of public sector reform aimed at replacing administration by management, replacing formal bureaucracy by markets and contracts as far as possible, and reducing the size of the public sector" (p. 1489). Dunleavy and Hood (1994) argue that NPM constitutes a move away from the dominant paradigm—what they label Progressive Public Administration to two directions. First, it is lowering the concentration of rules limiting the freedom of public officials handling resources (money, staff, contracts, etc.), and second, it is removing the barrier between the public sector and the private sector in terms of personnel, structure, and business methods.

New public management is often used to respond to certain pressures encountered by government, including shrinking budgets and the effects of globalization. The common responses to these pressures include deregulation of line management, performance-based accountability, and contracting out (Aucoin 1990; Hood, 1991). This study argues that public management reform should focus on management activities, such as training, accountability, and performance measures within the public enterprise to improve performance, rather than just outcomes and results prescribed by new public management. A body of literature offers a counter argument related to the merits and suitability of new public management and argues that governments in Latin American and Caribbean developing countries may be ill equipped to take on unfamiliar approaches to declining services because the institutional conditions needed to implement new public management practices may not be present, particularly, in developing countries (Batley and Larbi, 2004; Behn, 1998; Lynn, 1998; Polindano, 1999; Schick, 1998; Thomas, 1996).

In his critical analysis of NPM, Lynn (1996b) points out that many tenets of New Zealand and British reforms, including the emphasis on program outputs, have been widely tried, and to a certain extent, abandoned or absorbed into administrative practice in a less radical form in the United States. Drawing from the history of reform practice and ideas in the United States, Lynn (1996b) is skeptical about claims of NPM proponents that NPM constitutes a new paradigm about the role and functions of the government. Some see NPM as a new paradigm because it constitutes a move towards a post-bureaucratic, commercial, contractual state rather than a technique and implementation—oriented subset of public administration (Hughes, 1998). Others argue that it constitutes a new paradigm because two epistemic communities (traditional public administration and (new) public management) are engaged in a dialogue within but not among their respective communities. Lynn (1996b) argues that if a community of practitioners and academics (if there is a community) does not have an accepted theoretical cannon and accepted methods of application, they can hardly claim to possess a paradigm, even if the arguments are couched in some general meta-language. Questions about the paradigmatic nature of NPM are raised by Aucion (1990), who convincingly shows that NPM introduces contradiction with regard to three essential issues of public management: (1) different ways in which the bureaucracy problem is diagnosed and the remedies prescribed; (2) the different understandings attached to policy/administration dichotomy; and (3) different approaches taken to the representation/responsiveness problem.

Advocates and critics of new public management agree that it has universal appeal as a catch phrase; nevertheless, there is literature that indicates many LACDNs

have adopted only a few elements of the new public management agenda (Behn, 1998; Lynn, 1998; Polindano, 1999; Schick, 1998; Thomas, 1996). The real question, according to Polindano (1999), is “to what extent can the new public management style of reform genuinely be called a dominant paradigm of public service reform in the developing world?” (p. 3). Polindano (1999) argues that one may agree that new public management is a dominant paradigm if all one does is to look for new public management style reforms. In fact, he warns against the “seek and thou shall find” pitfall of comparative research in which the research question determines the findings (Polindano, 1999, p. 3).

Hood (1991), for example, argues that NPM emphasizes a certain set of values over another set of values. NPM, according to his analysis, emphasizes what he calls Sigma-type values (purposefulness, frugality, efficiency) while assuming Theta-type values (honesty, fairness) under certain structures, and almost ignoring Lambda-type values (resilience, robustness, survival and safety). The problem is that no matter how strong the political emphasis on certain values might be, the government cannot completely forgo democratic values. Traditional Public Administration has evolved, and a review of recent books on public administration and public management points to the distinction between them and reveals that public management is, in fact, a part of public administration. Essentially, the problem was misconstrued when the issue of competing values was seen as the demise of old administrative values. Actually, values can surface in different combinations and configurations, and the task of the student of public administration/management should be to examine how these alterations impact

administrative behavior and outcomes. An analysis of selected volumes on public management and administration shows that differences are of degree and that the lines between the two are to some extent blurry.

The next section proposes a public management model for Latin American and Caribbean developing countries and discusses how the interconnectedness of its components influence effective public enterprise performance.

2.15 Public Management Reform Model for Latin American and Caribbean Developing Nations: Introduction

After experiencing many decades of inefficient, ineffective and poor performance of public enterprises, governments globally have seriously considered and even embraced privatization. Thousands of public enterprises (PEs) have been turned over to the private sector in Latin America, the Caribbean, Africa, Asia, and Eastern and Western Europe. This trend was spurred by the documented poor performance and failures of PEs and the efficiency improvements after privatization around the world (as cited in Boardman and Vining, 1989; Chong and Lopez-Silanes, 2003; Chong and López-de-Silanes, 2003a; Dewenter and Malatesta, 2001; Ehrlich et al., 1994; Frydman et al., 1999; La Porta and López-de-Silanes, 1999; López-Calva and Sheshinski, 1999; Megginson et al., 1994; Megginson and Netter, 2001; Mueller, 1989). However, the privatization reform movement encountered negative publicity because countries were forced to adopt this reform measure as a prerequisite to obtain structural adjustment loans. This only emphasized a band-aid approach to efficiency issues, rather than utilizing privatization as a tool to achieve efficiency and effective performance of public enterprise. Given these circumstances, consideration should be given to an

innovative reform model that would blend traditional and market based theories to provide a means to improve the financial and operational performance of public enterprises in developing countries.

The proposed public management reform model presented in this study is a toolkit of strategies that consists of four interconnected dimensions—privatization, organizational governance, strategic human resources management and performance based-budgeting. As shown in Figure 2.1, the optimal performance of a public enterprise depends on the integral and coalesce functioning of all four dimensions of the proposed model.

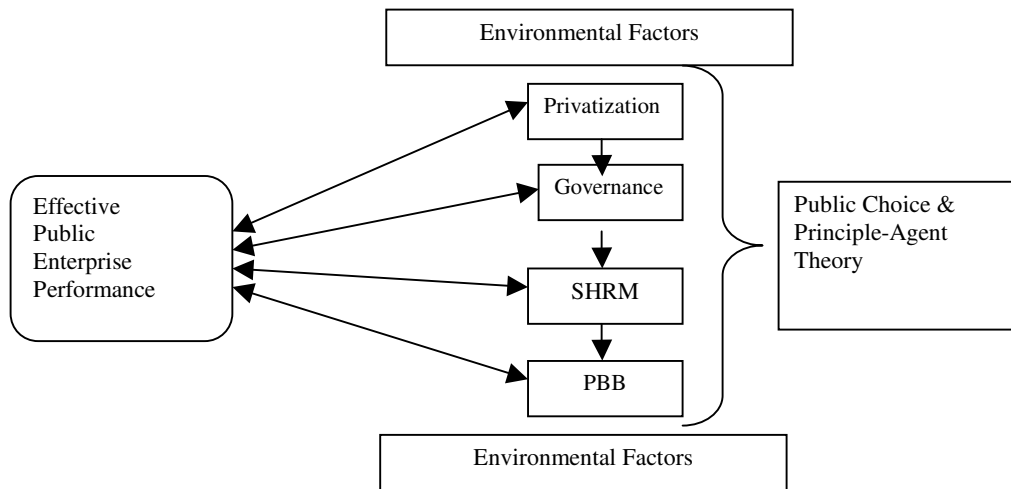


Figure 2.1 Public Management Reform Model

The dimensions of the public management reform model were selected on the basis that they constitute the missing core perspectives that NPM propositions do not offer. That is, privatization (that will reduce the size of government for efficient operations), organizational governance (that will ensure representativeness and

responsiveness for its citizens), strategic human resources management (that will build employee capacity through training and development) and performance based-budgeting (that will develop performance measures to make certain stated goals are being achieved) is argued to be critical to effective performance by most public enterprises in Latin American and Caribbean developing nations.

The model addresses the issue of suitability of the NPM propositions in LACDNs by proposing a model that is more appropriate for LACDNs than NPM. It concentrates on the realities most LACDNs countries struggle with in providing public services, which include lack of resources and management capacity, corruption, weak human resources development and training, and lack of fiscal responsibility (Garcia-Zamor, 1977). The model advances scholarship that attempts to unify the public—private management dichotomy by showing that the dimensions of the reform model are mutually supporting because they are all concerned with improving how programs and activities are organized and managed to achieve public purpose. This is not an easy task because the administrative arrangements in each of the LACDNs operate under a variation of rules, procedures, and organizational settings. However, LACDNs share a common goal so that this reform can assist to achieve efficient and effective public services delivery. Ultimately, this chapter addresses the second objective of the study, which is to answer the research question: does privatization of airport public enterprises in LACDNs enhance efficiency and performance by drawing on the privatization component of the model as the focus of study for public management reform in Latin American and Caribbean developing nations? The objective of this section is to review

existing literature that offers the theoretical justification for selecting the four dimensions of the public management reform model.

The first part of this chapter considers the concept of privatization, its theoretical framework and privatization experiences in Latin America and the Caribbean. Next, airport privatization is discussed in reference to related concepts in aviation management literature. The third part of this chapter discusses the other components of the model, organizational governance, strategic human resources management and performance-based budgeting at a macro-level perspective. The last section discusses how these components are interconnected to one another to form the model.

2.16 The Concept of Privatization

2.16.1 Background and Trends

In the late 1960s privatization was in use by local government and received global exposure under the Reagan and Thatcher Administration. Privatization is the transfer of responsibility for services or assets from government to private firms and has never been the mainstream approach of governments (Hodge, 1999; Savas, 2000). Privatization is broadly defined by Savas (1992) as “the act of reducing the role of the government, or increasing the role of the private sector, in an activity or in ownership of assets” (p. 81). This definition includes divestment of state-owned enterprises and assets, delegation of service production via contracts, franchises, vouchers, and displacement of government activities by allowing private alternatives to emerge in deregulated marketplaces. The US National Academy of Public Administration Panel on

privatization distinguishes two definitions of privatization (NAPA, 1989). The narrower definition of the term privatization “essentially means 'load-shedding,' the surrender of government of certain of its functions and their assumption by private for-profit and non-profit institutions”, while the wider definition “embraces not only denationalization or load-shedding by government, but also a variety of other forms of government action that involves reliance on the private sector” (p. 8-9). This distinction is based on a fundamental distinction between government as a financier, authorizer or overseer of services, and government as a producer or provider of services. Privatization is not an either/or proposition, but a continuum, with government-funded and provided services at one end, privately funded and provided ones at the other, and a wide array of combinations in between.

This line of thought is pursued by authors who argue that the choice between public and private delivery of services has two basic dimensions: financing and performance (Donahue, 1989; Kolderie, 1986; Wamsley and Zald, 1973).³ The challenge that this viewpoint presents is its assumption of a dichotomy between public and private financing, as well as the dichotomy between governmental and non-governmental organizations, or the dichotomy between governmental and non-governmental delivery

³ A similar approach is employed by E. S. Savas in his book, Privatization: The Key to Better Government (1987). Savas recognizes the government's role in providing essential services, and discusses best ways of service delivery. Based on two characteristics of goods and services—feasibility of exclusion of others from consuming and collective or individual nature of consumption of the good—he distinguishes four types of goods and services: private, toll, common and collective. Based on different combinations of government financing, provision and regulation of goods and services, Savas identifies ten types of service arrangements: (1) government service; (2) government vending; (3) intergovernmental agreement; (4) contracts; (5) franchises; (6) grants; (7) vouchers; (8) market systems; (9) voluntary service; and (10) self-service. He also provides a checklist for appropriateness of each arrangement for provision of certain type of service or goods that covers, among others, service specificity, availability of competitors, the scale of the service, responsiveness to consumers, susceptibility to fraud, and equity.

of services. In reality, there is a continuum in both cases, and different organizations have varying degrees of political and economic authority (Bozeman, 1987). Many public organizations are financed from user fees and government subsidies, as well as from private donations and subsidies. The issue of government vs. non-government dichotomy is less clear, where the rise of quasi-non-government organization is considered to be one of the most important phenomena in contemporary times. A complete taxonomy of organizations is offered by Perry and Rainey (1988), in which they cross-classify organizations according to ownership, operation, funding, and mode of social control (Rainey, 1991). Different countries and contexts put diverse meaning in the concept of privatization. For example, in most Latin American and Caribbean countries, Western Europe, and in post-communist countries, it is mainly understood as selling off state-owned enterprises.

Governments in developing countries have long recognized that public enterprises play a central role in building the infrastructures necessary for national development, poverty alleviation and facilitation of private sector development (Garcia-Zamor, 1977). In fact, public enterprises have been the engines of economic and social development in both industrialized and developing nations (Savas, 1987, 2000). Even though public enterprises have made significant contributions in many developing countries, the results have been disappointing because they have been weighed down by inefficiency, resulting in overstaffing, mismanagement, and the diversion of revenues by employees which is common and still remains so today (Harris, 2003; Hodge, 1999; Savas, 2000).

As a result, in the 1980s there was a shift to the private sector for the management and financing of public enterprises. Privatization in developing countries is usually motivated by a desire to (1) improve company performance and efficiency in terms of reliability of delivery, quality, and price; (2) introduce competition in areas long monopolized by government; (3) raise income as an alternative to raising taxes or incurring further debt; (4) reduce the burden on the government's budget; (5) settle foreign debt; (6) expand or develop the local equity market; (7) encourage industrial development; (8) attract foreign investment; (9) promote growth; and (10) increase equity by narrowing gaps in income and access to resources (Berg, 1988, p. 185-209). The relative importance of any or all of these objectives will depend on the country in question and can also vary over time within the same country. Farazmand (1999) suggests that this wave of privatization can be attributed to a number of factors indigenous to specific countries and related to their political systems. At the same time others are exogenous and internationally motivated. Moreover, incentives for public managers are weaker in governments than in a private enterprise. An example of an exogenous factor is the dominant organizations, such as the World Bank and International Monetary Fund (IMF), dictating to developing countries what they need to do in order to receive foreign aid (Dinavo, 1995; Farazmand 1999; Haque, 2000; Hodge, 1999; Moore, 2002; Savas, 2000). Farazmand's (1999) concept of exogenous factors is supported Riggs' (1964) argument that developing countries are formalistic in behavior as a method of receiving aid from these organizations.

The trend of privatization is developing more and more into a potential capitalist framework instead of a tool to improve the organizing and managing of programs to realize public purpose. Developing countries have seen over \$755 billion of investment flows in nearly 2500 infrastructure privatization projects during the period from 1990 to 2003 (Kikeri and Nellis, 2004). By region, Latin America and the Caribbean accounted for the largest share of privatization proceeds (Figure 2.2), with the largest contributions coming from the sale of infrastructure and energy firms in Argentina, Mexico, and Brazil (Harris, 2003; Kikeri and Kolo, 2005; Kikeri and Nellis, 2004).

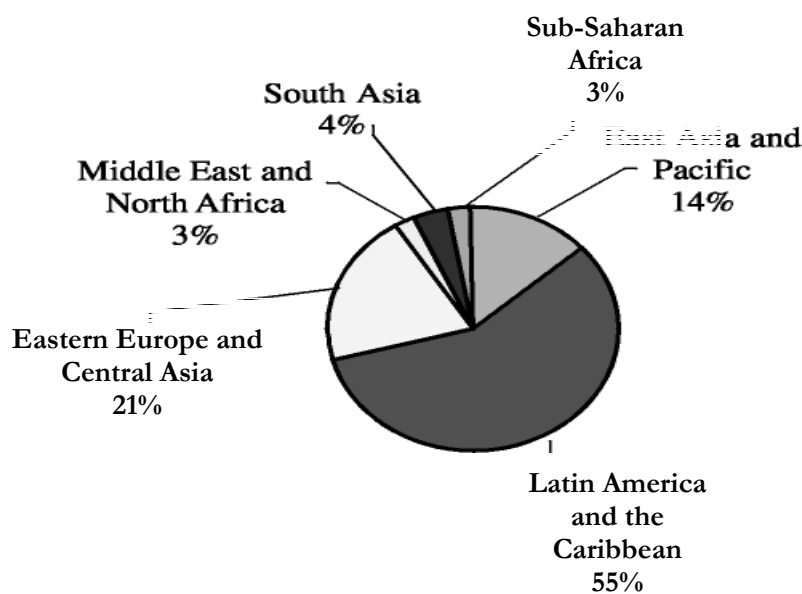


Figure 2.2 Privatization Proceeds by Region, 1990-2000

The key point to keep in the mind on the discussion about privatization, especially in this study, is that mass privatization of government agencies is not the panacea for ills of government management. The most important challenge for

privatization is to be diligent in determining which enterprises or sectors should be privatized in the name of efficiency. In other words, government should not privatize services that do not exhibit characteristics conducive to operating under market conditions. The next section turns to a discussion that examines privatization as one of the main instruments of public management reform in the efficient and effective management of public enterprises.

2.16.2 Privatization as a Focus of Study for Public Management Reform

One of the market characteristics used in public management reform is privatization instead of operating solely from a hierarchy orientation. At the same time it functions at the boundaries of the public sector in a state of haziness. Furthermore, because privatization is a process present in almost every country of the world and because it lies in the heart of the problem limiting the public sector and how public services are delivered, it is critical for the study of public management. It has both substantial value for general understanding of public administration/management and methodological value for comparative analysis. It addresses questions that are of conceptual importance to public management practice and philosophy: what are the limits of the public sector? How should it be managed? Methodologically, privatization takes various forms, yet it is more or less an identifiable phenomenon.

Privatization is influenced by the political environment in which it operates because constituencies, actors and institutions play an important role. To a certain extent, all publicly provided services bear costs of government policies that are not primary to their mission (e.g., full employment and deficit control), so changing the

existing arrangements for service provision is going to affect not only interest groups involved in a particular issue but also other parts of government to a larger degree than many other changes in public policy. For example, denationalizing public enterprises not only generates revenue but also requires elaboration of regulations or competition policy in the industry. Despite the vast literature that addresses the subject in terms of cost-benefit analysis, privatization is not restricted to economics or efficiency only; it has political dimensions as well. Privatization lends itself to analysis in public policy, public administration, economics and sociology. Perhaps, the blurred line between politics and administration is exhibited in the case of privatization because it is neither an end by itself nor is it an area that requires permanent government policy, such as education, health and income distribution.

Though it involves various steps of implementation, privatization is theoretically finite. In fact, after one enters into an operational management agreement or outsourced services, one cannot carry it out any more as opposed to educational policy or taxation policy, which cannot be completed (one cannot stop raising revenues or educating children) and where even the lack of certain policy is a policy. Privatization is a public management option (tool, measure) developed to achieve various goals, ranging from increasing efficiency and revenue generation to building political support to shrinking the size of the government. It is not the only way of achieving these aims; each of the above mentioned objectives can be pursued by other means as well, for example, more investment, elimination of services, and new taxes.

As a method of reform, privatization is couched in different perspectives that assist in addressing issues of public enterprise performance. Zahariadis (1995) shows that public choice approaches (efficiency, principal-agent, property rights and organization structure) have a normative appeal rather than an empirical record. The argument is that “privatization is brought about by coupling three factors in critical moments in time: available alternatives generated in policy communities; high government borrowing needs; and the ideology and strategy of governing parties” (Zahariadis, 1995, p. 36). Alternatives are selected according to two criteria, technical feasibility and value acceptability. Privatization outcomes depend on coupling these three streams in critical moments called policy windows (Zahariadis, 1995). This happens because there is a lack of goal clarity, which translates into policymakers not knowing what they want. What results is the proverbial policy in search of a rationale (Kay and Thompson, 1986).

2.16.3 Opponents and Proponents of Privatization

The widespread adoption of privatization strategies have not happened without the opinions of its opponents and proponents. According to Kikeri and Nellis (2004), sometimes critics and the public have expressed doubts about privatization's fairness and efficiency impact. Despite their attitudes and behavior towards privatization, a growing number of empirical assessments conclude that privatization improves profitability and efficiency and increases returns to shareholders, particularly, for firms in competitive or potentially competitive markets.

Opponents contest that privatization has produced financial and operational benefits, or at least enough to offset the social dislocation it causes. Some who acknowledge performance improvements attribute them to increased competition rather than change of ownership with the implication that less painful instruments could affect needed financial and efficiency gains. Second, there is fear that privatization leads to layoffs and a worsening in labor conditions in the short term in the divested firms and in the long run in the economy, at large. Third, some argue that even if privatization enhances enterprise efficiency, the bulk of the benefits accrue to a privileged few shareholders, managers, domestic or foreign investors, or those connected to the political elite. Whereas, the costs are borne by the many, particularly taxpayers, consumers, and workers, thus reducing overall welfare. Fourth, privatization of public enterprises raises the question of sovereignty and security when enterprises to be privatized, such as the airport infrastructure are of economic importance and strategic significance (Dinavo, 1995; Haque, 2000; Kikeri and Nellis, 2004; Ott et al., 1991). In addition, many are concerned that the perceived corruption and lack of transparency in privatization transactions have minimized gains and increased broader problems of organizational governance. Underlying all of these arguments is the fundamental concern that privatization has been applied without regard to a country's economic and social conditions, often at the request of external actors. On the other hand, proponents of privatization argue that privatization increases efficiency. They view privatization as a means to improve the quality of goods and services, decrease unit costs and increase efficiency (Dinavo, 1995). Others see it as an important ingredient of human

development and economic growth. As one can see, the concept of privatization is not all one sided. Not to be viewed as an unfair instrument of public management reform, it should be accompanied and operated on a platform of organizational governance.

2.17 Theoretical Framework of Privatization

Privatization is an ongoing experience, much in discussion and highly controversial (Kolderie, 1986). As a concept, it is given different meanings by different authors in the social sciences. Conceptually, the meanings assigned to privatization range from shrinking government to reducing government activities in areas traditionally served by the public sector. There are theories associated with privatization that state when implemented privatization can generate efficiency and improve performance of public enterprises. This is the result of introducing market forces into the production and provision of services in areas traditionally served by the public sector.

With many countries engaging in a policy of privatization, and in many diverse forms, what are the theoretical underpinnings of these policies which have taken hold and penetrated the developing world in their development strategies? The next section will focus on two of the main theories of privatization found in public choice and principal-agent theory. The principal-agent argument focuses on the environment in which the enterprise operates, and the public choice argument draws on the self-interested behavior of actors.

2.17.1 Public Choice Theory

Public choice theory is the cornerstone of public sector economics and, therefore, underlies most arguments in favor of privatization. The public choice argument is the mainstay of the neoclassical counter-argument to the interventionist state with unlimited power. This literature argues that the politicians and bureaucrats are rational, self-interested utility maximizers (Downs, 1967). Downs (1967), who is widely cited as the first to propose a public choice model of bureaucracy, writes that “every official is significantly motivated by his own self-interest, even when acting in a purely official way” (p.262). In this manner, public choice theory is in opposition to public interest theories, such as welfare economics, which begin with the assumption that government departments seek to maximize economic welfare.

Niskanen (1971) argues that bureaucrats tend to ignore citizen preferences. In his stylized model, bureaucrats aim to maximize their agency budget not necessarily as an aim in itself, but in order to obtain other goods, such as higher salary, status, power and discretion; politicians, in turn, aim to maximize the votes cast for them in the next election. Since bureaucrats are monopoly suppliers of public goods and services, they also enjoy a monopoly of information regarding the production function of these goods and services. Therefore, given their objective to maximize their budget, they are likely to claim greater funds than legitimately needed to achieve a given result. Niskanen (1971) argues that this informational advantage leads to a situation in which public goods and services are oversupplied, that is, supplied at a level that may not be optimal in terms of citizen preferences (Downs and Larkey, 1986). Consequently, given that

bureaucrats can abuse their positions of authority, there is a cost associated with government ownership. Following the logic of public choice theory, privatization is called for if the costs associated with “government failure” and, more specifically, “bureaucrat failure” under public ownership is higher than the costs associated with “market failure” under private ownership (Tullock, Seldon and Brady, 2002).

2.17.2 Principal-Agent Theory

Principal agent theory seeks to explain the relationship between owners and managers in their quest to achieve their ultimate goals (profit making or welfare maximization). Principal agent approaches are characterized by uneven information. When attempting to achieve his goals, the principal (elected or appointed official) is handicapped by lack of certain information which only the agent (public managers or bureaucrats) knows precisely. There may be particular parameters affecting efficiency which only the agents know. The principal's knowledge is restricted to knowledge of distribution of the parameters. Efforts of managers may be difficult to observe, and therefore, difficult to monitor.

Since the principal cannot directly observe the activities of the agent, he cannot influence his behavior. The agent has his own objectives; therefore, he may choose an effort level that is not efficient. The particular situation must be taken into account by the principal when he defines the rewards of the agent. In comparing public and private firms, they are assumed to face the same economic environment, the same demand function, and the same technology. This is explained by the fact that the privatized firm is the same as the public firm after it has been sold to private owners.

Private owners are perceived to be clever investors who are well informed about economic realities. Their informational status compares favorably with that of the bureaucrat who is supposed to audit the public enterprise. Privatization, means that the agent faces a better informed principal than before. Privatization is supposed to cause changes in the objectives of the enterprise and the extent of control. In a principal agent approach, the objective of the firm is articulated by the principal, that is, private owners of private firms or the government in the public sector. While the government, as principal, is interested in attaining the goals of citizens and not too high a deficit for the enterprise, private sector principals are interested in profit making.

The government's control over public managers is exercised through budgetary exercises and oversight hearings by the legislature. Private sector control is exerted through monitoring and incentive systems. In fact, poor performance by the management of the private firm will subject it to the threat of takeovers and loss of jobs. Since the goal of the private sector is making profit, the performance of the private sector is more easily measured compared to the multiple goals of the public sector. Hence, a privatization program is seen as a means of achieving better control over the organization's performance. In the public sector context, principal-agent theory stipulates that the principal (the tax-payer) has little or no information on the agents (public bureaucrats) who have an upper hand in dealing with tax payers. Information unevenness between the principal and agent favors the latter in dealing with the principal, and shirking in this connection is much more prevalent than in situations

where monitoring and incentive structures can be used to check on activities of the agents (public bureaucrats and employees).

2.18 Privatization Experiences in Some Developing Countries

Beginning in the mid-1970s there was a questioning of the efficacy of state led development strategies because they failed to achieve the objectives of greater national control over the economy and increased efficiency. Furthermore, far from contributing to government revenue, many public enterprises proved to be a drain on government resources. The regime of General Pinochet in Chile commenced the first comprehensive program in 1974 as part of a wider economic liberalization strategy and an attempt to mobilize foreign investment (Bernal, 1999).

After the initial phase of privatization (1974-1978), a second round took place between 1985 and 1989 (Larrain, 1995). By the early 1980s, there was a retrenchment from belief in the state as the engine of growth to a commitment of state intervention in the economy. Bernal (1999) suggested that it is no longer accepted that the state needs to be directly involved in the production and distribution of goods and services; instead, the view is that the state should confine itself to the role of ensuring that services are delivered. To date, most of the privatization activity in developing countries has occurred in Latin America and the Caribbean. Between 1988 and 2000 this region accounted for 55 percent of total privatizations among Europe, Middle East, Africa, and Asia (Kikeri and Nellis, 2004).

Privatization is the centerpiece of the economic transformation of Latin America (Kamm, 1994). Latin American countries have vigorously tried to rise above

the debt, inflation and stagnation, and investors are teaming up to make Latin America one of the world's hottest market places. In 1992, 35% of the world's privatization gauged by value took place in Latin America, up from 6% in 1988. Many fields were ventured into and privatization took a serious turn in many of the developing countries in Latin America. In Peru, for example, in November 1993 alone, the country sold off a bank, a shipping company, paper and cement plants and a copper mine. Strategic firms, such as Argentina's Oil Company, YPF S.A., which would not even be considered for privatization in the past, are now in private hands and listed on foreign stock markets. This new attitude towards privatization is the result of renewed confidence in this strategy (Bertolotti, 2004; Boix, 2005; Chong and Lopex-De-Silanes, 2003; Kikeri and Nellis, 2004).

Privatization of state-owned entities in the Caribbean must be understood in the context of the first decade of independence. Barbados, Guyana, Jamaica, and Trinidad and Tobago became independent between 1962 and 1966, and the smaller Eastern Caribbean states in the 1970s (Bernal, 1999). Government involvement in the economy grew in the early years after independence, largely as an outgrowth of ideology and the political imperative to assert sovereignty and economic independence. In some instances, however, governments felt obliged to take over the facilities of foreign owners wishing to close their operations. In Trinidad, for example, the government's acquisition of a controlling interest in British West Indian Airways (BWIA) and its take-over of British Petroleum's holdings on the island were efforts to protect the income and employment of workers who would be displaced by these companies'

withdrawal. The public sector, therefore, came to play a prominent role in Jamaica, Trinidad and Tobago, and Guyana by the mid-1970s as the state became directly involved in a wide range of commercial and industrial activities.

Prime Minister Michael Manley pursued efforts designed to give the Jamaican government more control over the economy. The Peoples' National Party (PNP) government came to power in Jamaica in 1972, and by 1974 adopted a democratic socialist platform. The Principles and Objectives of the PNP stated that “in the economic sphere, socialism requires social ownership and/or control of the means of production, distribution, and exchange, which must begin with a dominant public sector which owning and/or controlling the commanding heights of economy” (PNP, 1979, p. 45). Accordingly, the government targeted the banking system, public utilities, the sugar industry, aviation sector, and bauxite companies for public ownership. By 1974 the government had acquired all the outstanding foreign-owned shares in the island's only electric company, Jamaica Public Service Company Ltd. (JPSCo) and national airline Air Jamaica. Three years later, the government purchased the shares of Barclay's Bank and renamed the institution National Commercial Bank Ltd. (NCB). NCB therefore, became the first wholly state-owned commercial bank. Sugar plantations were converted into workers' cooperatives while major changes occurred in the bauxite and alumina industries. In 1974 the government also imposed a production tax on Kaiser, Reynolds, ALCOA, and ALCAN—the bauxite companies operating in Jamaica and announced plans to purchase just over half of their mining operations, as well as all of the foreign bauxite lands.

By the early 1980s the conviction about the benefits of state ownership and control came to be questioned. Several factors were at play, including the fact that state-owned enterprises had become overstaffed, inefficient, and a drain on public finances. With large and persistent fiscal and trade deficits, as well as mounting foreign debt, governments could no longer afford to subsidize unprofitable operations. The weak performance of state-owned enterprises developed at a time when worldwide sentiment moved toward the market solutions. Ronald Reagan had been elected U.S. president in 1980, and he held a firm belief in the private sector encouraging growth and non-governmental intervention in the market. This approach was evident in the conditionality attached to U.S. bilateral assistance to the Caribbean, which stressed economic reform. Similar trends appeared with multilateral institutions, such as the World Bank, the Inter-American Development Bank, and the International Monetary Fund. Countries had to accept privatization as part of the structural adjustment loan terms from these multilateral institutions. New trends in the Caribbean toward large-scale divestment of government holdings in various sectors of the economy must therefore be seen in this context. By the early 1990s several countries had already undertaken structural adjustment or economic reform programs, including divestment plans. Hence, the 1994 World Bank-sponsored Caribbean Group for Cooperation in Economic Development (CGCED) meetings in Washington, Trinidad and Tobago, Jamaica, Guyana, and Grenada were able to strongly endorse privatization and private sector led growth as part of their medium-term strategies for economic development.

2.18.1 Why are Developing Countries Privatizing?

Developing countries are in pursuit of privatization because they must deal with their self-inflicted big budget deficits, high foreign debt and high dependence on international agencies like the World Bank. In other words, these countries may possibly use privatization as a golden parachute to ensure a safe recovery in the midst of their fiscal deterioration. According to Ramamurti (1992), the economic explanation for privatization can be divided into two types: adjoining and enduring causes. The first immediate cause is fiscal pressures on governments that find themselves consumed by large budget deficits. These governments are unable to become fiscally viable because they are incapable of financing the debts through domestic or foreign capital markets. Consequently, privatization becomes the most viable option for improving the short-term cash flow for these countries (Ramamurti, 1992; Yotopoulos, 1989). The second reason for privatization is the pressure applied on developing countries by international aid agencies, such as the International Monetary Fund (IMF) and the World Bank, to pursue a privatization policy as a package of economic reforms under structural adjustment loan programs (Aylen, 1987; Babai, 1988; Ramamurti, 1992).

The long-term causes consist of obsolescence, excessive fiscal practices, and a lack of strategic planning by public enterprises. Public enterprises were involved in activities that overextended their technical and managerial capacity due to the growth of the public sector of many developing countries' post independence (Ramamurti, 1992). Privatization has become a pragmatic solution for developing countries in the changing global environment. All things considered, when developing countries are

surrounded by market failures and increasing fiscal troubles, privatization may be their answer (Martin, 2000).

2.18.2 Does Privatization Deliver?

The benefits from properly executed privatization have proved to be considerable, as is shown by cases in Latin America, Africa, and Asia, as well as in industrial countries. Privatization improved domestic welfare in eleven of twelve cases analyzed by the World Bank in Chile, Malaysia, Mexico, and the United Kingdom. Productivity went up in nine of the twelve and showed no decline in the other three. Expanded investment and diversification of production resulted in rapid growth in many of the firms studied; for example, the Chilean telephone company doubled its capacity in the four years following sale. Labor, as a whole, was not worse off, even taking into account all layoffs and forced retirements. Consumers were better off or were unaffected by the sale in a majority of cases (Harris, 2003; Kikeri and Kolo, 2005; Kikeri and Nellis, 2004).

Studies and data from outside the World Bank also show that privatized companies grow more rapidly and are better able to contain their costs than before privatization. In forty-one firms, fully or partially privatized by public offerings in fifteen countries (most of them industrial, but the list includes Chile, Jamaica, and Mexico), returns on sales, assets, and equity increased, and internal efficiency improved because of better utilization of physical and human resources.

The firms improved their capital structure and increased capital expenditures. Their work forces improved slightly, as a result of higher investments. Most

privatization success stories come from high- or middle-income countries. It is harder to privatize in low-income settings because the process is more difficult to launch. However, in low-income countries, the results of some privatizations have been highly positive.

Revenues from sales have been large in some countries, but in most, net revenues have been modest because of small transaction size, the costs of settling enterprise debts, and payment of delinquent taxes and transaction fees and because many sales have been on credit. More important, privatization has reduced subsidies to public enterprises and has led to increases in government income because the enterprises are no longer a fiscal burden on the government (Juan, 1995). In Jamaica, Mexico, Chile, and other Latin American and Caribbean countries, transfers and subsidies from the government to public enterprises declined by 50 percent between 1982 and 1988 (Kikeri and Nellis, 2004). The stabilization program after the 1982 shock was the most important cause, but privatizations, which began in 1984, helped lock in these reductions. In many Latin American and Caribbean countries, airport public enterprises were also struggling to become less of a drain on government budgets (Kikeri and Nellis, 2004).

In the early 1980s the idea that public airports could be privatized would have been considered out of step with the mainstream and uninformed about the subject. However, today the privatization of airports is a means of survival for some developing countries (Farazmand, 1999; Juan, 1995). Airports have become an integral part of the air transport and infrastructure needs of developing countries.

2.18.3 Airport Privatization

Airport services do not exhibit the public good characteristics of non-rivalry, non-excludability and asymmetric information between suppliers and purchasers that make provision of the services by the private sector somewhat problematic⁴. The core airport services are natural monopoly activities, requiring regulation to limit potential abuses regardless of whether the airport is publicly or privately owned. However, as the literature has indicated, there are numerous examples of a monopoly being owned and operated by the private sector under a framework of regulation (Doganis, 2002; Graham, 2001; Kapur, 1995). Graham, (2001) points out that there is increasing evidence that a privatized enterprise, combined with compatible forms of regulation and based on a price cap approach, offers better performance results compared to the service provisions by state managed airport enterprises. What follows is an overview of the observed patterns in airport privatization in Latin American and Caribbean developing countries.

2.18.4 Background and Trends

The concept of airport privatization centers on the infusion of capital by the private sectors to gain partial or total control over the public enterprise. Airport privatization was the first of many privatization reforms introduced by Margaret Thatcher when she privatized the British Airport Authority in 1987 by public offer of \$2.5 billion. Since its privatization, BAA has not failed to post profits for its

⁴ Public Goods have two distinct characteristics: (1) non-rivalry— several individuals can consume the same good without diminishing its value; (2) non-excludability—an individual cannot be prevented from consuming the good

shareholders in its management of seven major airports in the UK. BAA is currently listed on the London Stock Exchange and has a market capitalization of \$8 billion (Biedderman, 1999; Vasigh and Haririan, 2003).

Doganis (1992) contends that airports are businesses offering a systematic treatment of the differences between the traditional view of the airport and the new commercial model of airport management. It did not take long for a few countries to start the process of privatizing their airports. Austria's Vienna Airport was listed on the Vienna Stock Exchange in 1992 (Advani, 1999). The Danish Airports were privatized as Copenhagen Airports Ltd and listed on the Copenhagen Stock Exchange in 1994.

The trend of airport privatization was not the only type of reform taking place in other countries, especially developing countries. In 1999 global privatization reached around (USD) \$145 billion, up by 10 per cent from 1998 (Nester and Mahboodi, 1999). The phenomena of privatization woke many local governments up to the idea that their airports could be a source of tremendous revenue generation and efficiency gains. This introduced the idea that the waiting time passengers spend in the airport could produce more revenue for the airport by shopping in retail stores, such as Coach and Fendi at the airport. Airport privatization was considered a model that not only assisted local government out of public budget constraints and efficiency concerns but also showed that the private sector involvement in airports may be as wide as the range of airport activities. Business development within airports is experiencing a wide range of enterprises because the airport has a mall-type appearance and boasts a variety of other services. Indeed, the airport has become a complex and multi-product enterprise. Gone

are the days that the airport is just an interchanger for modes of transport and a facility to check passengers in for their flight, load and off load cargo, except for some airports in the developing world; Bogota comes to mind (Betancor and Rendeiro, 1999).

2.18.5 What is Airport Privatization?

Airport privatization is a tool that is sometimes considered to correct inefficiency problems found at the airport. With the increase in global tourism, more and more airports in developing countries will be required to make major investments in upgrading and expanding their airports (Garcia-Zamor, 2001). According to Schneiderbauer and Feldman (1998), airport infrastructure investments will range from \$250 to \$350 billion before the year 2010, and many are already underway. In today's changing environment, airport business is going through unparalleled changes. There are many reasons why governments make the decision to privatize their airports; they include efforts to curtail mismanagement and corruption in airport administration (Juan, 1995). However, Juan (1995) explains that the single most common reason is the inability to fund and obtain adequate financing for airport development and upgrades.

Latin American countries are also engaged in the airport privatization process. The Mexican government sold its fast growing Cancun Airport on the New York Stock Exchange, which generated over \$400 million in revenue. Grupo Aeroportuario Del Sureste SA (ASUR) has been operating the airport, as well as eight smaller Mexican airports since early 1998. Airport privatization is a complex issue because it is not a policy that can be implemented without considering the pros and cons of key issues like

the impact it may have on the public, the cost and benefit of such a decision, and finally the various forms of privatization that can be used (Betancor and Rendeiro, 1999).

2.18.6 Pro and Cons of Airport Privatization

In any policy argument there are always those who are in favor and those who oppose privatization. Those against airport privatization believe it does not serve the public interest; therefore, they must be convinced of the political and economic merits of such a policy (Betancor and Rendeiro, 1999). By contrast, there are those who argue that airport privatization giving the public better markets, competition and private sector involvement, depending on the form privatization, are essential for the effective management and operation of the airport (Betancor and Rendeiro, 1999).

There are varying positions both for and against airport privatization in developing countries. Among the most important advantages that can be achieved by airport privatization is that it provides the flexibility to obtain resources at a quicker pace than governments (Haririan and Vasigh, 1994). The most common reasons against airport privatization is that operators can increase the user fees and other airside charges in an attempt to increase profits that may reduce investments, maintenance and improvement of Airport facilities. Advantages of airport privatization are that it may provide:

1. A catalyst for new airport development.
2. New sources of capital.
3. New tax revenue.
4. Speedy construction of new terminals, taxiways and ramp side aprons.

5. Cost-effective design and operation.
6. Improved citizen and customer satisfaction.
7. Airport management expertise.
8. Performance measures.
9. Strategic planning.

It is important to stress that airport privatization is not the only means of pursuing these goals. Currently, there are many airport authorities achieving some of these goals, but they still have areas which can be improved, for instance, Owen Roberts International Airport Authority in the Grand Cayman Island. Thus, airport authorities currently operating in a businesslike manner that require more management and technical capacity have much to be gained from privatization.

In most developing countries, especially Latin America and the Caribbean, the structure of operational management of the airports has made it less attractive to international carriers and world travelers. (Advani, 1999; Stetton and Orchard, 1988). The conditions cited are the main ingredients to privatizing airports in various countries. One of the indicators regarding the deficiencies in the management of the airports is the critical decline in passenger enplanements, the appearance and up keep of the infrastructure. This manner of mismanagement usually is a byproduct of the managerial culture at the airport and the airport's lack of responsiveness to passenger needs (Advani, 1999).

According to Chisholm (1997), these failures exist because the airport managers and planners make poor choices that are poor substitutes for market demands; public

officials lack personal financial incentives found in profit seekers. Advani (1999) suggests that the airport's lack of sensitivity to the airline and passengers' needs are a common let down in the following areas: (1) proper connecting traffic facilities; (2) efficient check-in layout; (3) productive and courteous airport staff; (4) high level of security; (5) ease of ground transport; (6) accessible baggage carts; (7) clean washrooms; (8) clear flight information displays; and (9) comfortable waiting areas. Advani's study assesses whether privatized airport ownership has an impact on passenger- responsiveness.

It has not been entirely clear whether passengers, who often have little choice but to use their local airports, will always benefit from privatization and its various forms. But as a result of overseas and airport privatization trends, it is not possible to find evidence to examine this issue. Consequently, the study presents the results of a 50-item survey administered to airport managers worldwide. Passenger- responsiveness is a scaled measure of the extent to which an Airport adopts a natural culture emphasizing serving passengers. This represents one of the most comprehensive and international studies of managerial culture and the airport industry conducted to date. Based on results of the empirical analysis, the main conclusions of the study are as follows: (1) privatization matters: privatization of the airports have a significantly higher level of passenger responsiveness than government owned airports; (2) privatization matters in all of its forms: this relationship holds for both types of airport privatization equity divestiture and private sector management contracts; and (3) common ground exists: given that privatization leads to more responsive managerial

culture desired by stakeholders, Airport managers should emphasize in their negotiations with the airlines that delaying privatization does a disservice to all parties, especially the traveling public.

This study recognizes the significance and value of privatization as a reform tool used to assist developing nations to achieve economic and social prosperity.

2.18.7 Approaches to Airport Privatization

The traditional approach to airport privatization was the sale of the British Airport Authority (BAA) in 1987. In addition, deregulation and privatization policies in large measure have been driven by disenchantment with public sector performance, fiscal crises and technology changes that have increased the scope for competition. Privatization has been achieved by changes in management, capital, or ownership structures of the entity. In the airport sector, the use of privatization techniques is limited with no single model emerging. To date, the range of approaches includes divesting an entire airport system, individual concessions, long-term leases and joint ventures (Bantancor and Rendiero, 1999; Doganis, 1992; Kapur, 1995). Although not limited to developing countries, the most common technique for airport privatization involves some variation of a Built-Own-Transfer (BOT) and/or management contract. These schemes are site-specific with long-term concessions and the transfer involvement of operational functions to a private sector operator.

Unlike the sale of private enterprises, the privatization of airport infrastructure and services usually requires the creation of innovative financing and operating structures. For example, the state can continue to own the airport infrastructure asset

but still effectively privatize them. It can achieve this by allowing either the private sector to be a partner with the state (through joint ventures, majority or partial shareholdings), or it can allow the private sector to bid for the right to collect user fees over a specific period, after which the government takes back the improved asset. Within this ownership structure, there are several models of privatization that have been implemented. The significant element in a privatization project is the manner in which the public and the private sectors share risk, responsibilities and rewards. The following are the descriptions of the approaches to privatization (the most popular being management contracts and build-operate-transfer) under public ownership with private operations arrangement.

Majority/Partial Divestitures - This form of ownership structure is more evident among the European countries, which have used this technique as a means to obtain private equity funding for future airport expansion. An example of this ownership structure is British Airport Authority and Zurich Airport in Switzerland. Although the Canton of Zurich is the legal owner and operator, a private real estate company Flughafen Immobilien Gesellschaft (FIG) has taken over airport operation from the Canton. Though the Canton maintains a 50% shareholding in FIG, the remaining shareholders are private so that it operates as a private company. Divestiture approaches have been used in the ownership structure of several Mexican Airports, including Cancun, Acapulco and Cozumel.

Management Contracts - The management of all or part of the airport is contracted by the airport authority to a specialized operator for a given period of time

and under specified conditions: performance criteria, economic incentives, infrastructure commitments and maintenance. Management contracts take different forms depending on the type of services managed, the level of autonomy in day-to-day operations, and economic incentives. Generally, the airport operator will subcontract commercial activities via concession agreements to a number of external specialists. In some cases, management contracts have included equity participation by the private entity. This mechanism is frequently used when the government wishes to maintain ownership and has made or is committed to major investments in airport infrastructure, but desires to divest operations and management functions to the private sector. Under a management contract, Lyden O. Pindling International Airport in Nassau, Bahamas, transferred the landside and airside operations to Vancouver Airport Services, a Canadian company.

Build-Operate-Transfer (BOT) - As a result of experiences in other infrastructure sectors, a number of countries are experimenting with private investment in airport terminals, runways and facilities as a means of reducing the capital financing requirements of airport owners. A BOT scheme is government granting a concession or a franchise to finance and build or modernize a specific facility to a private firm and to operate and obtain revenue from the operations—airside, landside, or full airport for a designated period (10 to 50 years). The private sector operator typically assumes all commercial risks under the concession. At the end of the concession period, the government retakes ownership of the improved asset. Arrangements between the government and the private operator are set out in a concession contract that may or

may not include any regulatory provisions (Bantancor and Rendiero, 1999; Doganis, 1992; Graham, 2001). This approach has been employed by one airport privatization project in the Caribbean: Sangster International Airport, Montego Bay, Jamaica, West Indies, and another in Latin America: Hugo Chavez International Airport, Lima, Peru. While other airports in the regions are using other forms of privatization, the trend is toward this approach to privatization because it provides access to private capital markets, transfers risk to the private sector, and enables the project to take advantage of the managerial and technical expertise that may not be readily available in the host country. At the other end of the continuum, the private sector is attracted to these types of deals because there is a predictable revenue stream` and limited exchange rate risk (Kapur, 1995).

Build-Own-Operate-Transfer (BOOT) - A BOOT scheme is similar to a BOT except the private firm takes the property title of the facility during construction. The title is then transferred to the government at the end of the long-term concession. BOOT schemes typically are used when loan guarantees are required. The new airport in Athens, Greece, and Terminal 3 in Toronto are examples of a BOOT.

Commercial airports owned and operated by the private sector have been more widespread among general aviation and aero-club airfields. Two methods have been used for the privatization of airports. The first is the full or partial divestiture of existing airport assets after the airport has been established and has a track record as a public corporation, for example British Airport Authority in 1987. The second mechanism, which has been used to a limited extent, is the creation and/or expansion of a new

airport facility (for example, a new terminal building) under private ownership. A variation of the BOOT approach is to bring in private capital and management without returning title to the public sector at the end of the concession period (Bantancor and Rendiero, 1999; Kapur, 1995).

This type of open-ended concession can be accomplished through either Build-Own-Operate (BOO) or a Buy-Build-Operate (BBO) schemes. Under a BOO, ownership of the airport facility is not transferred back to the government at the end of the concession period. Within a BBO arrangement, underdeveloped or deteriorated facilities are purchased from the government through a concession agreement. The facilities are upgraded and/or expanded, and the property title is retained by the private sector. Examples of a BOO or BBO schemes include Freeport, Bahamas, Punta Cana, and Dominican Republic (Bantancor and Rendiero, 1999).

2.18.8 Airport Institutional Framework

The air transport industry continues to grow globally, especially in Latin America and the Caribbean. This makes airports a prime subject for comparative analysis. This section of the study presents the institutional framework of four international airports: (1) Lynden O. Pindling International Airport (NAS); (2) Owen Roberts International Airport (GCM); (3) Cancun International Airport (CUN); (4) Juan Santa-Maria International Airport (SJO).

The comparative presentation of the institutional framework of these four airports is relative to their administrative and organizational governance structure.

2.18.8.1 Lynden Pindling International Airport

Lynden Pindling International Airport (NAS) (formerly known as Nassau International Airport) is the largest airport in The Bahamas and the largest international gateway into the country. The Nassau International Airport Authority, an independent body one hundred percent owned by the government, was established in 2000 under the Airport Authority Act, reporting to the Ministry of Transport and Aviation. Approximately four hundred persons are employed by the airport authority and numerous others through service contracts. It is currently privatized under a ten year management contract agreement with Vancouver Airport Services (YVRAS). A board of five directors under the direction of its Chairman governs the Airport Authority. Over two hundred persons are employed by the Airport Authority and numerous others by virtue of service contracts.

The Airport Authority's functions are to administer, control, and manage prescribed airports and to provide and maintain such services and facilities other than navigational services that are necessary for their efficient operations. The Authority is currently undertaking a master plan study to assess the requirements of Nassau International Airport for the next twenty years and evaluate the status of the existing buildings, runways and other facilities at the Airport.

The regulatory framework for air traffic navigation services are under the Civil Aviation Department (CAD) of the Bahamas in charge of two functions: (1) the provision of air navigation services (air traffic control, communications, meteorology, and search and rescue); and (2) the regulation of the civil aviation sector (e.g., air

safety, licensing, airport operations), excluding economic regulation activities. The CAD is not an independent body and does not have financial autonomy. Air Navigation charges by the CAD are presented to the Minister of Transport and Aviation for approval.

2.18.8.2 Owen Roberts International Airport

Owen Roberts International Airport (GCM) is located in George Town on the island of Grand Cayman in the Cayman Islands, British West Indies. The Cayman Islands Airports Authority (CIAA), an independent body one hundred percent owned by the government of the Cayman Islands, was established in 2005 under the Airport Authority Act reporting to the Ministry of Tourism. A Board of eleven (11) Directors under the direction of its Chairman governs the Airport Authority. Currently, GCM is publicly managed by the CIAA. The CIAA operates the country's airports, overseeing airport operations and maintaining and improving the airports.

Two hundred persons are employed by the CIAA and numerous others through service contracts. The regulatory framework for air traffic navigation services are under the Civil Aviation Authority of the Cayman Islands (CAACI), the regulatory body that controls the aviation industry throughout the Cayman Islands. Their mission is to provide a safe and efficient environment for the movement of aircraft and people in accordance with international and national practices.

The CAACI is the statutory body responsible for aviation regulatory oversight throughout the Cayman Islands and for aircraft registered on the Cayman Islands Aircraft Registry. The Authority is comprised of various divisions that specifically

regulate and license aerodrome, aviation personnel, aircraft maintenance organizations, conduct aircraft airworthiness surveys, provides commercial and economic regulation and maintains the Cayman Islands Aircraft Registry. To ensure compliance with ICAO standards and mandates, the head office is located on Grand Cayman with a subsidiary office in London, United Kingdom. Interestingly, there is not much difference between the airport authority institutions of NAS and GCM except that the former reports to the Ministry of Transport and Aviation and the latter reports to the Ministry of Tourism. However, there is a major difference between the CAD and CAACI. That is, unlike the CAD of the Bahamas, the CAACI is governed by the British Crown where all their policy edicts and budgetary funding originate.

2.18.8.3 Cancun International Airport

Cancun International Airport (CUN) is located in Cancun, Quintana Roo, on the Caribbean coast of Mexico's Yucatán Peninsula. It is Mexico's second busiest airport, after Mexico City International Airport in Mexico City. All aviation functions in Mexico are guided by the Secretary of Communication and Transport. Approximately four hundred fifty persons are employed by the ASUR at Cancun International Airport and numerous others through service contracts. In an effort to expand air traffic in Mexico and optimize the operation of the country's many airports, the Mexican government decided to privatize a large number of airports in 1998. The 34 airports the Mexican government wanted to privatize were divided into four groups: 9 airports located in south-eastern Mexico: Grupo Aeroportuario del Sureste (ASUR); 13 airports located in central-northern Mexico: Grupo Aeroportuario del Centro-Norte (GACN); 12

airports located along the Pacific coast: Grupo Aeroportuario del Pacifico (GAP), and 1 airport located in Mexico City: Grupo Aeroportuario de la Ciudad de Mexico (GACM). The Mexican government granted ASUR the right to operate and develop nine airports in south-eastern Mexico under a 50-year concession agreement, with an option to extend the concession agreement for 50 more years. Grupo Aeroportuario del Sureste, S.A. de C.V. (ASUR) operates, maintains and develops the airports in Cancun, Merida, Cozumel, Villahermosa, Oaxaca, Veracruz, Huatulco, Tapachula and Minatitlan in the southeast of Mexico.

Since 1998, Copenhagen Airports (CPH) has been a co-owner of Inversiones y Técnicas Aeroportuarias, S.A. de C.V. (ITA), which holds a 7.65% investment in Aeropuertos del Sureste (ASUR). Following a consolidation process, the ownership structure of ITA is now CPH 49 per cent and Fernando Chico Pardo, 51 percent.

The regulatory framework for air traffic navigation services are under the Directorate General of Civil Aviation (DGCA) of Mexico in charge of two functions: (1) the provision of air navigation services (air traffic control, communications, meteorology, and search and rescue); and (2) the regulation of the civil aviation sector (e.g., air safety, licensing, airport operations), excluding economic regulation activities.

2.18.8.4 La Mesa International Airport San Pedro Sula, Ecuador

Ramón Villeda Morales International Airport or La Mesa International Airport (IATA: SAP, ICAO: MHLM) is located 11 km from the city of San Pedro Sula, Honduras. The Inter-airports is owned by the government of Ecuador, where all aviation functions are guided by the Ministry of Public Works and Communication.

Approximately two hundred persons are employed by inter-airports at Las Mesa International Airport and numerous others through service contracts.

The regulatory body for La Mesa International Airport is Directorate General of Civil Aviation. Air traffic navigation services are under the Directorate General of Civil Aviation of Ecuador (DGCA) with two functions: (1) the provision of air navigation services (air traffic control, communications, meteorology, and search and rescue); and (2) the regulation of the civil aviation sector (e.g., air safety, licensing, airport operations), excluding economic regulation activities.

2.18.9 Organizational Governance

Organizational governance has played a major role in public administration and public management. Governance, as defined by Lynn et al (2001a), consists of regimes, laws, rules, judicial decisions, and administrative practices that constrain, prescribe, and enable the provision of publicly supported goals and services resonating with many public administration scholars.

According to Bowornwathana (1991), the public management reform process in many developing countries is one of change from government to governance. There are basically two ideal type models of public sector systems: the government model and the governance model. Public sector reform dimensions, depicted to make comparisons between the two public sector systems, are power, organization, accountability and equity (Bowornwathana, 1991). The dimensions can be summarized as follows (Bowornwathana, 1991):

1. Power—according to the government model is the power to govern the public sector resting solely in the hands of ministers and senior bureaucrats in a bureaucratic system; whereas, the central thrust of the governance model is to alter the power structure in society by curtailing the power of the central government and the bureaucracy.
2. Organization—the government model advocates a structure of government based on one single hierarchical pyramid consisting of ministries; by contrast, the organizational governance model represents an escape from the old paradigm of government organized as a public bureaucracy to multiple organizational structures that help to avoid the necessity for all public agencies to be under the command of ministers, permanent secretaries and the director general.
3. Accountability—though the government model supports an efficient system of internal accountability, it does not have a mechanism for external accountability that could effectively monitor and check the use of authority by government officials. On the other hand, the organizational governance model supports the idea that the citizen should control and monitor the work of the central government; in other words, organizational governance calls for an open and transparent government.
4. Equity—in the government model, equity is at the whim of government officials who make their own judgments about what is right and wrong; in contrast, the organizational governance model argues that the equity of government action in

a public sector is determined by the citizen. The use of discretionary power by public officials should be based on the principles of democratic governance.

The underpinnings of the organizational governance component are supported by the governance agenda developed by the World Bank. In the 1991 World Development Report, the World Bank dealt with the appropriate role of the state in development, providing a fuller statement of its position on governance. This last report issued under President Conable offered a theoretical and practical justification for the work of the Bank in governance. In summing up the role of the state in development, the report opened its chapter entitled "Rethinking the State" with the following statement:

The agenda for reform that has emerged in the course of this Report calls for governments to intervene less in certain areas and more in others for the state to let markets work where they can, and to step in promptly and effectively where they cannot. In many countries this calls for a stronger orientation toward the market and a more focused and efficient public sector role. History suggests that this is the surest path to faster growth in productivity, rising incomes, and sustained economic development (World Development Report, 1991, p. 128).

In this statement, several themes resonate related to governance. First, government is not to be a producer of goods or services wherever the private sector is willing and able to take on that role. Second, the government is to take on a regulatory role but only when that role promotes the efficiency of the market. Third, the

performance of the public sector is to be judged in terms of its efficiency and its ability to promote economic growth. The Report discussed the conditions that hinder economic growth, such as beneficial government interventions in the economy and dysfunctional interventions in identifying the problem of government failure. "An abbreviated list of indispensable interventions would include the maintenance of law and order, the provision of public goods, investments in human capital, the construction and repair of physical infrastructure, and the protection of the environment" (p. 130)

Bad government interventions, according to the Bank, are often caused by political as opposed to economic motivations and are worsened by weak administrative capability. Finally, the Bank promoted public sector reform as part of the remedy for the difficulties of developing states. Such a remedy found in the organizational governance component of this study's model suggest that transparency makes it harder for rulers to create systems of regulation that enhance their rents and harm other interests in society, especially, if there are active groups monitoring the activities of government, another part of the Bank's developing governance agenda (p. 131).

2.18.10 Strategic Human Resources Management

For the past several decades the field of public personnel administration has been transformed into a field of strategic human resources management. No longer is a public personnel administration just an administrative function performed in isolation, but it is now a crucial public management function performed at different levels of the public enterprise (Condrey, 2005). Public managers are operating in a highly globalizing world that impacts everything they do.

Human resources professionals need to be at the cutting edge of new developments if they are to play a strategic role in the effective management of human resources in public enterprises (Condrey, 2005). Prior to taking on such a role, strategic human resources must be defined in the context of operating within a public enterprise. The question that emerges is what is meant by strategy? Then, what is strategic human resource management? According to Condrey (2005), strategy may be defined as a set of fundamental choices about the ends and means of an organization. Legge (2001) points out that the debate over this question has been ongoing for many years, especially in the United States.

Legge (2001) suggests that strategic human resources management centers on the view that organizations will perform better when they employ strategies of acquiring and developing employees as assets of the organization. Understanding the benefit of a strategic human resource management system in their respective countries can help public managers be more effective in their operations of the public enterprises. Condrey (2005) offers three distinct models for the delivery of human resource management services in public enterprises: traditional model, reform model and strategic model. The models can be summarized as follows (Condrey, 2005):

1. Traditional model— the traditional model of public human resource management focuses on an organization dictating rules and procedures, trying to accomplish fairness and equity in the public enterprise. In fact, little attention is given to line functions of the organization, whether road repairs, garbage pickup or social services.

2. Reform model—this model seeks to decentralize personnel authority and decision-making to line managers. It is almost a mirror image of the traditional model; however, it disperses real personal authority to various organizational units, allowing them to make crucial decisions concerning employee recruitment, selection, classification, disciplinary action and pay.
3. Strategic model—the strategic model suggests merging the two types of models just discussed. This model tries to reach a balance between the competing demands of the traditional and reform roles of public managers by recognizing the benefits of some centralizing efforts, realizing that human resources management takes place throughout an organization and should support, not hamper or subvert the organization's goals.

This study focuses on how strategic human resources management can be used in building public enterprise capacity in Latin American and Caribbean developing countries. The theoretical frameworks used are human resources planning, which is broadly defined as anticipating future businesses and environmental demands on organizations and meeting personnel requirements dedicated by these conditions and employee training and development designed to improve employee skills for effective performance within the public enterprise. It is the position of this study that if more organizations within Latin American and Caribbean region make use of a strategic human resources management approach, as described above, they will experience better and enhance performance from their employees within the public enterprise.

2.18.11 Performance Based-Budgeting

In many developing countries the fiscal budget is an important public management and political tool in the oversight of allocating resources and ensuring the delivery of services to the public (Caiden, 1980; Garcia-Zamor, 1977; Gustafson, 2003; Schick, 1988). However, the increase in budget deficits is creating a growing demand for government budgetary reform from the perspective of performance based-budgeting (PBB) measures by shifting the focus from inputs to outputs for more quality of service (Schick, 1998). The concept of performance budgeting is associated with the 1950s reforms in the United States (Diamond, 2003). Performance-based budgeting evolved when the Hoover Commission in 1949 promoted this approach and encouraged its widespread implementation. PBB builds upon earlier fiscal. The first was planning-programming-budgeting- (PPBS), advocated by President Johnson in 1965. The second was management by objectives (MBO) initiated in 1973 by President Nixon. The last was zero-base budgeting (ZBB) introduced by President Carter. All of these reform initiatives led to the development of the Government Performance and Results Act (GPRA).

The Hoover Commission's performance based budgeting was intended to shift the focus away from inputs of government to its functions, activities, costs and accomplishments. PPBS assumed that different levels and types of performance could be arrayed, quantified and analyzed to make the best budgetary decisions. MBO attempted to link agencies' stated objectives to their budget requests. ZBB required agencies to set priorities based on the program resolves that could be achieved at

alternative spending levels below current funding (McGill, 2001). Thus, one of the vital functions that the budget serves is to convert political rhetoric and broad policy commitments to action (Ott et al., 1991). Another purpose served by the budget links organizational planning, the uses of resources, and control with decision authority and accountability at all levels of a public enterprise.

A principal advantage of PBB is that it departed from those earlier approaches to emphasize strategic planning and to use performance measures in making allocation decisions (Liner et al., 2000). The benefits of performance-based budgeting are to increase accountability, efficiency while improving public management, and communications with citizens. Liner et al., (2000) argue in order to achieve many of those benefits, strategic planning is the foundation for performance-based budgeting models. The main elements of strategic plans include mission statements; vision statements; goals and objectives; strategies and action plans; performance measures; and monitoring, tracking, and reporting (McGill, 2001; Miller et al., 2001 Ott et al., 1991).

Willoughby's (1918) main threads of budget reform became features of public management reform. Willoughby argues that budgets should (1) ensure popular control and review; (2) promote legislative and executive cooperation; and (3) advance managerial efficiency and effectiveness. As the last component of the model, performance based-budgeting addresses the concept of operational and financial efficiency which aims to maximize the quantity of outputs for a given quantity of inputs at the various airports of the study. According to Miller et al. (2001), performance-

based budgeting offers policymakers a way to strengthen managerial accountability by linking budget decisions and government performance. As the executive and legislator attempt to satisfy their constituencies and control the budget process, budgetary reforms are often considered in providing a better perspective on improving public expenditure planning and management.

According to Kasdin (2004), measuring a program's performance, especially in developing countries, is difficult even in the best of situations. Hence, governments of developing countries are reconsidering their fiscal systems and searching for the right balance of budget reform processes. Kalse and Dougherty (2004) conducted a study on the impact of performance-based budgeting on state budget outcomes. The study examined constant per capita total expenditure patterns in states over a time series before and after implementation of performance budgeting. The research concluded that the implementation of performance budgeting, either by legislation or administration, had a positive relationship. According to Osborne and Gaebler (1992), what gets measured is more likely to get accomplished; hence, measuring performance is good management because it clarifies what is important to the organization and provides direction for the future. PBB enables agencies to improve program performance, helps agencies to improve customer service, strengthens accountability for the state's use of tax dollars, and empowers employees by giving them a clearer understanding of how they contribute to achieving goals and objectives. What follows in the next section is an explanation of how the components of the model are interconnected.

2.18.12. The Reinforcing Nature of the Developing Nations Reform Model Components

Although the public management reform model for Latin America and Caribbean developing nations proposed for this study (from now on referred to as the developing nation's reform model, DNRM) contains certain elements of new public management, DNRM is broader. The theoretical threads that make the components of the DNRM (privatization, organizational governance, strategic human resources management and performance-based budgeting) mutually-supporting are found in the public choice and principal-agent literature. These two theories seek to explain government action and the behavior of actors by answering two interrelated questions: (1) When should government act? (2) What should the relationship be among the government actors?

The public choice and principal agent theories premises originate from the economic analyses of bureaucracy by Tullock (1965), Downs (1967) and Niskanen (1971). The assumptions of both theories regard bureaucracies, bureaucrats and citizens as rational, self-interested, utility maximizing individuals. A key assumption in arguing for the reinforcing nature of the DNRM model components is that all components are under girded by theoretical premises of the public choice and principal-agent theories. A topology of the model is best explained by following a transitive two- phase approach where public choice and principal-agent theory principles are used in a phased fashion to argue for the interaction of the DNRM components. Phase one involves structural reform of the public enterprise. The second phase is defined by strategies vital to the effective management of the public enterprise.

Public-choice theory is the theoretical thread informing privatization in phase one while in the second phase principal-agent theory informs the strategies to effectively manage the organization. The proposed reform model challenges the argument that there cannot be a normative theory of public-choice because market and democratic values are contradictory. This model is proposed as an example that market and democratic values are compatible only when market values, such as privatization, operate on a platform of organizational governance. Effective and efficient delivery of public services— understood in terms of transparency, balance of power, and open channels of communication, accountability, autonomy, participatory decision-making and fiscal responsibility—benefits all levels of society.

2.18.13 Privatization

The public choice approach and the bureaucratic government model (hierarchical and centralized structure) have efficiency as its central value. Marcovitch (2000) argues that in the late 1970s, privatization was an essential component in management and political reforms internationally. Like the World Bank's structural adjustment loan development programs that focused on reform of public enterprises, the components of this model tackle the same issues (efficiency, building human capital capacity, financial accountability and transparency) of the Bank's operations in LAC by improving public sector management in Latin American and Caribbean countries through privatization, organizational governance, strategic human resources management and performance-based budgeting. The advantage of the model is that the agenda for public enterprise reform can be developed by public managers on the ground closest to the issues rather

than the Bank's SAL parameters that have short time frames for implementation, inapt goals and imported techniques.

Privatization has a positive impact on effective public enterprise performance in Latin America and the Caribbean. Bernal (1999) points out that many public enterprises have improved efficiency and performance; for example, in Jamaica there were net gains in employment, hotel occupancy rates rose 85 per cent, and in the first quarter after privatization, British West Indian Airlines (BWIA) of Trinidad and Tobago posted a profit of \$2.4 million dollars. The privatization component is a tool that possesses elements of public choice and principal-agent theory, such as improved fiscal and economic efficiency, determining which sectors and services are essential to the public interest and which ones can give citizens a better choice of deliverables by available private sector initiatives.

2.18.14 Organizational Governance

The organizational governance component of the model ensures that privatization is used as a reform tool to carry out the goals of government in a fair and equitable manner while at the same time providing public sector services in an efficient and effective manner. Key characteristics of organizational governance, such as administrative decentralization, power decentralization, transparency, autonomy, and accountability—all imbued by public choice and principal-agent theories—enhance the ability of public sector administrators to effectively and efficiently deliver public services in a fair and equitable fashion. At a meta-theoretical level, it seems fair to argue that public sector management reform involves management and political

accountability. The former ensures proper use of public resources, and the latter concerns the public sector's responsiveness to its citizens.

Organizational governance, as an element of public sector reform and, specifically, as a mutually supporting component of DNRM, is particularly advantageous to public sector reform in developing countries. Organizational governance advances the concept of democratic public decision-making needed to harness market-based approaches so that public sector concerns of responsiveness and fairness are indispensable to reform. In most government agencies confluence of public choice and principal-agent assumptions make this component important by assisting in mitigating the influence of rational utility maximizing individuals. Organizational governance can help to improve public enterprise performance by increasing the demand for accountability, transparency, autonomy and the decentralization of power. As a result, increasing a country's capacity to govern, choice of services, fairness and oversight makes the delivery of services more efficient and effective.

2.18.15 Strategic Human Resource Management

The strategic human resources management component of the model coalesces with privatization and organizational governance through public choice and principal-agent theory. Public choice theory permeates the strategic human resource management component of the model by emphasizing functioning that can achieve efficiency and effectiveness, quality improvement, higher productivity, and superior internal performance (Schuler, Dowling and Decieri, 1993). Principal-agent theory supports the idea that because individuals are self-interested and require autonomy, strategic human

resource management satisfies the employees' need to develop professionally and advance in the agency. The prevailing view of governmental agencies in developing countries is that globalization compels nations to be competitive in order to achieve economic and social sustainability. Strategic human resource management focuses on the competitiveness of agencies by facilitating human resource capacity improvement, by providing individuals with the ability to identify and by overcoming the challenges of development.

The strategic human resource management component attempts to construct a conduit of the various approaches in the existing institution by building human resource capacity instead of perpetuating a setting that is unsustainable. Thus, capacity development for agents (public sector employees) through training, creating incentive systems and an environment that puts training to work in a creative and collaborative manner while utilizing indigenous knowledge in training methods often meets the agents' interests and needs, and at the same time achieves the agenda of the principals (elected officials and public managers). This kind of strategic focus can help to develop a workforce that is responsive to the needs of citizens resulting in the effective performance of the public enterprise. However, strategic human resources planning often poses challenges in developing countries because of the complex nature of the external environment, choices made by individuals and institutions, and the interrelationships between the principals (elected officials and public managers) and agents (public employees) (Adler and Ghadar, 1990; Ormond, 1993; UNDP, 1994; World Bank, 1994).

2.18.16 Performance-Based Budgeting

Performance-based budgeting, a component of this model, is interconnected to privatization, organizational governance, and strategic human resources management to improve service delivery because it provides strategic planning, performance measures and employee incentives for achieving fiscal and operational efficiency. Ott et al. (1991) suggest that over the past three decades budgetary reform has been driven by a concern for efficiency and rationality in government agencies resulting in reform tools, such as performance-based budgeting. Fiscal and operational efficiency can be achieved by moving toward a country specific approach to a performance-based budgeting system that encourages performance and cost measures (input, output and results) as a fundamental factor of strategic planning and management as a means of building consensus to guide policy (Coplin, Merget and Bourdeaux, 2002).

Developing countries usually operate from a conventional budgeting perspective with its primary focus on control and promoting budget-maximizing competition among agencies often resulting in discouraging cost reduction techniques (Caiden, 1998; DeNise, 2000). Instead of penalizing public managers for cost savings through managerial reforms and process improvements, performance-based budgeting posits that the system provides incentives and sanctions to ensure that programs are carried out as intended (Willoughby and Melkers, 2000).

It is worth noting here that the central assumptions of public choice and principal-agent theory are that decision makers are self-interested and rational in the sense of seeking to optimize their choices as a function of their individual preferences.

Consequently, public choice and principal-agent theory seek to explain the behavior of decision makers, the interactions between them, and the implications for budgetary outcomes and reform.

Downs (1957) assumes that politicians seek to maximize political power and retain office by supporting short-term projects that can generate immediate pay-offs, but at the same time seek to advance their constituents' interests without regard to the consequences for the broader public. Niskanen (1971) holds that bureaucrats as self-interested utility maximizing individuals seek to increase their budgets as much as possible (by promoting larger staffs and salaries, among other budget maximizing actions) because the bureaucrats' prerequisites of office and public reputation improve as the agency's budget grows.

Performance-based budgeting curtails these types of behavior by implementing performance measures that guide the allocation of resources according to outcomes, results, and citizens' preferences. Central to the development of performance measures is the alignment of the principals' and agents' interests. The mitigation of their conflicting interests can be achieved by providing incentives for the agent to accomplish the principal's goals from self-interested motives (Lynn, 1991). This component of the DNRM is essential to effective public enterprise performance because fiscal responsibility through performance measure, strategic planning, accountability, agent autonomy, and transparency maximizes efficient and effective provisions of service.

2.19 Hypothesis Statements

Hypothesis One: Financial Efficiency Model - Hypothesis one states that privatized airports are not more financially efficient than government owned airports.

Hypothesis Two: Operational Efficiency Model - Hypothesis two states that privatized airports are not more operationally efficient than government owned airports.

Hypothesis Three: Financial and Operationally Efficiency Model - Hypothesis three states that privatized airports are not more financially and operationally efficient than government owned airports.

Hypothesis Four - Hypothesis four states that airports exhibiting the four dimensions of the proposed DNRM (i.e. PRIV, GOVN, SHRM and PBB) are not more financially and operationally efficient than government owned airports.

CHAPTER 3

RESEARCH APPROACH AND METHODOLOGY

3.1 Introduction

This chapter presents the methodology that will be used to assess the operational and financial efficiency of public versus private airports in Latin America and the Caribbean. This study utilizes a cross-sectional and qualitative design containing three different data sets: primary, archival, and face-to-face survey data. The statistical analysis will be conducted in three interrelated phases. First, data envelopment analysis (DEA) is used to determine the efficiency scores of airports (decision making units) in comparison to how closely other airports in the sample approach the efficiency frontier. The second step involves using the DEA efficiency scores to predict the relationship of selected independent variables to operational and financial efficiency for all airports in the study. Tobit and Ordinary Least Squares (OLS) regression are used to predict the relationship of privatization, organizational governance, strategic human resources management and performance-based budgeting to operational and financial efficiency for all airports in the study. The final phase is a qualitative analysis of face-to-face survey data. This chapter includes a discussion of the research design involved in answering the research question, testing the research hypotheses, describing the survey method, administration and design.

3.2 Research Design

A mixed method design of quantitative and qualitative approaches is expected to reinforce the validity of the findings. This methodology recognizes that all methods have limitations and enables a researcher to contend with bias that is inherent in all methodological designs. The mixed methods sequential procedures is a procedure that is used when a researcher seeks to elaborate findings of one method with another method by beginning with a quantitative method and then following up with a qualitative method (Creswell, 2002).

The statistical analysis will be conducted in two interrelated steps. The first step of this research design involves the DEA analysis of 2006 archival data to obtain operational and financial efficiency scores. The data is collected from sixty-one airports in Latin America and the Caribbean. Table 3.1 shows the list of airports in the study by country and region in both Latin America and the Caribbean. The second step involves using the DEA efficiency scores to predict the relationship of selected independent variables drawn from primary data collected from a survey of 168 senior and mid-level public managers at the airports in the regions. The survey instrument used was informed by the dimensions of the proposed public management reform model developed as a result of the review of literature and face-to-face interviews. The final part of this research design is a multiple case study of four airports in Latin America and the Caribbean: (1) Owen Roberts International Airport (GCM), Grand Cayman Islands; (2) Lynden O Pindling International Airport (NAS), Nassau, Bahamas; (3) Cancun International Airport (CUN), Cancun Mexico; and (4) Las Mesa International

Airport (SAP) San Pedro Sula, Honduras. This multiple-case study relies on semi-structured face-to-face interviews of senior and mid-level airport public managers including executives of airport authorities.

Table 3.1 List of Airports by Country and Region

Name of Airport	Country	Region	Management
VC Bird International Airport	Antigua and Barbuda	Caribbean	Public
Queen Beatrix International Airport	Netherlands Antilles	Caribbean	Public
Grand Bahama International Airport	Bahamas	Caribbean	Private
Lynden Pindling International Airport	Bahamas	Caribbean	Private
Grantley Adams International Airport	Barbados	Caribbean	Public
Philip S. W. Goldson International Airport	Belize	Caribbean	Private
Owen Roberts International Airport	Cayman Islands	Caribbean	Public
Point Salines International Airport	Fort de France Martinique	Caribbean	Public
Pointe-à-Pitre - Le Raizet Airport	Guadeloupe	Caribbean	Public
Norman Manley International Airport	Jamaica West Indies	Caribbean	Private
Sangster International Airport	Jamaica West Indies	Caribbean	Private
Princess Juliana International Airport	Netherlands Antilles	Caribbean	Public
Curacao International Airport	Netherlands Antilles	Caribbean	Private
Toussaint Louverture International Airport	Haiti	Caribbean	Public

Table 3.1 Continued

Name of Airport	Country	Region	Management
Robert. L. Bradshaw International Airport	St. Kitts and Nevis	Caribbean	Public
Hewanorra International Airport	St. Lucia	Caribbean	Public
George F. L. Charles Airport	St. Lucia	Caribbean	Public
Piarco International Airport	Trinidad and Tobago	Caribbean	Public
Providenciales and JAGS McCartney International Airports	Turks & Caicos	Caribbean	Private
Brasília International Airport	Brazil	Latin America	Public
Galeão International Airport	Brazil	Latin America	Public
Guararapes International Airport	Brazil	Latin America	Public
General Juan N. Álvarez International Airport	Mexico	Latin America	Private
Guanajuato International Airport	Mexico	Latin America	Private
Abraham González International Airport	Mexico	Latin America	Private
Cancun International Airport	Mexico	Latin America	Private
Roberto Fierro Villalobos International Airport	Mexico	Latin America	Private
Cozumel International Airport	Mexico	Latin America	Private
Guadalajara International Airport	Mexico	Latin America	Private

Table 3.1 Continued

Name of Airport	Country	Region	Management
General Ignacio L. Pesqueira International Airport	Mexico	Latin America	Private
Bahías de Huatulco International Airport	Mexico	Latin America	Private
Manuel Márquez de León International Airport	Mexico	Latin America	Private
Aeropuerto Nacional de Los Mochis	Mexico	Latin America	Private
Mexico City International Airport Benito Juárez	Mexico	Latin America	Public
Minatitlán Airport	Mexico	Latin America	Private
Mariano Escobedo International Airport	Mexico	Latin America	Private
General Rodolfo Sánchez Taboada International Airport	Mexico	Latin America	Private
Gustavo Díaz Ordaz International Airport	Mexico	Latin America	Private
Los Cabos International Airport	Mexico	Latin America	Private
Ezeiza International Airport	Argentina	Latin America	Private
Arturo Merino Benítez International Airport	Chile	Latin America	Private
Juan Santamaría International Airport	Costa Rica	Latin America	Public
Las Américas International Airport	Dominican Republic	Latin America	Private
José Joaquín de Olmedo International Airport	Ecuador	Latin America	Private

Table 3.1 continued

Name of Airport	Country	Region	Management
Mariscal Sucre International Airport	Ecuador	Latin America	Private
Cheddi Jagan International Airport	Guyana	Latin America	Public
La Mesa International Airport	Honduras	Latin America	Public
Jorge Chávez International Airport	Peru	Latin America	Private

3.2.1 Survey Methods: Data Collection Instrument and Process

The airport survey was conducted online through a website created for the expressed purpose of giving respondents a feeling of identity to the study in the airport industry within Latin America and the Caribbean. There were 168 airport officials at 61 airports that were asked to respond to the survey. The names, phone numbers, titles and email addresses of airport executives and managers were compiled from several sources, including the Consul General’s Office to the Mission of the United Nations, individual airport websites, Jane’s Airport Directory for Latin America and The Caribbean, and A-Z World Airport Directory for each of the countries in the regions. In addition, all 61 airports were called to validate and update the contact information in the airport database for this study.

3.2.2 Survey Administration

The survey instrument was administered during October, November and December 2007. As recommended by Dillman (1994, 2000), the survey procedures used seek to get the attention of the respondent at the outset by sending a personalized

advance notice email. Reminder emails were sent out to each respondent at two-week intervals reminding them about the importance of their opinions to the success of the study. The administration of the survey followed Dillman's (1994) four procedures:

1. First—an advance email was sent to the potential respondents informing them that they had been selected to participate in the survey and to expect an email questionnaire in the next few days (see Appendix E).
2. Second—approximately seven days later, the questionnaire was emailed to each respondent with instructions on how to take the questionnaire (see Appendix A).
3. Third—two-weeks later a follow-up email was sent to the 168 potential respondents reminding those that had not responded to the questionnaire to do so.
4. Fourth—two-weeks from the last follow-up another email questionnaire was sent to the non-respondents reminding them about the importance of completing the questionnaire.

After sending out four emails, the response rate was fifty-eight percent. Several procedures were followed to increase the response rate. First, respondents were told that their opinions were crucial in contributing to the knowledge of airport performance in the region. Second, the assistance of Airports Council International (ACI) was enlisted to inform members in the region about the importance of the study. The response rate was greatly improved by his support. According to Salant and Dillman (1994), there is a direct relationship between the number of contacts and higher

response rate. Their recommendation was followed for this study, and three more e-mail reminders were sent to all non-respondents at each airport. A total of 98 respondents completed the surveys for an overall response rate of 58 percent. Airport studies for the United States; (Bazargan and Vasigh, 2003; Gillen and Lall, 1997, 1998; Sarkis, 2000; Sarkis and Talluri, 2004), Spain; (Martin and Roman, 2001), Brazil; (Fernandes and Pacheco, 2001, 2002, 2005; Pacheco and Fernandes, 2003), and Japan (Yoshida, 2004; Yoshida and Fujimoto, 2004) reported moderate response rates. A response rate of 58 per cent compares favorably with the other studies in the field.

3.2.3 Survey Design

The survey design was informed by the literature review and the face-to-face interviews. There were two main objectives of the questionnaire: (1) to determine whether the airports in the regions exhibited characteristics of the components of the proposed public management reform model (privatization, organizational governance, strategic human resources management and performance-based budgeting); and (2) to collect data on each of the components in order to answer the three main hypotheses of the study. The questions were developed to address specific issues, and interval scales were identified for the different items. Several items of the survey instrument collected data based on an interval scale. The questionnaire was administered in four languages: English, Spanish, French, and Portuguese (see appendix A-D). The questionnaire was translated by SDL Global Information Management. Located around the world, their translators contribute essential linguistic, cultural and subject matter expertise to the translation process. The Spanish, French and Portuguese translators of the questionnaire

were validated by native speaking translators from American Airlines Flight Academy in Fort Worth, Texas.

Respondents were asked to rate eight questions on a scale of one to ten, one being very low and ten being very high. In each question respondents were asked to reflect on their opinion of operational performance, decision-making, trust between management and employees, working conditions and strategic planning. For example, survey item two asked, how would you rate your airport's ability to provide customer focused services? In addition, respondents were asked to indicate to what extent they agree or disagree with five different statements where 1 is strongly disagree and 5 is strongly agree. For example, item fourteen stated: For the purposes of this survey, performance measures are indicators used to determine whether intended service targets were achieved. To what extent do you agree with the following statement? Airport management has developed performance measures for your airport.

3.2.4 Pre-test of the Survey Instrument

As part of the survey process, a pre-test of the draft questionnaire was conducted to address face validity. Face validity refers to the degree to which the survey questions measure what they claim to measure. The first version of the questionnaire was tested with individuals within the airport industry. They were asked to provide feedback on questionnaire format, choice, ordering and the wording of the questions. As a result of testing, various questions from the original draft of the questionnaire were removed, reworded or added. The third and final version of the questionnaire was emailed to 168 airport managers in October 2007.

3.2.5 Qualitative Method: Semi-structured Interviews

A face-to-face survey data of administrators at four airports (two private and two public) was conducted based on a semi-structured interview protocol. The purpose was to collect qualitative data to confirm the findings of the quantitative method regarding the research question and hypotheses.

There were six airport management personnel and other participants in the interview process. The participants represented four airports from the Latin American and Caribbean region (Bahamas, Grand Cayman, Cancun, Mexico and San Pedro Sula, Honduras). At each airport, the participants held varied positions which included officials of the Airport Authority and other management employees. The interviews were conducted following a protocol comprised of three semi-structure questions (see Appendix G). The theme of the interview questions centered on their overall view of privatization and airport governance, operational and financial performance of their airport. The second theme endeavored to validate and support the conceptual basis of the public management reform components. The interviews were conducted in a one-week period beginning December 2007 for the Caribbean and January 2008 for Latin America. All participants were asked to respond to open-ended questions related to privatization, organizational governance, strategic human resources and performance-based budgeting. Responses to the questions were tape recorded, and salient points were transcribed and analyzed.

The mixed methods of quantitative and qualitative approach utilized in this study corroborate findings and results of different data analysis that ultimately speaks

to the issues of construct and external validity (Yin, 1994). The concept that helps to mitigate the issues of construct validity is called triangulation proposed by Denzin (1978). He offered four types of triangulation: (1) data triangulation which collects data from different sources; (2) methodological triangulation is the use of different methods to study an issue; (3) investigator triangulation is different researchers studying the same phenomenon; and (4) theory triangulation uses various theoretical approaches to explain the results of a data. This study drew on data and methodological triangulation to strengthen the generalizability of the research findings by lessening the threats to construct and external validity. A full discussion of the various research variables used under data envelopment analysis and the regression models is provided in the next section of this chapter.

3.2.6 Research Variables

Data representing this dissertation's variables are analyzed in a two-step approach. In the first step, data envelopment analysis (DEA) is used to determine the efficiency of airports relative to the other airports in the sample. Following Fernandez and Pacheco (2005), the operational and financial input and output variables are used to determine efficiency scores for each airport. The input variables include operating expenses, number of employees, number of runways and gates. The financial efficiency output variables are aeronautical revenues and non-aeronautical revenues. The operational efficiency output variables are passenger throughput, cargo and mail. In the second step, Tobit and multivariate regression models are used to predict the relationship of independent variables (privatization, organizational governance,

strategic human resource management and performance-based budgeting to the dependent variables operational efficiency, financial efficiency and a composite of financial and operational efficiency.

3.2.7 Basis for Selecting Research Variables

An airport can be viewed as an entity that produces certain types of outputs. Therefore, the airport engages in a production process that needs specific inputs for operating and producing outputs in the study. The criteria used to select the research variables for data envelopment and regression analysis included concepts that reflected important output measures of quality services, such as the annual throughput of passengers, aircraft movements and the total amount of cargo handled. The variables chosen for the regression analysis address the hypothesis questions and the significance of the proposed dimensions for the public management reform model for developing countries.

3.2.7.1 Input and Output Variables

The day-to day operations at airports in Latin America and the Caribbean rely heavily on the labor facility structure and runways. Necessary inputs include production factors, such as capital and labor. Most airport managers set targets to maximize movement of aircrafts, passenger throughput and quantity of cargo transported. These outputs are highly desirable and the primary reason for building an airport.

The selection of inputs and outputs is an important decision issue in the assessment of airport productivity. The general suggestion is to include all-important

measures that are in the interest of the management. Such measures should be common for all airports so that the performance would provide meaningful interpretation. In practice, the main problem is the availability of the data across all airports rather than model limitations. Three common inputs are considered in this analysis: (1) operating expenses; (2) number of employees; and (3) number of gates. Operating expenses represent expenses associated with running an airport, such as salaries, maintenance of taxiways, aeronautical operating area and airport infrastructure. The number of runways accounts for all runways regardless of their utilization level. The number of gates represents the level capacity in handling aircraft movement. For this set of inputs, airport managers would like to produce as many operational and financial outputs as possible. Relating to operational outputs, the number of passengers counts both arriving and departing passengers for all types of commercial passengers, i.e., international, domestic and direct transit passengers. Aircraft movement includes commercial aircrafts, cargo aircrafts, general aviation, and others. Cargo throughput is measured in pounds of both loaded and unloaded freight, including international freight, domestic freight, and mail. Financial output represents aeronautical revenue that includes landing fees, passenger facility charges, departure taxes and aircraft parking fees. Non-aeronautical revenues are associated with commercial activities, such as airline ticket counter space rental fees and restaurant leases.

3.2.7.2 Independent Variables

In this dissertation the independent variables used in the regression model were informed by a survey conducted at 61 airports with a sample of 168 combined senior and mid-level airport managers. This study uses Tobit and OLS multivariate regression models to predict the relationship of independent variables to operational and financial efficiency among airports. There are five independent variables comprised of private-public airports (dummy variable 1=private; 0=public), region (dummy variable 1=Latin America; 0=Caribbean) privatization, organizational governance, strategic human resources management and performance-based budgeting. The privatization (PRIV) variable is comprised of questions (q-2, q-8, q-9, q-10b, q-10c, and q-13); the organizational governance (GOVN) variable is comprised of questions (q-5, q-6a, q-6b, q-7, q-10a); the strategic human resource management (SHRM) variable is comprised of questions (q-6c, q-6d, q-11); and the performance-based budgeting variable (PBB) is comprised of questions (q-14, q-15, q-16) from the online survey (see Appendix A).

3.2.7.3 Dependent Variables

This dissertation focuses on three airport measures of performance by addressing the main hypotheses of the study: (1) privatized airports are operationally more efficient than airports managed by government; (2) privatized airport are financially more efficient than airports managed by government; (3) privatized airport are both operationally and financially more efficient than airports managed by government. The dependent variables used in the Tobit model are the transformed DEA operational and financial efficiency scores. These dependent variables are expressly

used to predict and answer the hypotheses. Central to this study is determining the extent to which public versus private management of airports in the LAC regions are operationally or financially efficient. A corollary to the central question of this study is whether the airports are both operationally and financially efficient.

3.2.8 Data Sources

One of the main data sets was collected by administering an online questionnaire to 168 senior and mid-level airport managers representing the 61 airports in the region and executive members of the airport authorities. Another data set was compiled from multiple sources of published archival data and was used in the calculation of the DEA operational and financial efficiency scores. The archival data sources used for the development of the research variables are as follows: (1) Airports Council International Worldwide Airport Traffic Report 2006 (ACI); (2) International Civil Aviation Organization (ICAO); (3) International Air Transport Association (IATA); and (4) American Association of the Airport Executives.

3.3 Measuring Airport Productivity

3.3.1 Productivity Measures

In economics, productivity is defined as the amount of output per unit of input; for example, productivity measure is the ratio between output(s) passenger throughput and input(s) total operating cost. Even though the definition is succinct, it presents problems in assessing the productivity of airports. The reason is due to the characteristics of airport operations, which take multiple inputs (labor and capital) for producing multiple outputs (movement of aircrafts, number of passengers and

cargo). As a result of the various inputs and outputs, productivity measures can be categorized into two groups of either partial factor or total (overall) factor productivity measures.

3.3.2 Partial Factor Productivity (PFP) Measure

Partial factor productivity (PFP) measures relate an airport's output to a single input, for example, labor productivity measures, such as passengers per employee, aircraft movements per employee and ton landed per employee. Table 3.2 summarizes PFP measures that have been used in airport performance studies (Humphreys and Francis, 2002). Many airport managers may adapt PFP measures to benchmark their performance because the measures are easy to compute; however, PFP measures can be misleading when they consider the overall performance of the airport (Francis, Humphreys and Fry, 2002; Humphreys and Francis, 2002). Airports can be capital intensive; a partial productivity measure of labor productivity does not give a very clear representation of whether the performance of the airport is efficient or effective (Abbott and Wu, 2002).

Among the PFP ratios shown in Table 3.2, there are performance measures that can make an airport look better on one measure but actually perform worse on another. The appropriate assessment is one that utilizes a form of total productivity measures that show the relationship between all inputs and outputs.

Table 3.2 Examples of Partial Factor Productivity Measures in Aviation Sector

Scope of measure	Category	Examples of performance measures
Global performance of airport	Profitability	income per passenger
		rate of return on capital
		revenue to expenditure ratio
		profit per workload unit (WLU)
	Cost-efficiency	cost per WLU (excluding depreciation and interest)
		operating cost per WLU
		capital cost per WLU
		labor cost per WLU
		aeronautical cost per WLU
	Cost- effectiveness (revenue earning)	total revenue per WLU
		aeronautical revenue as a share of total
		aeronautical revenue per WLU
		non-aeronautical revenue per WLU
		concession revenue per area
	Partial productivity measures	Capital productivity
WLU per unit of net asset value		
total revenue per unit of net asset value		
Labor productivity		WLU per employee
		revenue per employee
		value added per employee
		passengers/employee

Table 3.2 continued

Scope of measure	Category	Examples of performance measures
Performance of particular processes	Runways	aircraft movements per runway
		aircraft movements per length of runway
		aircraft movements per hourly capacity
		passenger per aircraft movement
	Passenger processing	service time for check-in
		time to reclaim baggage
		gate utilization rates
		passengers per terminal area
	Baggage handling	baggage handled per unit of time
		baggage service reliability over time
Customer service	Passengers	distances to reach departure gates
		crowding (passenger density)
		variability in service times
		passenger service ratings
	Cargo	average time required to deliver freight at cargo terminal prior to aircraft departure
		theft and breakage rates
	Airlines	index of aeronautical charges
		index of non-aeronautical charges
		aircraft turn-around times

Note: A "workload unit (WLU)" is equal to one passenger or 100 kilogram of cargo.

Source: Hooper and Hensher 1997); Francis, Humphreys and Fry (2002);

Humphreys and Francis (2002); Oum, Yu and Fu (2004)

3.3.3 Total Factor Productivity (TFP) Measure

Total Factor Productivity measure can assist airport managers to address the limitations of PFP measures in capturing the overall performance of airports. According to Nyshadham and Rao (2000), a common way to deal with the problem of too many PFP measures is to develop a total measure that takes into account all of the important inputs and outputs simultaneously.

This measure is often called Total Factor Productivity (TFP) measure (Nyshadham and Rao, 2000) because it is useful to managers in assessing the total productivity of an airport and recognizing that different airports face different economic conditions which may require input factors in varying proportions. Nyshadham and Rao (2000) suggest that an airport that exhibits low labor productivity may not necessarily be inefficient from an overall perspective; however, it may merely be substituting capital with labor to take advantage of a wage rate.

The TFP approach as a measure for assessing the productivity of airports has been used by many researchers including Gillen and Lall, 1997, 1998; Hooper and Hensher (1997); Oum and Yu (2004); Pathomsiri, Haghani, Dresner and Windle, (2006a); Pels, Nijkamp and Rietveld, 2001, 2003; Windle and Dresner, 1992; and Yoshida and Fujimoto, 2004. The following section will discuss two TFP approaches: parametric and non-parametric.

3.4 Methodology for Computing TFP Measure

Several methods deriving the TFP measure fall into two categories: parametric and non-parametric approaches. Their applicability may depend on the availability and

quality of data. In some cases, both approaches are used to obtain complementary results (Pels, Nijkamp and Rietveld, 2001, 2003) or confirm the conclusions (Yoshida and Fujimoto, 2004).

3.4.1 Parametric approach

The parametric approach tries to combine multiple inputs and outputs into one composite input and one composite output and then fit them within an a priori production function, such as linear or logarithmic.

For instance, assume that one has identified a set of organizational units (airports) to be evaluated and uses a single input (x_i) to produce outputs denoted as (y_r) where $r = 1, \dots, s$. At this stage one can employ one of two approaches: parametric or non-parametric. The parametric model can be created without an allowance for inefficiency in production by the airports being assessed (Thanassoulis, 2001). The model that is indicative of no allowance for any inefficiency by the units being assessed can be given as $x = f(B, y_1, y_2, \dots, y_s) + n$ where y_r $r = 1 \dots s$ are the known output levels and B is a set of unknown parameters to be estimated.

The term n reflects random noise in that for any given set of observed output levels the airport concerned may not use the input level $f(B, y_1, y_2, \dots, y_s)$ because there may be other factors outside the model, including random events, which can make the observed input level (x_i) deviate from $x = f(B, y_1, y_2, \dots, y_s) + n$ (Thanassoulis, 2001). The random noise (n) is assumed to be normally distributed with a mean value of zero and independent of the output levels y_r $r = 1 \dots s$.

Using ordinary least squares regression (OLS), the parameters B can be estimated based on the observed input and output of the units being assessed (Thanassoulis, 2001). To obtain an input efficiency, the units predicted input level $f(B, y_1, y_2, \dots, y_s)$ can be expressed as a fraction of its observed input level x . Thanassoulis (2001) points out that the larger the ratio the more efficient the unit. In assessing the output efficiency, the same is true as outlined earlier for input efficiency.

A model in which an explicit allowance can be developed for any inefficiency by the units being assessed is called a Stochastic Frontier method. This method addresses two of the main criticisms of the approach which has no explicit allowances made in the model for any inefficiency by the units being assessed: (1) they estimate average rather than efficient levels of outputs t for given input; and (2) they attribute all differences between estimated and observed levels of input to inefficiency (Thanassoulis, 2001). The model $x = f(B, y_1, y_2, \dots, y_s) + v + u$, is broken down into two terms that reflect inefficiency where n is the random error term (v), which is normally distributed, and the term (u) is greater than and equal to zero.

As a result, for a given set of inputs, it is possible to estimate the probable output level. Whenever the actual output is below the probable level, an airport is not being operated efficiently. Compared to the use of other performance indicators outlined earlier, the parametric approach provides a better understanding of the production process of the units being accessed. In addition, it offers a summary measure of performance rather than a multitude of performance indicators (Thanassoulis, 2001). However, this approach is stricken with problems of its own.

There are two major issues involved in using the parametric approach. First, what are the appropriate weights for transforming inputs and outputs? Second, what is the suitable production function? The literature adequately addresses these questions.

Regarding the first question, Hooper and Hensher (1997) argue that the appropriate input weights should be the cost shares which represent the contributions of each input to costs. They also suggest that the output weights be the cost elasticity as long as they are readily available from prior research. However, in most empirical studies the absence of such elasticity has led to the use of revenue shares as proxies. Nyshadham and Rao (2000) have also adopted cost and revenue share, respectively, as input and output weights in their productivity assessment of 25 European airports. Hooper and Hensher (1997) comment that the use of prices as output proxies implicitly presumes that the airport is pricing efficiently, but since monopoly pricing is a concern, it is problematic to derive an output measure from income. Indeed, better measures for output quantity would have been landings for aeronautical output, passenger throughput, and the volume of cargo handled.

As for the second issue, the choice of an *a priori* production function is rather subjective, and its suitability is usually based on the goodness-of-fit of the independent variables. Martin-Cejas (2002) estimates a cost frontier using a transformation function to assess the productive efficiency of 31 Spanish airports during 1996 – 1997. Pels, Nijkamp and Rietveld (2001) estimate two stochastic production frontiers in their productivity study of 34 European airports during 1995 – 1997. The first function has the number of passengers as the dependent (output) variable. The second function aims

to explain the number of aircraft movements. Based on the same dataset, their subsequent publication (Pels, Nijkamp and Rietveld, 2003) also estimates two stochastic production frontiers with the same two dependent (output) variables, but with different set of explanatory variables.

Availability of cost and revenue data seems to be a big hurdle that limits the applicability of this approach. These problems are dealt with by the non-parametric method of assessing efficiency and productivity.

3.4.2 Non-Parametric Approach

The key characteristics of non-parametric approach are that it does not need to specify a priori production function and that no parameter needs to be estimated (Cooper, et al, 2000). Among other methods, index number and Data Envelopment Analysis (DEA) are the most frequently used methods in previous airport efficiency and productivity studies.

In their productivity study of four Australian airports during 1989 – 1992, Hooper and Hensher (1997) use cost and revenue shares, respectively, as associated weights to inputs and outputs, and they obtain aggregate input and output indexes. Similarly, Nyshadham and Rao (2000) also use cost and revenue shares in their productivity study of 25 European airports. Other studies that adopted the index number approach to compute TFP measure include Oum, Yu and Fu (2003), Oum and Yu (2004), Yoshida (2004) and Yoshida and Fujimoto (2004).

One of the many challenges of using the TFP index method is that it requires a complete set of prices and quality data. In many cases involving airport research in

developing countries, data is often limited or not available. The Hooper and Hensher (1997) study presented a limited view of the Australian airport system's performance due to data limitations. Another weakness, according to Abbott and Wu (2002), is the use of total revenue of the airports as an indicator of output. It is justifiable as long as prices and, therefore, revenue are not a reflection of the degree of market power of the institution considered. In the case of airports it is preferable to use a total factor productivity valuation approach that does not depend upon prices that might be distorted by market imperfections (Abbott and Wu, 2002).

Martin and Roman (2001) argue that some financial measures can be misleading indicators as a consequence of the relative market power that might exist. Monopolistic airports might be able to make substantial profits even if they were inefficient. More importantly, prices are applicable for marketed outputs only, but it is difficult to calculate for non-marketed outputs, such as delays, noise and other externalities. During the past decade, aviation researchers have resorted to an alternative method of measuring airport efficiency and productivity called Data Envelopment Analysis (DEA). The next section will present the statistical analysis techniques of the study. The important features of the statistical techniques that will be discussed are data envelopment analysis (DEA), formulation of the DEA model, Tobit and multivariate regression models.

3.5 Data Envelopment Analysis

Data Envelopment Analysis (DEA) is commonly used to evaluate the efficiency of a number of production units. DEA compares each production unit with only the best

production units. The procedure of finding the best production unit is formulated as a linear program. DEA is a linear programming⁵ technique used to estimate efficiency frontiers of production units⁶. These production units are homogeneous entities called Decision Making Units (DMUs) devised without parameters while converting multiple inputs into multiple outputs. The need for a more flexible tool for measuring efficiency has played a major role in accepting and nurturing DEA as a management and research tool (Cooper et al, 2000).

During the past decade, DEA appears to be the prevailing method used in assessing airport productivity. DEA has introduced many possibilities for cases that have been resistant to other approaches because of the unknown relationship between the multiple inputs and multiple outputs involving DMUs. Some of the key characteristics of the DEA non-parametric approaches are that it does not need *a priori* assumption on functional form and that weights need not be assigned to variables. In other words, no parameters need to be estimated (Cook and Zhu, 2005; Cooper et al. 2000; Cooper, Seiford, and Tone, 2000; Cooper, Seiford and Zhu, 2004). Instead, it builds on empirical piecewise linear production function from sample data. The only required data are inputs and outputs because in an airport context the breakdown between revenue and average prices for freight and passenger traffic is

⁵ In mathematics, linear programming (LP) problems involve the optimization of a linear objective function, subject to linear equality and inequality constraints. Put informally, LP is about trying to get the best outcome (e.g. maximum profit, least effort, etc) given some list of constraints (e.g. only working 30 hours a week, not doing anything illegal, etc), using a linear mathematical model.

⁶ The efficiency frontier defines the maximum combinations of outputs that can be produced for a given set of inputs.

sometimes not available; therefore, input and output volume figures are used (Cooper et al., 2000).

The stages of DEA are: (1) the calculation of relative efficiency scores; (2) the establishment of a piecewise empirical efficiency frontier; and (3) the presentation of options to improve efficiency, given these relations (Cook and Zhu, 2005; Cooper et al. 2000; Cooper Seiford and Tone, 2000; Cooper, Seiford and Zhu, 2004; Thanassoulis, 2001). All DMUs on the efficiency frontier are assigned an efficiency score of 1.00 meaning they are 100 per cent efficient. Then they are defined as the best practices and the piece-wise frontier, which represents efficient combinations of input and output levels. All others below and contained by the frontier are inefficient. DEA uses the scores assigned to the DMUs surrounded by the production possibility set to define their inefficiency in relation to the frontier.

The name Data Envelopment Analysis (DEA) comes from the idea that such an efficiency frontier “envelops” the inefficient points (Cooper et al., 2000). Inefficient DMUs can be identified in reference to other DMUs with similar input output mixes. Additionally, Cooper et al. (2000), caution the researcher to recognize that the efficiency of each DMU is only relative to the DMUs in the sample. DEA requires a (1) linear programming; (2) DMUs of the same environment; (3) inputs and outputs; and (4) satisfactory data sample size (Boussofiene et al., 1991). The results of analysis include an efficiency frontier of DMUs and relative efficiency scores. When a comparison is made between DEA and a regression line, DEA checks each DMU to find out which ones lie on the frontier (Cooper et al., 2000).

3.5.1 Strengths and Weaknesses of DEA

Data Envelopment Analysis exhibits certain characteristics that are good tools in evaluating efficiency and productivity. First, DEA can model multiple input and multiple output situations, and it does not require an assumption of a production function in relating inputs to output. Second, DMUs are compared against a combination of homogeneous units. Third, no *a priori* production function is required (Cook and Zhu, 2005; Cooper et al., 2000; Cooper Seiford and Tone, 2000; Cooper, Seiford and Zhu, 2004).

There are some disadvantages to DEA when compared to econometric approaches. First, econometric approaches offer the ability to estimate confidence intervals for unit related estimates. Second, econometric approaches contest assumptions about mathematical relationships assumed between input and output variables (Cook and Zhu, 2005; Cooper et al., 2000; Cooper Seiford and Tone, 2000; Cooper, Seiford and Zhu, 2004).

3.5.2 Why DEA as Opposed to OLS?

DEA is a methodology directed to frontiers rather than central tendency measurement (Cooper, et al., 2000). The benefits of DEA can be clearly illustrated by making a comparison between DEA and a regression analysis. Suppose that there is a set of hypothetical airports with a landside operation that takes a single input X (e.g. runway) and produces output Y (e.g. aircraft movements). Figure 3.1 shows the input and output measures of a hypothetical data set. A regression analysis can often

introduce sources of error from information needed to establish a theoretical production function.

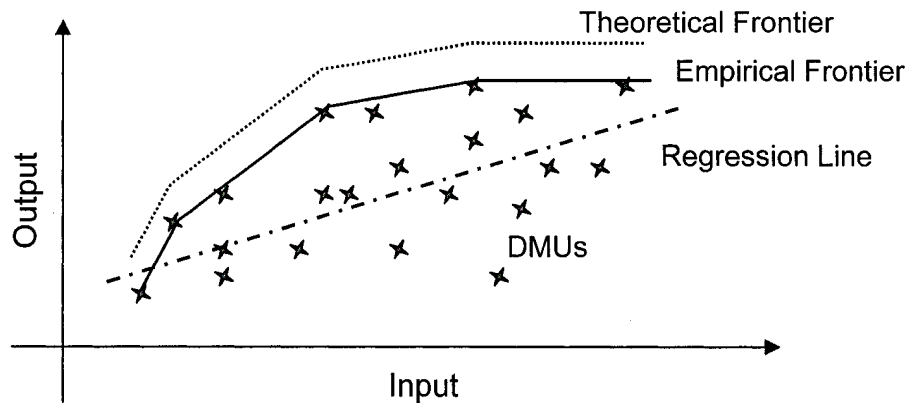


Figure 3.1 Frontier and Regression Planes

With DEA, no theorizing or sophisticated data are required as the efficiency frontier is based on empirical information. Instead of optimizing a single plane or focusing on an average, DEA establishes an empirical best practice benchmark, or the empirical frontier as seen in Figure 3.1. Due to the best practice nature of the frontier, DEA is able to outline paths for improvement for inefficient decision making units (DMUs) or firms instead of aiming for an average performance. Consequently, DEA does not limit the possible efficiency enhancement to an average value, but rather to an achievable level defined by other DMUs.

3.5.3 DEA Efficiency Defined

When the technical and allocative components of efficiency are combined, the result is economic or overall efficiency (Coelli, 1996). Overall efficiency measures

whether a DMU is minimizing its inputs while maximizing its outputs. Technical efficiency indicates if output is maximized given static input levels or if an input is being maximized with static outputs. A DMU is technically efficient when no more output can be produced unless more resources are consumed. So it answers the question: are things being done right? Technical efficiency can be further broken into scale efficiency and pure technical efficiency. Scale efficiency identifies possible constant, decreasing or increasing returns to scale. If the DMU is at its most productive scale size (mpss), at which point average productivity is maximized, then there is scale efficiency. This a concept introduced by Banker et al. (1984). Pure technical efficiency, on the other hand, examines the assignment of resources to maximize output given a DMUs size or scale.

Allocative efficiency, or price efficiency, examines whether input prices are at optimal performance to produce outputs. An allocative inefficient firm is one operating with a non-optimal mix of inputs or non-optimal mix of outputs. This form of efficiency is of significance when examining tradeoffs between various forms of input, such as labor versus machines. Allocative efficiency answers the question: are the right things being done? Essentially, it questions the organization's objectives and the effectiveness of its objectives. The use of allocative efficiency is usually restrained by other items, such as standards and costs (Pilateris, 2000). Hence, DEA efficiency is when a DMU is to be rated as fully 1.0 (100%) efficient on the basis of available evidence if, and only if, the performances of other DMUs do not show that some of

their inputs or outputs can be improved without worsening some of their other inputs or outputs (Charnes, Cooper, and Rhodes, 1978).

3.6 The Formulation of the Basic DEA Models

A number of DEA models have evolved over time, all of which are based on the standard constant returns to scale (CRS) and variable returns to scale (VRS) envelopment surfaces. Returns to scale refers to increasing or decreasing efficiency based on size. Constant Returns to Scale (CRS) means that the producers are able to linearly scale the inputs and outputs without increasing or decreasing efficiency. For instance, a manufacturer can achieve certain economies of scale by producing a thousand circuit boards at a time rather than one at a time. It might be only 100 times as hard as producing one at a time. This is an example of increasing returns to scale (IRS.) Alternatively, the manufacturer might find it more than a trillion times as difficult to produce a trillion circuit boards at a time because of storage problems and limits on the worldwide copper supply. This range of production illustrates decreasing returns to scale (DRS.) Combining the two extreme ranges would necessitate variable returns to scale (VRS.) This assumption of CRS may be valid over limited ranges, but its use must be justified. In addition, CRS tends to lower the relative efficiency scores while VRS tends to raise relative efficiency scores (Cook and Zhu, 2005; Cooper et al., 2000; Cooper, Seiford and Tone, 2000; Cooper, Seiford and Zhu, 2004; Thanassoulis, 2001).

The constant return to scale and the variable return to scale frontiers are synonymous with two standard models, the CCR and BCC, respectively. The CCR is

named after Charnes, Cooper, and Rhodes (1978), while the BCC, also referred to as the VRS model, is named after Banker, Charnes, and Cooper (1984). These models have laid the foundation for various other models and extensions that examine other forms and aspects of efficiency. A feature of all DEA models is orientation since DEA models are either input or output oriented. Input oriented models allow for the maintenance of output levels and the proportional reduction of inputs to increase efficiency, thus projecting DMUs onto the efficiency frontier. Output oriented models aim to proportionally increase outputs while maintaining a set level of inputs.

Often little concern is placed on the selection of an input or output orientation as greater significance is placed on other model characteristics. Although both orientations aim to maximize relative efficiency scores, they project inefficient DMUs in different manners, thus requiring different formulations. The key distinctions of DEA models are as follows: (1) the established production frontier (i.e. shape); and (2) how it is used to examine inefficient DMUs and interpret results (Pacheco and Fernandes, 2003). According to Pacheco and Fernandes (2003), the DEA approach makes it possible to define objectives directed to input minimization by utilizing the smallest quantity of resources to obtain a given result or to output maximization and by obtaining the best result from the application of a given level of resources. Figure 3.2 shows an example of an input minimization approach, considering two inputs to obtain one output. It shows a bi-dimensional diagram that can be generalized to n dimensions. The observations closest to the vertical and horizontal axes form the best practice curve for resource utilization. Points to the right of the curve involve inefficiency in applying

inputs. Points A, D and E are observations which determine the resource efficiency frontier. Point B is a resource-inefficient observation which has points D and E as its references to seek improvement.

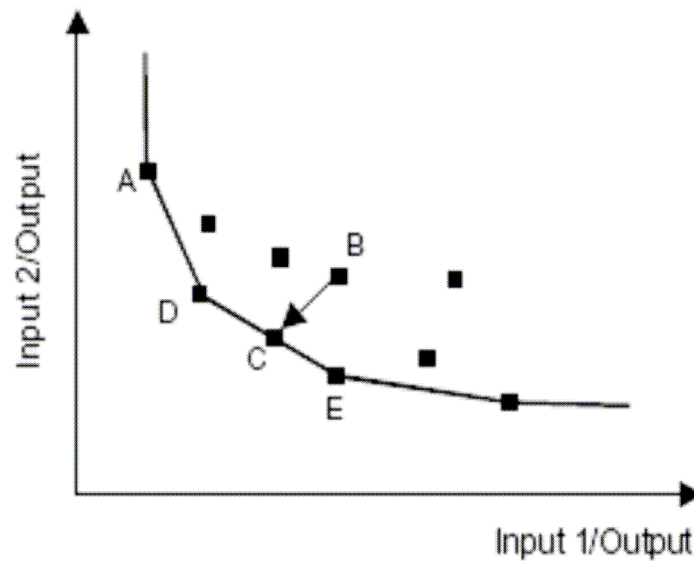


Figure 3.2 Input Oriented Model
Source: Cooper, Seiford & Tone; 2000

These improvements permit a reduction in the resources needed to obtain an efficient relationship between inputs and outputs. An organization, however, can opt for an approach that seeks maximum results from existing resources. Figure 3.3 shows an example considering two outputs and one input, which also can be generalized to an n-dimensional approach. In this case, a frontier of the best output ratios is traced for a given resource plateau. Observations A, D and E are determinants of the efficient

frontier. Point B is an inefficient observation with D and E as reference points for seeking efficient use of its resources, the best option which is point C.

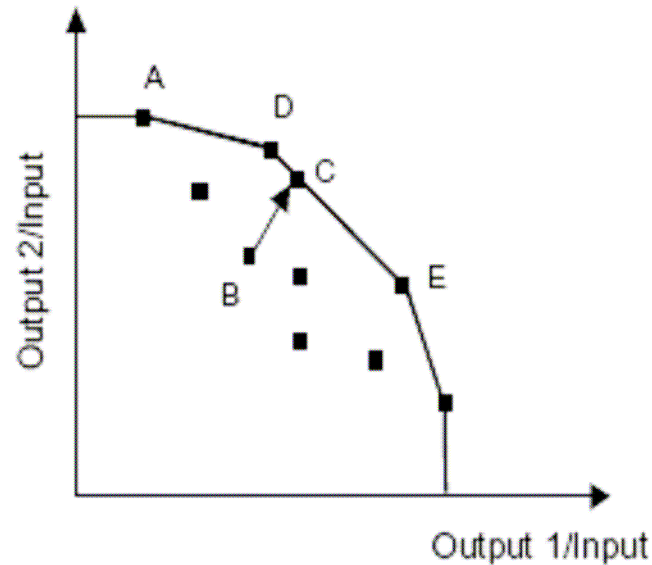


Figure 3.3 Output Oriented Model
Source: Cooper, Seiford & Tone; 2000

3.7 Model Selection

The discussion of DEA modeling in this study will be confined to the input-oriented CCR model because it is the dominant model used in the analysis of airport efficiency (Abbott and Wu, 2002; Adler and Berechman, 2001; Bazargan and Vasigh, 2003; Fernandes and Pacheco, 2005; Murillo-Melchor, 1999; Pacheco and Fernandes, 2003; Parker, 1999; Pels, Nijkamp and Rietveld, 2001, 2003; Sarkis, 2000; Sarkis and Talluri, 2004; Yoshida and Fujimoto, 2004). However, a brief explanation of the output oriented model will be given later. The DEA-Output-CRS model seeks to determine if an airport is on the frontier in the output direction for a given level of

inputs. The analysis provides an assessment of how efficiently the inputs are being utilized. By contrast, the DEA-Input-CRS orientation model determines whether there is inefficiency in input for a given level of output (Thanassoulis, 2001). According to Cooper et al (2000), regardless of the chosen orientation, there is no effect on the classification of efficient airports because the resulting efficient frontiers are identical. However, it does affect results regarding inefficient airports.

Researchers have to justify the choice of orientation. Regarding the use of input orientation, Abbott and Wu (2002) justify it by reasoning that airports have fewer controls over outputs than they do over inputs. The volume of airline traffic is somewhat exogenous to the control of airport managers depending mainly on the general level of economic activity. The size of an airport may be indicative to the level of passenger and aircraft traffic. Many researchers argue that large airports because of their size are more efficient than smaller airports.

Under the CCR model the assumption of constant return to scale is considered as it relates to argument of airport size (Pacheco and Fernandes, 2003). The constant return to scale is an easy concept to apply when working with airports of different sizes. When the production process is under constant return to scale, the CCR model calculates the overall efficiency for each DMU, in which both technical and scale efficacy are aggregated into one value. Martin and Roman (2001) justify the use of output orientation in their assessment of Spanish airports by reasoning that once an airport has invested in the building of new runways or new terminals it is difficult for managers to disinvest to save costs, therefore, invalidating the input-orientation.

Meanwhile, Fernandes and Pacheco (2002) argue that the main issue of their analysis is the potential output from organizations with various sizes.

In addition to the CRS frontier type, DEA can be carried out under the assumptions of variable returns to scale by (VRS) introducing a scale constraint into the model. In VRS frontier type, DMUs are not penalized for operating at a non-optimal scale (Banker, 1984; Banker and Thrall, 1992). The VRS model measures technical and scale efficiency, therefore, ensuring that the comparable DMU is of scale size similar to the DMU being measured. Ganley and Cubbin (1992) consider the CRS frontier type as the long-term view as opposed to the short-term view for VRS frontier. Martin and Roman (2001) argue that due to the existence of different scale airports in Spain, a VRS frontier should be used.

Nonetheless, they also estimate the CRS model. Parker (1999) argues that given the variation in the size of the airports in his dataset, VRS is the more realistic assumption than CRS. Murillo-Melchor (1999), however, argues that scale efficiency requires that the production size corresponds to the long-run. For this reason, this efficiency is assessed with respect to the technology of a long-run model i.e., constant returns to scale.

3.8 Tobit and Multivariate Regression

Tobit regression is a well-known econometric regression model used when working with censored data or limited dependent variables (Austin et al., 2000). Austin et al. (2000) point out that this form of regression analysis is used in econometric research because frequently there are values that are sometimes not observed as the true

response or dependent variable. In other words, Tobit is used when the dependent variable (Y) is limited (or censored) from above or below. Tobit permits analyzing dependent variables with zero as their lowest values derived from censored data, such as the DEA relative efficiency scores. The use of Tobit avoids violating ordinary least squares continuity and boundlessness assumptions about dependent variables (McDonald and Moffitt, 1980; Roncek, 1992; Tobin, 1958). This study will censor the dependent variables (DEA operational and financial efficiency score) at a lower bound of zero. That is, the operational and financial relative efficiency scores for the airports will be normalized or transformed to have a censored point at zero (Chilingirian 19995; Scheraga, 2004). The Tobit model will be used to predict the relationship of privatization, organizational governance, strategic human resources management and performance-based budgeting to operational and financial efficiency (dependent variables) between airports in their respective regions. In this case, the Tobit analysis can be used to study the dependent variable in which many of the cases may approach zero, the lowest possible value (Roncek, 1992). The Tobit model is given by the following equation:

$$Y_i^* = \alpha + \beta X_i^* + \varepsilon_i^*$$

where Y_i^* denotes the airport efficiency score. Ordinary least squares (OLS) estimation of this equation will produce biased and inconsistent estimates of the constant (alpha) and unstandardized coefficients (beta). The Tobit model using maximum likelihood estimation produces consistent estimates of the constant and unstandardized coefficients (McDonald and Moffitt, 1980; Roncek, 1992; Tobin, 1958). Another

method to assess efficiency used in the research is the multivariate regression. This approach basically measures the relationship between several exogenous variables and their impact on operational, financial, and a composite score of operational and financial efficiency of public versus private airports. The independent variables for this regression analysis were drawn from the survey data. There are three regression functions: operational and financial efficiency, and one for the composite of operational and financial efficiency which will be presented in the findings and results of chapter four.

CHAPTER 4

FINDINGS AND RESULTS

4.1 Introduction

This chapter presents the findings and results of the study. The data collected through secondary sources, a questionnaire, and one-on-one interviews were statistically analyzed and interpreted. The findings of the analysis are presented in three parts. First, the results from the composite operational-financial efficiency analysis of the airports are reported. The efficiency scores for each airport were calculated using Data Envelopment Analysis (DEA). Second, the efficiency scores derived from the data envelopment analysis were regressed against the independent variables constructed from the answers to the survey questionnaire using Tobit and OLS estimation to answer the four proposed hypotheses. The same independent variables were used in both the Tobit and OLS regression models. Finally, the findings of the one-on-one interviews are reported.

4.2 General Data Characteristics

Data on the region, private-public, privatization, organizational governance, strategic human resource management and performance-based budgeting were compiled from several secondary sources and the survey data. Table 4.1 shows descriptive statistics for the dependent and independent variables for this study. The

mean survey scores for each component of the model (PRIV,GOVN, SHRM and PBB) are 27.39,21.83,11.91 and 12.05 respectively. As explained in chapter four, the study's independent variables were constructed from the survey data. The dependent variables were derived from the transformed DEA scores.

Table 4.1 Descriptive Statistics for Airport Variables

Variables	Mean	SD	Minimum	Maximum
Independent				
Region	0	.494	0	1
Private-Public	0	.496	0	.1
Privatization	27.39	2.910	14	35
Governance	21.83	3.05	15	27
Strategic HRM	11.91	.774	9	14
Performance-Based Budgeting	12.05	.999	6	15
Dependent				
Financial Efficiency Score	1.18	.495	.00	2.59
Operational Efficiency Score	1.18.	.495	.00	2.59
Financial-Operational Efficiency Score	1.18	.495	.00	2.59

Note: N = 48

4.3 Efficiency Analysis: The DEA Models

Three DEA models were analyzed in this study. The three models analyzed are a financial efficiency, operational efficiency and a composite model made up by aggregating financial and operational efficiency scores derived from the DEA analysis of 48 airports from the Latin American and Caribbean region. A critical prerequisite to conduct DEA analyses is that input and output variables have to be significantly

correlated. The method used to conduct a correlation analysis of the input and output variables was Pearson's correlation. As shown in Table 4.2, a positive relationship between the variables was confirmed.

Table 4.2 Pearson's Correlation of DEA Input and Output Variables

Pearson Correlation								
	OP EXP	NO EMP	NO RWYS	NO GATES	AERO REV	NON AERO REV	APM	ATM
NO EMP	.612**							
NO RWYS	.290*	.182						
NO GATES	.518**	.566**	.194					
AERO REV	.795**	.549**	.233	.708**				
NON AEROREV	.656**	.534**	.140	.725**	.941**			
APM	.687**	.650**	.292*	.819**	.759**	.739**		
ATM	.574**	.567**	.175	.859**	.785**	.826**	.877**	
TTLC RGM	.535**	.552**	.199	.426**	.386**	.274	.404**	.188

Note: * p < .05, ** p < .01

4.3.1 DEA Financial Efficiency Model

The following tables show the input and output variables used in the DEA analysis (see Table 4.3). On average, the airports in the region realized operating expenses of \$7,761,146 (OPEXP), number of employees (NOEMP) of 285, number of runways (NORWYS) 1 and the number of gates (NOGATES) 11. On the output side the average aeronautical (AEROREV) and non-aeronautical (NONAEROREV) revenue for the airports was \$6,484,447 and \$2,198,279, respectively. The annual passenger

movement (APM) was 3,274,462, the aircraft traffic movement (ATM) was 59,783 and the total cargo and mail handled was 960 million pounds) (see Table 4.4).

Table 4.3 Summary of Input Measures used in DEA Financial and Operational Efficiency Model

	N	Mean	SD	Minimum	Maximum
OPEXP	48	7761146.35	7458123.37	1896369	28963545
NOEMP	48	285.27	151.19	150	789
NORWYS	48	1.27	0.49	1	3
NOGATES	48	10.81	9.64	2	47

Table 4.4 Summary of Output Measures used in DEA Financial and Operational Efficiency Model

	N	Mean	SD	Minimum	Maximum
AEROREV	48	6484447.10	5830156.85	1799920	24214796
NONAEROREV	48	2198279.15	2676710.95	397218	11397256
APM	48	3274461.98	4462598.51	85000	24727296
ATM	48	59783.71	68946.13	4500	355593
TTLCRGM	48	95666845.15	192190889.87	1275350	925606398

4.3.1.1 Efficiency Scores from DEA Financial Model

Table 4.5 shows the financial efficiency scores for all 48 airports generated by running the DEA model using the CCR approach (input). The CCR model depicting overall efficiency (both technical and scale components of efficiency) found 15 private and two public airports operating efficiently (a score of 1.0), and 31 inefficient airports (operating at less than 0.80 or 80 percent). Of these 31 inefficient airports, 14 were private and 17 were public.

Table 4.5 DEA Financial Efficiency Scores

Name of Airport	Country	Region	Management	Score
VC Bird International Airport	Antigua and Barbuda	Caribbean	Public	0.60263
Queen Beatrix International Airport	Netherlands Antilles	Caribbean	Public	0.45713
Grand Bahama International Airport	Bahamas	Caribbean	Private	0.98502
Lynden Pindling International Airport	Bahamas	Caribbean	Private	0.36320
Grantley Adams International Airport	Barbados	Caribbean	Public	0.81800
Philip S. W. Goldson International Airport	Belize	Caribbean	Private	0.39421
Owen Roberts International Airport	Cayman Islands	Caribbean	Public	0.42228
Point Salines International Airport	Fort de France Martinique	Caribbean	Public	0.48949
Pointe-à-Pitre - Le Raizet Airport	Guadeloupe	Caribbean	Public	0.42700
Norman Manley International Airport	Jamaica West Indies	Caribbean	Private	0.40360
Sangster International Airport	Jamaica West Indies	Caribbean	Private	0.38735
Princess Juliana International Airport	Netherland Antilles	Caribbean	Public	1.00000
Curacao International Airport	Netherland Antilles	Caribbean	Private	0.42674
Toussaint Louverture International Airport	Haiti	Caribbean	Public	0.49961
Robert. L. Bradshaw International Airport	St. Kitts and Nevis	Caribbean	Public	0.54135
Hewanorra International Airport	St. Lucia	Caribbean	Public	0.41072

Table 4.5 continued

Name of Airport	Country	Region	Management	Score
George F. L. Charles Airport	St. Lucia	Caribbean	Public	0.33766
Piarco International Airport	Trinidad and Tobago	Caribbean	Public	0.36065
Providenciales and JAGS McCartney International Airports	Turks & Caicos	Caribbean	Private	0.84835
Brasília International Airport	Brazil	Latin America	Public	0.37882
Galeão International Airport	Brazil	Latin America	Public	0.57925
Guararapes International Airport	Brazil	Latin America	Public	0.46218
General Juan N. Álvarez International Airport	Mexico	Latin America	Private	1.00000
Guanajuato International Airport	Mexico	Latin America	Private	0.61056
Abraham González International Airport	Mexico	Latin America	Private	0.46395
Cancun International Airport	Mexico	Latin America	Private	1.00000
Roberto Fierro Villalobos International Airport	Mexico	Latin America	Private	0.41098
Cozumel International Airport	Mexico	Latin America	Private	0.88346
Guadalajara International Airport	Mexico	Latin America	Private	0.83629
General Ignacio L. Pesqueira International Airport	Mexico	Latin America	Private	0.85377
Bahías de Huatulco International Airport	Mexico	Latin America	Private	0.97185

Table 4.5 continued

Name of Airport	Country	Region	Management	Score
Manuel Márquez de León International Airport	Mexico	Latin America	Private	0.96816
Aeropuerto Nacional de Los Mochis	Mexico	Latin America	Private	0.49883
Mexico City International Airport Benito Juárez	Mexico	Latin America	Public	0.53683
Minatitlán Airport	Mexico	Latin America	Private	0.49543
Mariano Escobedo International Airport	Mexico	Latin America	Private	0.45694
General Rodolfo Sánchez Taboada International airport	Mexico	Latin America	Private	1.00000
Gustavo Díaz Ordaz International Airport	Mexico	Latin America	Private	0.43979
Los Cabos International Airport	Mexico	Latin America	Private	0.88517
Ezeiza International Airport	Argentina	Latin America	Private	0.44994
Arturo Merino Benítez International Airport	Chile	Latin America	Private	0.45498
Juan Santamaría International Airport	Costa Rica	Latin America	Public	0.27843
Las Américas International Airport	Dominican Republic	Latin America	Private	0.38639
José Joaquín de Olmedo International Airport	Ecuador	Latin America	Private	0.84033
Mariscal Sucre International Airport	Ecuador	Latin America	Private	0.87379
Cheddi Jagan International Airport	Guyana	Latin America	Public	0.43403
La Mesa International Airport	Honduras	Latin America	Public	0.45810
Jorge Chávez International Airport	Peru	Latin America	Private	0.83416

4.3.1.2 Efficiency Scores from DEA Operational Model

Table 4.6 shows the operational efficiency scores for all 48 airports generated by running the DEA model using the CCR approach (input). The CCR model depicting overall efficiency (both technical and scale components of efficiency) found eight private and eleven public airports operating efficiently (a score of 1.0), and 29 inefficient airports (operating at less than 0.80 or 80 percent). Of these 29 inefficient airports, 21 were private and eight were public.

Table 4.6 DEA Operational Efficiency Scores

Name of Airport	Country	Region	Management	Score
VC Bird International Airport	Antigua and Barbuda	Caribbean	Public	0.36064
Queen Beatrix International Airport	Netherlands Antilles	Caribbean	Public	0.46802
Grand Bahama International Airport	Bahamas	Caribbean	Private	0.83968
Lynden Pindling International Airport	Bahamas	Caribbean	Private	0.65044
Grantley Adams International Airport	Barbados	Caribbean	Public	1.00000
Philip S. W. Goldson International Airport	Belize	Caribbean	Private	0.48923
Owen Roberts International Airport	Cayman Islands	Caribbean	Public	0.87430
Point Salines International Airport	Fort de France Martinique	Caribbean	Public	0.98940
Pointe-à-Pitre - Le Raizet Airport	Guadeloupe	Caribbean	Public	0.82916
Norman Manley International Airport	Jamaica West Indies	Caribbean	Private	0.38191
Sangster International Airport	Jamaica West Indies	Caribbean	Private	0.51465

Table 4.6 continued

Name of Airport	Country	Region	Management	Score
Princess Juliana International Airport	Netherland Antilles	Caribbean	Public	0.96525
Curacao International Airport	Netherland Antilles	Caribbean	Private	0.29081
Toussaint Louverture International Airport	Haiti	Caribbean	Public	0.48389
Robert. L. Bradshaw International Airport	St. Kitts and Nevis	Caribbean	Public	0.87498
Hewanorra International Airport	St. Lucia	Caribbean	Public	0.83896
George F. L. Charles Airport	St. Lucia	Caribbean	Public	0.35353
Piarco International Airport	Trinidad and Tobago	Caribbean	Public	0.51075
Providenciales and JAGS McCartney International Airports	Turks & Caicos	Caribbean	Private	0.34417
Brasília International Airport	Brazil	Latin America	Public	1.00000
Galeão International Airport	Brazil	Latin America	Public	1.00000
Guararapes International Airport	Brazil	Latin America	Public	0.50725
General Juan N. Álvarez International Airport	Mexico	Latin America	Private	1.00000
Guanajuato International Airport	Mexico	Latin America	Private	1.00000
Abraham González International Airport	Mexico	Latin America	Private	0.50978
Cancun International Airport	Mexico	Latin America	Private	1.00000
Roberto Fierro Villalobos International Airport	Mexico	Latin America	Private	0.46126
Cozumel International Airport	Mexico	Latin America	Private	0.48792
Guadalajara International Airport	Mexico	Latin America	Private	1.00000
General Ignacio L. Pesqueira International Airport	Mexico	Latin America	Private	0.50537

Table 4.6 continued

Name of Airport	Country	Region	Management	Score
Bahías de Huatulco International Airport	Mexico	Latin America	Private	0.39893
Manuel Márquez de León International Airport	Mexico	Latin America	Private	0.42903
Aeropuerto Nacional de Los Mochis	Mexico	Latin America	Private	0.44498
Mexico City International Airport Benito Juárez	Mexico	Latin America	Public	1.00000
Minatitlán Airport	Mexico	Latin America	Private	0.67766
Mariano Escobedo International Airport	Mexico	Latin America	Private	0.77616
General Rodolfo Sánchez Taboada International airport	Mexico	Latin America	Private	0.14152
Gustavo Díaz Ordaz International Airport	Mexico	Latin America	Private	0.76574
Los Cabos International Airport	Mexico	Latin America	Private	0.60449
Ezeiza International Airport	Argentina	Latin America	Private	0.73372
Arturo Merino Benítez International Airport	Chile	Latin America	Private	1.00000
Juan Santamaría International Airport	Costa Rica	Latin America	Public	0.94633
Las Américas International Airport	Dominican Republic	Latin America	Private	0.69196
José Joaquín de Olmedo International Airport	Ecuador	Latin America	Private	0.56404
Mariscal Sucre International Airport	Ecuador	Latin America	Private	1.00000
Cheddi Jagan International Airport	Guyana	Latin America	Public	0.11392
La Mesa International Airport	Honduras	Latin America	Public	0.45652
Jorge Chávez International Airport	Peru	Latin America	Private	1.00000

4.3.1.3 Efficiency Scores from DEA Financial and Operational Composite Model

Table 4.7 shows the financial and operational efficiency composite scores for all 48 airports generated by running the DEA model using the CCR approach (input). The CCR model depicting overall efficiency (both technical and scale components of efficiency) found 9 private and one public airports operating efficiently (a score of 1.0), and 38 inefficient airports (operating at less than 0.80 or 80 percent). Of these 38 inefficient airports, 18 were private and 20 were public.

Table 4.7 DEA Financial and Operational Composite Efficiency Scores

Name of Airport	Country	Region	Management	Score
VC Bird International Airport	Antigua and Barbuda	Caribbean	Public	0.481635633
Queen Beatrix International Airport	Netherlands Antilles	Caribbean	Public	0.462573977
Grand Bahama International Airport	Bahamas	Caribbean	Private	0.862354271
Lynden Pindling International Airport	Bahamas	Caribbean	Private	0.50681876
Grantley Adams International Airport	Barbados	Caribbean	Public	0.708998373
Philip S. W. Goldson International Airport	Belize	Caribbean	Private	0.441717789
Owen Roberts International Airport	Cayman Islands	Caribbean	Public	0.498287896
Point Salines International Airport	Fort de France Martinique	Caribbean	Public	0.589447329
Pointe-à-Pitre - Le Raizet Airport	Guadeloupe	Caribbean	Public	0.478082907
Norman Manley International Airport	Jamaica West Indies	Caribbean	Private	0.392752072

Table 4.7 continued

Name of Airport	Country	Region	Management	Score
Sangster International Airport	Jamaica West Indies	Caribbean	Private	0.451000291
Princess Juliana International Airport	Netherland Antilles	Caribbean	Public	0.982627473
Curacao International Airport	Netherland Antilles	Caribbean	Private	0.35877469
Toussaint Louverture International Airport	Haiti	Caribbean	Public	0.491750783
Robert. L. Bradshaw International Airport	St. Kitts and Nevis	Caribbean	Public	0.458163368
Hewanorra International Airport	St. Lucia	Caribbean	Public	0.324839652
George F. L. Charles Airport	St. Lucia	Caribbean	Public	0.345595944
Piarco International Airport	Trinidad and Tobago	Caribbean	Public	0.435699128
Providenciales and JAGS McCartney International Airports	Turks & Caicos	Caribbean	Private	0.546258945
Brasília International Airport	Brazil	Latin America	Public	0.68940911
Galeão International Airport	Brazil	Latin America	Public	0.789625786
Guararapes International Airport	Brazil	Latin America	Public	0.484713014
General Juan N. Álvarez International Airport	Mexico	Latin America	Private	1
Guanajuato International Airport	Mexico	Latin America	Private	0.805281083
Abraham González International Airport	Mexico	Latin America	Private	0.486862954

Table 4.7 continued

Name of Airport	Country	Region	Management	Score
Cancun International Airport	Mexico	Latin America	Private	1
Roberto Fierro Villalobos International Airport	Mexico	Latin America	Private	0.436122431
Cozumel International Airport	Mexico	Latin America	Private	0.835691916
Guadalajara International Airport	Mexico	Latin America	Private	0.868147401
General Ignacio L. Pesqueira International Airport	Mexico	Latin America	Private	0.529569423
Bahías de Huatulco International Airport	Mexico	Latin America	Private	0.485392351
Manuel Márquez de León International Airport	Mexico	Latin America	Private	0.498596409
Aeropuerto Nacional de Los Mochis	Mexico	Latin America	Private	0.471903124
Mexico City International Airport Benito Juárez	Mexico	Latin America	Public	0.768413357
Minatitlán Airport	Mexico	Latin America	Private	0.586548755
Mariano Escobedo International Airport	Mexico	Latin America	Private	0.816551921
General Rodolfo Sánchez Taboada International airport	Mexico	Latin America	Private	0.570761403
Gustavo Díaz Ordaz International Airport	Mexico	Latin America	Private	0.602767666
Los Cabos International Airport	Mexico	Latin America	Private	0.544829834
Ezeiza International Airport	Argentina	Latin America	Private	0.591828276

Table 4.7 continued

Name of Airport	Country	Region	Management	Score
Arturo Merino Benítez International Airport	Chile	Latin America	Private	0.827490469
Juan Santamaría International Airport	Costa Rica	Latin America	Public	0.612377223
Las Américas International Airport	Dominican Republic	Latin America	Private	0.939175961
José Joaquín de Olmedo International Airport	Ecuador	Latin America	Private	0.502186489
Mariscal Sucre International Airport	Ecuador	Latin America	Private	0.736893978
Cheddi Jagan International Airport	Guyana	Latin America	Public	0.273973663
La Mesa International Airport	Honduras	Latin America	Public	0.457310783
Jorge Chávez International Airport	Peru	Latin America	Private	0.867082354

4.4 Tobit Regression

Tobit regression was used to identify the factors associated with variation in the efficiency scores that were derived through the three DEA models (the financial efficiency, operational efficiency, and the composite financial plus operational efficiency model). Several regression procedures were run for each model to test the effects of the explanatory variables while controlling for the effects of region (Latin America or Caribbean) and whether airports are publicly or privately managed.

Since DEA efficiency scores consist of both discrete and continuous parts (efficient airports have a score of 1 while inefficient airports have scores of less than 1), standard multiple regression is likely to produce biased estimates. A censored

regression model like Tobit is recommended since it can best conceptualize the nature of the efficiency scores derived from DEA. Chilingirian (1995) notes, that a censored Tobit model fits a line which allows for the possibility of hypothetical scores greater than 1. The Tobit output can be interpreted as adjusted efficiency scores based on a set of explanatory variables strongly associated with efficiency. For computational purposes inherent to Tobit regression, the DEA efficiency scores were normalized to have a censoring point at zero. That is, the efficiency scores were transformed so that fully efficient airports were constrained at zero while the inefficient airports had scores greater than zero. The formula for the transformation is: Efficiency score = $(1/\text{DEA score}) - 1$.

This transformation of the dependent variable also reversed the signs of the coefficients in the regression. Thus a negative coefficient will now indicate a positive association with efficiency while a positive coefficient will mean negative association with efficiency. The Tobit coefficients are interpreted similarly to that of OLS regression (Chilingirian, 1995; Scheraga, 2004). Significance of the equation is determined by the log likelihood function and has a chi-square distribution with degrees of freedom equal to the number of explanatory variables. The variables used in the Tobit regression are shown in Table 4.8. The independent variables included are (1) region (Latin America or Caribbean); (2) private-public airport; (3) privatization; (4) governance; (5) strategic human resources management; and (5) performance-based budgeting. The dependent variables used in the regression are the transformed DEA efficiency scores.

Table 4.8 Specification of Variables in Tobit Analysis

Dummy Variables	Variable Code	Measurement
Region	REGION	Latin America or Caribbean; 1=Latin America; 0=Caribbean
Private-Public	PRIV-PUB	Private or Public Airports; 1=Private; 0=Public
Independent Variables		
Privatization	PRIV	Interval Scale
Organiznl Governance	GOVN	Interval Scale
Strategic HR Mgt	SHRM	Interval Scale
Perform-Based Budgeting	PBB	Interval Scale

4.5 Hypotheses

4.5.1 Hypothesis One: Financial Efficiency Model

Hypothesis one states that privatized airports are more financially efficient than government owned airports. The findings from the Tobit analysis are shown in Table 4.9. As Table 4.9 shows that the model has a chi-square value of -65.98 with 6 df and is significant at the $p < .05$. The independent variables, such as privatization (PRIV) and private-public airports were significant at the 0.10 level. Region, organizational governance (GOVN) and strategic human resources management (SHRM) were significant at the 0.05 level. The performance-based-budgeting variable was not significant. The results confirmed hypothesis one, that privatized airports are more financially efficient than government owned airports. The variables depicting

privatization (privz1a) characteristics and the dummy variable private-public airports as shown in the same table were found to have a significant influence on financial efficiency.

Table 4.9 Results from Tobit Regression Analysis - Financial Model

Variables	Tobit Regression for DEA Financial Model With All Variables	
	Coefficient	T-Ratio
Constant	-0.0144	2.01
Dummy Variables		
Region	0.2282	4.82**
PRIV-PUB	0.0784	2.17*
Independent Variables		
PRIV	-0.0279	-1.97*
GOVN	-00724	-4.54**
SHRM	-0.1537	-2.54**
PBB	-0.0098	-0.0384
	Chi2 = -65.98** df = 6	

Note: * $p < .10$, ** $p < .05$, *** $p < .01$, two tailed test

4.5.2 Hypothesis Two: Operational Efficiency Model

Hypothesis two states that privatized airports are more operationally efficient than government owned airports. Table 4.10 shows the results of the Tobit regression on the operational efficiency of the airports. As with the previous model, the negative signs

of the coefficients indicate enhanced efficiency whereas positive signs mean that efficiency is detracted.

The findings from the Tobit analysis are shown in Table 4.10. As Table 4.10 shows, the model has a chi-square value of -66.08 with 6 degrees of freedom (df) and is significant ($p < .05$) in explaining the model. The privatization and private-public independent variables were significant at the 0.10 level. Region, governance (GOVN), and strategic human resources management (SHRM) were significant at the 0.05 level. The performance-based-budgeting (PBB) variable was not significant. The results confirmed the hypothesis that privatized airports are more operationally efficient than government owned airports. The variable depicting privatization (privz1a) characteristics and whether the airports were publicly or privately managed were found to have a significant influence on operational efficiency.

Table 4.10 Results from Tobit Regression Analysis - Operational Model

Variables	Tobit Regression for DEA Operational Model With All Variables	
	Coefficient	T-Ratio
Constant	-0.1740	2.35*
Dummy Variables		
Region	0.2355	5.09**
PRIV-PUB	0.0550	2.05*
Independent Variables		
PRIV	-0.0311	-1.97*
GOVN	-0.0679	-3.86**
SHRM	-0.1461	-2.47**
PBB	-0.0546	-0.552
	Chi2 = -66.08** df = 6	

Note: * $p < .10$, ** $p < .05$, *** $p < .01$, two tailed test

4.5.3 Hypothesis Three: Financial and Operational Composite Efficiency Model

Hypothesis three states that privatized airports are more financially and operationally efficient than government owned airports. Table 4.11 shows the results of the Tobit regression on the financial and operational efficiency of the airports. As with the previous model, the negative signs of the coefficients indicate enhanced efficiency whereas positive signs mean that efficiency is detracted.

Table 4.11 Results from Tobit Regression Analysis – Financial and Operational Model

Variables	Tobit Regression for DEA Financial and Operational Model With All Variables	
	Coefficient	T-Ratio
Constant	-0.1187	2.15*
Dummy Variables		
Region	0.2255	4.96**
PRIV-PUB	0.0550	2.07*
Independent Variables		
PRIV	-0.0511	-2.18*
GOVN	-0.0774	-5.08***
SHRM	-0.1706	-3.30**
PBB	-0.0263	-1.06
	Chi2 = -66.27** df = 6	

Note: * $p < .10$, ** $p < .05$, *** $p < .01$, two tailed test

The findings from the Tobit analysis are shown in Table 4.11. As Table 4.11 shows, the model has a chi-square value of -67.27 with 6 df and is significant ($p < .05$) in explaining the model. The privatization and private-public independent variables were significant at the 0.10 level. Region, organizational governance (GOVN), and strategic human resources management (SHRM) were significant at the 0.05 level. The results confirmed the hypothesis that privatized airports are more financially and operationally efficient than government owned airports. The variable depicting privatization (PRIV) characteristics and whether the airports were publicly or privately managed were found to have a significant influence on financial and operational efficiency.

4.5.4 Hypothesis Four: The Developing Nations Reform Model

Hypothesis 4 assesses the nature of the relationship between the financial and operational efficiency variables and four independent variables: (1) Privatization; (2) organizational governance; (3) strategic human resource management; and (4) performance-based budgeting. The findings from the Tobit analysis shown in Tables 4.9, 4.10 and 4.11 indicate that privatization (PRIV) organizational governance (GOVN) and strategic human resources management (SHRM) are significant across all three Tobit regression models. Although performance-based budgeting was not significant in any of the models, the findings largely support hypothesis four that privatized airports practicing organizational governance, strategic human resource management, and performance-based budgeting are financially and operationally more efficient than government owned airports.

In summary, airport efficiency whether it was measured as financial efficiency, operational efficiency, or the composite efficiency criterion made up of both financial and operation efficiency—was found to be influenced mainly by whether or not the airport was publicly or privately managed, whether it was privatized, and whether human resource management and organizational governance were used. Thus, the findings support the overall hypothesis that privatized airports whose managers use organizational governance and human resource management techniques are more likely to be operationally and financially efficiency than publicly run airports.

4.6 Analyzing Factors Associated with Efficiency — OLS Regressions Analysis

4.6.1 Hypothesis One: Financial Efficiency

As a way of corroborating and validating the findings produced by the Tobit regression analyses, the same models used in the Tobit regression were analyzed using OLS regression statistics. The dependent variable for the purpose of OLS regression was constructed from the survey data set and regressed on the same independent variables used in the Tobit analysis. Since these estimates do not have a censored distribution, it is possible to do the analysis using OLS. Unlike the Tobit regression analysis, the signs of the coefficients of the OLS regression can be interpreted as shown in the calculation.

The financial efficiency model in this research compares airports based on financial inputs and outputs. The multivariate analysis uses question number four from the survey questionnaire as the dependent variable for the OLS regression (See Appendix A).

The OLS regression results for the financial efficiency model are shown in Table 4.12. Table 4.12 shows the results from the full model of which the adjusted R^2 for the full model is .473 and the F statistic had a value of 29.987 and was significant at level 0.05. The independent variables (region, private-public, PRIV and PBB) depicting financial efficiency were found to be significant. The linear regressions supported hypothesis one: privatized airports are more financially efficient than government owned airports.

Table 4.12 Results from OLS Regression Analysis Financial Efficiency Model

Variables	OLS Regression for DEA Financial Efficiency Model With All Variables	
	Coefficient	T-Ratio
Constant	1.018	.983
Dummy Variables		
Region	1.219	3.96**
PRIV-PUB	1.466	8.94***
Independent Variables		
PRIV	.079	2.70**
PBB	.188	2.25*
	F = 29.987**	

Note: * $p < .10$, ** $p < .05$, *** $p < .01$, two tailed test

4.6.2 Hypothesis Two: Operational Efficiency

The operational efficiency model is a multivariate analysis that uses a composite score of question number three and four from the survey questionnaire as the dependent variable for the OLS regression (see Appendix A).

The OLS regression results for the operational efficiency model are shown in Table 4.13. Table 4.13 shows the results from the full model of which the adjusted R² for the full model is .294 and the F statistic had a value of 14.467 and was significant at level 0.05. The independent variables (region, private-public, GOVN and SHRM) depicting operational efficiency were found to be significant. The linear regressions supported hypothesis two: privatized airports are more operationally efficient than government owned airports.

Table 4.13 Results from OLS Regression Analysis Operational Efficiency Model

Variables	OLS Regression for DEA Operational Efficiency Model With All Variables	
	Coefficient	T-Ratio
Constant	1.570	.984
Dummy Variables		
Region	1.20	2.96**
PRIV-PUB	1.154	2.90**
Independent Variables		
GOVN	.392	5.34**
SHRM	.394	2.13*
	F = 14.467**	

Note: * $p < .10$, ** $p < .05$, *** $p < .01$, two tailed test

4.6.3 Hypothesis Three: Financial and Operational Efficiency

The financial and operational efficiency model in this research compares airports based on financial and operational inputs and outputs. The multivariate analysis uses a composite score of question number three and four from the survey questionnaire as the dependent variable for the OLS regression (see Appendix A).

The OLS regression results for the financial and operational efficiency model are shown in Table 4.14. Table 4.14 shows the results from the full model of which the adjusted R^2 for the full model is .467 and the F statistic had a value of 18.710 and was significant at level 0.05. The independent variables (region, private-public, GOVN and PRIV) depicting financial and operational efficiency were found to be significant. The linear regressions supported hypothesis three: privatized airports are more financially and operationally efficient than government owned airports.

Table 4.14 Results OLS Regression Financial and Operational Efficiency Model

Variables	OLS Regression for DEA Financial and Operational Efficiency Model With All Variables	
	Coefficient	T-Ratio
Constant	6.108	5.022***
Dummy Variables		
Region	2.247	5.96***
PRIV-PUB	2.711	9.042***
Independent Variables		
GOVN	.392	5.34**
PRIV	.594	4.21***
	F = 18.710**	

Note: * $p < .10$, ** $p < .05$, *** $p < .01$, two tailed test

4.6.4 Hypothesis Four: The Developing Nations Reform Model

Hypothesis four states airports that exhibit the four dimensions of the proposed DNRM (i.e. PRIV, GOVN, SHRM and PBB) are more financially and operationally efficient than government owned airports. The findings from the OLS analysis shown in Tables 4.12, 4.13 and 4.14 indicate that privatization (PRIV), organizational governance (GOVN) and strategic human resources management (SHRM) are significant across all two regression models. Although performance-based budgeting was only significant in financial efficiency, the findings largely support hypothesis four that privatized airports practicing organizational governance, strategic human resource management, and performance-based budgeting are financially and operationally more efficient than government owned airports. These results indicate that the components (PRIV, GOV, SHRM and PBB) of the reform model are not only supported by the model but also indicate that the components are instrumental in the effective performance of airport public enterprises.

Because the private-public and region variables were found to be significant in every model regardless of whether the equations were run using Tobit or OLS regression, the region where an airport is located (Caribbean or Latin America) and whether an airport is publicly or privately run seem to consistently explain financial and operational efficiency of airports in this study. Furthermore, the findings lend strong support to the argument of this study that there is a relationship between the components of the developing nation's reform model and effective management performance. This is even more apparent given that most of the components of the model were found to be

significant and that these results were corroborated by whether the equations were analyzed by the use of OLS regression or Tobit regression, a process also known as methodological triangulation.

4.7 Qualitative Method: One-on-One Interviews

The interview protocol used asked the participants to respond to several questions regarding to the purpose of this study. The questions were stated in an objective and neutral fashion to avoid leading the participants to a particular opinion. The questions specifically asked respondents to focus on their airport in answering the questions about privatization and airport governance. To strengthen the reliability of the questions, several terms were defined for each participant before beginning the interview session.

4.7.1 Question One

Do you believe that Airport privatization is a good policy for developing nations of the Caribbean?

Six participants responded in agreement that they believed airport privatization is a good policy for developing nations in Latin America and the Caribbean. The countries of the regions are relatively new as a jurisdiction, and the infrastructure is still in the developing stage. What is lacking in many of these countries is access to capital markets for funding for the major projects as it relates to airports and seaports. Most notably, one of the participants stated, “given the background of some of the developing countries in the Caribbean where funds are hard to come by for airport improvements and expansion, privatization is a good thing”. Of the six participants, two

were appointed officials of the airport authority, two were airport terminal managers, one was a human resources manager, and one was on the airport board. In sum, the responses to this question seemed to be consistent across the board. All four participants contend that airport privatization is a good policy for developing countries because it affords countries the opportunity to improve one of the main public enterprises that can deliver growth and sustainability. However, several of the participants suggested that there are many strengths and weaknesses of airport privatization. One official began the answer to this question in the following manner, “Privatization is not necessarily good or bad. It all depends on how effectively it is implemented. There are examples of success and failure in all sectors that choose to privatize. However, after saying that a key strength of airport privatization, especially in Latin American and the Caribbean, is that it brings with it clear accountability for results, clear criteria in contracts, and clear public objectives”. A few others stated that one of the strengths is that airport privatization promotes open and fair competition. Privatization encourages fairness, which should be an overriding goal, and a fair process is one that is honest and transparent.

Finally, the six participants agreed that the overarching fear or weakness with airport privatization is that the privatization processes have the potential to result in reductions in workforce. This factor is often met with resistance from politicians because they depend on their constituencies to get re-elected to office. In sum, one of the officials stated his position succinctly: “the strength is also the weakness in that a facility that is of strategic importance to a country like an airport, that value changes

depending on who you are talking to. If you're talking to a government entity, they don't look at it as a business. They look at it as a service.”

4.7.2 Question Two

Would you say that good airport governance should emphasize skills and capacity enhancement of its employees?

The six participants gave a strong “yes” because they believe that an airport’s operation is often defined by its ownership, but it is the governance structure that determines how an airport is managed, operated, and developed. At the heart of airport governance are the employees at all levels of the organization who provide services to citizens on a daily basis. At one of the airports, as part of their airport master plan, management is in the first phase of implementing a succession planning program for the first time. The program is focused directly on human resource capacity development and the identification of employees who can take over key positions. One official suggested that airport governance does not necessarily emphasize skills and that capacity enhancement is part of the governance process. Capacity enhancement is good for careers, but it is not above the other important factors of governance at an airport, namely security. In summary, most participants concurred that airport governance should emphasize skills and capacity enhancement of its employees. The human resources manager for one of the airports stated that “employee training and development at airports in Latin America and the Caribbean will go a long way to increasing job satisfaction, morale among employees, efficiencies in processes, resulting in financial gain and capacity to adopt new technologies and methods”. The

qualitative method of face-to face interviews support the quantitative findings that airport privatization enhances financial and operational efficiency. Many of the participants indicated that Airport privatization is a good policy for developing nations of Latin America and the Caribbean. Many of them expressed that there are many strengths and weaknesses of airport privatization, such as more competitiveness, improved efficiencies. The majority of the participants indicated that one of the major weaknesses of privatization is the potential loss of jobs. Another perspective that lends credibility to the empirical findings is the responses to the airport governance question. The overwhelming response supports the empirical finding that organizational governance in the form of training and other capacity development strategies for employees improves financial and operational efficiency.

CHAPTER 5

DISCUSSION

5.1 Introduction

This study confirms that airport privatization does matter in achieving financial and operational efficiency. This study contradicts the view that public management reform cannot engage market and democratic values. This chapter provides an overview of the most significant findings of the study. First, the hypotheses are discussed in the order they are proposed. Second, the theoretical arguments, empirical and qualitative findings are discussed with reference to the objectives of this study. Next, the methodological contributions, implications of the study on current theory and practice, are identified. Finally, this chapter includes a brief discussion of the study's limitations, and recommendations for further research are proposed.

5.2 Restatement of Hypotheses

This dissertation explored the impact of privatization on the financial and operational efficiency of airports in LACDNs. Four hypotheses were advanced to test the impact of privatization, organizational governance, strategic human resources management and performance based-budgeting of the reform model on financial and operational efficiency.

5.2.1 Hypothesis One

It was hypothesized that privatized airports are not financially more efficient than government managed airports. The privatization (PRIV) variable used in both Tobit and the OLS regression were found to contribute to the financial efficiency of airports in the region. Both sets of coefficients, OLS and Tobit, suggest that airports are more likely to improve their financial performance as their efforts to privatize increase. In general terms, these results suggest that private airports are more financially efficient than government managed airports in this region.

5.2.2 Hypothesis Two

It was hypothesized that privatized airports are not operationally more efficient than government managed airports. In the Tobit analysis, privatization was found to significantly contribute to operational efficiency of the airports in the study. These findings were corroborated using OLS regression. In addition, organizational governance and strategic human resource management were also found to contribute to the operational efficiency of the airports included in the study. In general terms, these results suggest that private airports are more operationally efficient than government managed airports in this region when they focus on the components of organizational governance and strategic human resources.

5.2.3 Hypothesis Three

It was hypothesized that privatized airports are not both financially and operationally more efficient than government managed airports. The privatization variable used in Tobit and the OLS regressions were found to contribute to both

financial and operational efficiency of airports in the region. Based on these results, private airports are more likely to be financially and operationally efficient than government managed airports in this region.

5.2.4 Hypothesis Four

It was hypothesized that airports exhibiting the four dimensions of the proposed DNRM (i.e. PRIV, GOVN, SHRM and PBB) are not more financially and operationally efficient than government owned airports. The organizational governance, strategic human resource management, and performance-based budgeting variables used in both Tobit and the OLS regressions were found to contribute to the financial and operational efficiency of airports in the region. In general terms, these results suggest that there is a relationship between the reform model components and financial, operational, and effective management performance.

5.3 Theoretical Arguments and Empirical Evidence

The last thirty years has cast a tremendous amount of scrutiny on public enterprises in developing countries because most governments turned to the public sector as the vehicle of social and economic progress. This dependence on the public sector has stretched managerial abilities to their limits, resulting in the poor performance and depletion of the national budget. Thus, governments have initiated public enterprise reform to improve the way the public sector is managed and organized in order to meet the increased level of competition in the global environment. The theoretical perspectives that inform many of these problems have been discussed

through the public-private management debate and this study's proposed public management reform model for developing nations.

What should be done to achieve efficiency and effectiveness? This study argues that the answer to that question centers on the debate about the public versus private management. This debate originated with Wilson's (1887) statement that "it is the objective of the study of administration to discover what government can properly and successfully do; and to do these things efficiently and with the least cost or energy" (p. 1). The theoretical arguments about the significance of public versus private management remain inconclusive because some practitioners and theorists believe there are no differences, and though there are similarities, the differences are really more important (Allison, 1979; Murray, 1975; Rainey et al., 1976).

Against the background of a public sector that is overextended, lacks resources, is weak in decision-making capacity, mismanages staff, lacks accountability, and lacks performance measures, pressure has been exerted on countries to reformulate their framework to achieve efficient use of resources. This study proposes a solution to the public versus private management debate by proposing a model that can bridge the gap. A public management reform model that argues for effective management of public enterprises in developing countries should consist of privatization, organizational governance, strategic human resource management, and performance-based budgeting. This study also argues that the privatization dimension of the model is critical to the development and sustainability of the other dimensions. This model is proposed as an example that market and democratic values are compatible only when market values,

such as privatization, operate on a platform of organizational governance. Thus, the goal is: (1) to focus on the privatization dimension of the model to determine if empirical evidence indicates privatization influences airport operational and financial efficiency; and (2) to examine to what extent airports in LACDNs exhibit the characteristics of the dimensions in the public management reform model.

The hypotheses were tested in a two-stage process. In the first stage, archival data related to the financial and operational efficiency of 48 airports in the region were analyzed using Data Envelopment Analysis (DEA). The relative efficiency scores obtained from DEA were transformed and regressed against a set of independent variables—the four components of the proposed developing nations reform model: privatization, organizational governance, strategic human resources management, and performance-based budgeting—by using Tobit estimation. To corroborate the findings, the same hypotheses were tested a second time with data collected by a Web-based survey of 168 airport senior executives and mid-level managerial employees using OLS multivariate regression estimation.

The empirical evidence produced by all methods used in this study appears to support the research that privatization influences airport operational and financial efficiency. The Tobit and OLS regression analysis also showed that airports that were more operationally efficient were more likely to be significantly related to the organizational governance and strategic human resources management component of the reform model. This might be because they are more likely to have a participatory decision-making process, training, and a good working environment.

It has been hypothesized in the study that private airports are more financially efficient. The Tobit and OLS regression analysis showed that financial efficiency is mainly influenced by factors related to region, private or public airports, privatization, organizational governance and strategic human resources management since all the variables were found to be significant. Airports that were financially and operationally efficient were likely to exhibit characteristics of the privatization and performance-based budgeting component of the reform model. This is because they are more likely to have a participatory decision-making process, airport master plan, and performance indicators.

One of the major findings of this study is that the privatized airports showed better financial and operational efficiency than government managed airports. This finding is supported by various studies, which concluded that privatized airports exhibit more operational and financial efficiency. For example, Parker (1999) analyzed performance of British Airport Authority (BAA) before and after privatization and found that the idea of future privatization may have improved performance and that since privatization the government has retained a healthy share in BAA lowering pressures on management to raise performance by reducing the threat of a takeover. Vasigh and Hariran (2003) found that the empirical results regarding operational efficiency reflect the statistically different ratios for government versus privatized airports. Countries that have privatized airports generally impose some form of price regulation or landing fees. In the UK, for instance, a form of market-based pricing is employed by permitting airports to charge airlines higher landing fees during peak

traffic times. According to Vasigh and Hariran (2003), privatization may not be successful at guaranteeing that citizens get the services they require from government at lower costs. Privatized airports may operate financially more efficient because they often charge higher fees to airlines, for example, revenue per passenger and revenue per landing than some non-privatized airports. Another factor, labor productivity growth at private airports is evidence of their ability. However, private airports' monopoly power could also be a source of increase in revenue and profit. Profitability is the result of the relationship between the regulatory controls, choice of market to serve, market power, and productivity (Kapur, 1995, Vasigh and Hariran, 2003).

The previous chapter presented the qualitative data gathered from the interview of six participants among the executive and management staff at Lynden Pindling International Airport, Owen Roberts International Airport, Cancun International Airport, and Las Mesa International Airport. The interviews examined the views of each participant on airport privatization as it relates to policy, airport overall efficient performance and airport governance as it concerns skills and capacity development in LACDNs (see Appendix G). A major finding of the interviews at privately managed airports (Lynden Pindling International Airport and Cancun International Airport) indicated that the participants generally perceived that airport privatization is a good policy and can improve overall efficiency. Even the participants at the public airports (Owen Roberts International Airport and Las Mesa International Airport) believed that airport privatization is a good policy and would result in airport overall efficiency. In

summary, these results help to support the empirical evidence across the hypotheses that privatization is significant in explaining overall efficiency at these airports.

A unanimous finding of the interviews on airport governance indicated that the participants generally thought that skills and capacity development can enhance employees. The interviewees indicated that training and development and a fair process for promotions could have a positive impact on job satisfaction, motivation, productivity and participation in decision-making. Thus, these results affirm the empirical evidence of hypothesis two and four that governance is significant in explaining overall efficiency at these airports.

5.4 Methodological Contributions

This study used Data Envelopment Analysis, Tobit and Ordinary Least Squares (OLS) technique to create efficiency models of airports in LACDNs in order to understand their performance. It is expected that this study will fill a void in the knowledge of how these airports perform and help policy makers obtain a better perception of how their airports perform relative to other airports in the region as they relate to financial and operational efficiency. It is also anticipated that the findings from this study will help policy makers in airport management to consider formulating new policies or suggest changes in existing policies. This can eventually foster changes in the way airports are organized and managerial procedures are practiced in order to improve their performances.

This study validates the applicability of DEA, Tobit and OLS techniques in analyzing efficiency of airports. These techniques have been successfully used as a tool

to measure efficiency in various entities. The successful application of the techniques in this study demonstrates that researchers and policy makers will find DEA, Tobit and OLS useful methods for analyzing airports in the context of a developing country when data can be challenging to obtain. It showed that a study with minimal input output information can provide some useful results that can be helpful to managers at private and public airports to deal with issues having national repercussions.

The methodological contribution of this study is significant because the literature does not address airport studies in developing nations, especially absent in the literature are studies for Latin American and the Caribbean airports. It is expected that this study will pave the way for future airport efficiency research using DEA, Tobit and OLS. Because DEA, Tobit and OLS were better able to explain the variations in efficiency, it is expected that these statistical techniques can supplement other forms of efficiency analysis, namely, ratio analysis and even cost analysis. It is also recommended that the Ministries of Aviation and Transport, Airport Authorities and, government agencies related to aviation use these techniques to evaluate and monitor the performance of airports in improving overall efficiency by identifying where airports are inefficient and aid resource allocation decisions.

One major contribution of this study is the proposed public management reform model that will assist airport officials in identifying which components (privatization, organizational governance, strategic human resources and performance-based budgeting) need to be implemented in order to achieve effective management performance. What makes this model especially important is that it is empirically tested

and shows that the components of the model are significant in explaining their relationship to financial and operational efficiency. With the dissemination of these results, it is expected that it can create awareness among airport managers as to how they can make tangible gains by addressing various issues that are within their means. Since this study identifies the factors that influence financial and operational efficiency (privatization, organizational governance, strategic human resources and performance-based budgeting) these concepts will help managers to perform better. The findings from this study can be helpful to airport managers to understand how the components of the model impacts efficiency. This will provide them with insights how to optimize resource utilization within the airport for efficiency gains.

5.5 Implication of the Study for Current Theory

The findings of the study challenge the assumptions of the New Public Management model (NPM) and suggest a number of interesting implications for current theory. The proponents of NPM suggest that traditional administration is too inefficient and unresponsive. NPM has been presented in terms of five tenets: (1) providing quality services that citizens can value; (2) encouraging managerial autonomy; (3) measuring and rewarding individual performance; (4) providing technological resources for better performance; and (5) understanding exactly which public services should be provided by the public or private sector. Consequently, many developing countries have these tenets as a means to improve the delivery of public services. The study argues that NPM lacks the important feature of democratic accountability in its assumptions. However, the organizational governance component of the Developing

Nations Reform Model (DNRM) meshes well with democratic accountability. The DNRM recognizes that democratic accountability cannot be compromised because it is instrumental in organizing the executive branch of government. More importantly, it supports the idea that if a public management reform model does not ensure accountability to citizens, then by its very nature it is objectionable.

The study challenges the premise that public management is moving towards an accepted and universality applicable management reform theory and practice called NPM. This study raises the consideration that NPM is ill-suited as a practical approach on how developing countries can overcome public management deficiencies. For that reason, the greater the inadequacies in management practices, the more likely there lacks institutional capacity to implement NPM reform initiatives.

5.6 Implication of the Study for Professional Practice

The implications of these findings for professional practice provide public and airport managers with a model that can assist them in improving the management and organization of the delivery of services in public enterprises. The examples of Cancun International Airport and Lynden Pindling International Airport demonstrate that successful airport privatization is possible in developing Latin American and Caribbean nations. Airport privatization is a very complex phenomenon, in which a combination of different forms pursues a variety of goals. One can see that different forms of privatization reflect priorities (or preference ordering) among many goals that privatization policies generally pursue. Thus, the choice of a particular option is usually decided by the relative importance of the privatization endeavor that such an option maximizes. What do these

privatization findings mean for policy makers in Latin America and the Caribbean? One of the findings is the favorable and positive outlook of airport privatization policy. Although this policy was effectively implemented only in the early 1980s, its impact has been quite exceptional in the region. Privatization has also enabled internal management of these public enterprises to institute changes which may not have been undertaken if these agencies were still under government supervision.

5.7 Limitations

There are a few limitations to the study that require mentioning. These can be divided into: (a) issues related to the use of DEA technique as a measure of efficiency; and (b) issues related to data availability and analysis.

5.7.1 Limitations Pertaining to DEA Technique (Data Accuracy)

DEA results can be very vulnerable to inaccurate data. According to Thanassoulis (2001), if the data used in the analysis is obtained from a secondary source and not by the direct supervision of this study, the results from DEA analysis are only as good as the quality of data itself.

5.7.2 Limitations of Data Availability and Analysis

5.7.2.1 Generalizability

This study cannot claim generalizability beyond the analysis of these airports in the study because of the absence of changes in the environmental settings. The cross-sectional nature of data indicates that it does not establish a steady pattern over the years and as a result cannot establish external validity of the DEA findings.

5.7.2.2 Dated Information

The archival data used in this study are from 2006 indicating that the findings from this analysis may not be able to take into consideration current realities and changes occurred in recent years. Although no significant policy changes have taken place during this period that can have significant bearing on the findings, the data does not cover the increased aptitude for improved technology and its implication on efficiency.

5.8 Recommendations for Future Research

This research pioneers the work on the efficiency of airports operating in Latin America and the Caribbean. It opens up new opportunities for aviation researchers and practitioners to better understand the relation between inputs and outputs of airport operations. There are several potential extensions to this research that could be conducted in the future. Some of them are suggested here.

5.8.1 Consideration of Comprehensive Input and Output Measures

An attempt may be made to collect other input and output measures and take them into consideration for assessing the productivity of airports. In fact, one may want to see how other capital inputs, such as number of gates, terminal area, and apron area, could impact the productivity of airports. Financial inputs are also important for airport operations. Environmental factors (e.g., population density, accessibility, and market condition) also have a significant impact on traffic volume which, in turn, affects productivity of airport operations.

5.8.2 Better Understanding of Factors Affecting Productive Efficiency

Many studies have focused on assessing productivity, but relatively few paid attention to the development of prediction models. More research effort may be put forth toward the development of casual models for explaining variation in airport productivity. Such models will enable the managers and policy makers to better understand factors that can enhance financial and operational efficiency. In this area, one may want to investigate further the effects of organizational governance, strategic human resource management and performance-based budgeting at airports in Latin America and the Caribbean.

APPENDIX A

AIRPORT MANAGEMENT SURVEY
ENGLISH VERSION

Airport Management Survey
English Version

1. Is your airport privately managed?

Yes

No

2. How would you rate your airports ability to provide customer-focused services?

1	2	3	4	5	6	7	8	9	10
Very Low									Very High

3. Operational performance at some airports is poor, while others display high levels of performance. How would you rate your airports operational performance?

1	2	3	4	5	6	7	8	9	10
Very Low									Very High

4. Some airports exhibit major financial losses each year while others deliver financial profits each year. How would you rate your airport's financial performance?

1	2	3	4	5	6	7	8	9	10
Very Low									Very High

5. At some airports, decision-making is centralized (all decisions are made at the top of the organization) while other airport's management and employees participate in the decision-making process. How would you rate the level of participation between management and employees in the decision-making process at your Airport?

1	2	3	4	5	6	7	8	9	10
Very Low									Very High

6. To what extent do you agree with the following statements:

1) Good governance (the process by which decisions are made and implemented) involves everyone in the organization knowing what their roles are.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

2) Good governance (the process by which decisions are made and implemented) involves everyone in the organization knowing what their functions are.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

3) Professional development of employees results in effective management at the airport.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

4) Advancement of employees results in effective management at the airport.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

7. At some airports management and employees do not trust each other while at other airports management and employees have a lot of trust for each other. How would you rate the trust level between management and employees at your airport?

1	2	3	4	5	6	7	8	9	10
Very Low									Very High

8. At some airports employees' exhibit high levels of productivity while at other airports the opposite is true. How would you rate the level of employee productivity at your airport?

1	2	3	4	5	6	7	8	9	10
Very Low									Very High

13. For the purposes of this survey, an airport master (strategic) plan is a strategic plan used to prepare and support modernization of existing airports and creation of new airports, regardless of size, complexity, or role. To what extent do you agree with the following statement? Airport management has developed an airport master (strategic) plan for your airport.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

14. For the purposes of this survey, performance measures are indicators used to determine whether intended service targets were achieved. To what extent do you agree with the following statement? Airport management has developed performance measures for your airport.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

15. For the purposes of this survey, performance-based budgeting is a budgetary process that requires the use of strategic planning and performance measures to assess government effectiveness in allocating resources. To what extent do you agree with the following statement? Developing a performance-based budgeting system in the future is highly probable.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

16. At some airports administrators use strategic planning and performance measures to improve the budgetary allocation of funds, while at others no strategic plan or measures are used. How would you rate the level of your airport's utilization of strategic planning and performance measures in improving the budgetary process?

1	2	3	4	5	6	7	8	9	10
Very Low									Very High

17. What is your job title? _____

18. What is your sex?

Male Female

19. Which of these best describes you?

White

Black

Hispanic/Latino

American Indian

Asian or Pacific Islander

Other Please describe: _____

20. What is the highest level of education you have attained?

APPENDIX B

AIRPORT MANAGEMENT SURVEY
SPANISH VERSION

Airport Management Survey
Spanish version

Encuesta sobre administración de aeropuertos

1. ¿Su aeropuerto cuenta con una administración privada?

Sí No

2. ¿Cómo calificaría la capacidad de su aeropuerto para suministrar servicios centrados en el cliente?

1	2	3	4	5	6	7	8	9	10
Muy									Muy
Baja									Alta

3. El desempeño operativo en algunos aeropuertos es bajo, mientras que otros tienen un alto nivel de desempeño. ¿Cómo calificaría el desempeño operativo de su aeropuerto?

1	2	3	4	5	6	7	8	9	10
Muy									Muy
Bajo									Alto

4. Algunos aeropuertos sufren importantes pérdidas económicas cada año, mientras que otros dejan beneficios. ¿Cómo calificaría el desempeño económico de su aeropuerto?

1	2	3	4	5	6	7	8	9	10
Muy									Muy
Bajo									Alto

5. En algunos aeropuertos, las decisiones están centralizadas (lo que significa que la gerencia de la organización toma todas las decisiones), mientras que en otros, la gerencia y los empleados participan en el proceso de toma de decisiones. ¿Cómo calificaría el nivel de participación entre la gerencia y los empleados en el proceso de toma de decisiones de su aeropuerto?

1	2	3	4	5	6	7	8	9	10
Muy									Muy
Bajo									Alto

6. ¿En qué medida está de acuerdo con las siguientes frases?

- 1) Una buena administración (el proceso que se utiliza para tomar decisiones y ponerlas en práctica) requiere que todos los que forman parte de la organización conozcan sus roles.

1	2	3	4	5
Totalmente en desacuerdo	En desacuerdo	Imparcial	De acuerdo	Totalmente en desacuerdo

- 2) Una buena administración (el proceso que se utiliza para tomar decisiones y ponerlas en práctica) requiere que todos los que forman parte de la organización conozcan sus funciones.

1	2	3	4	5
Totalmente en desacuerdo	En desacuerdo	Imparcial	De acuerdo	Totalmente en desacuerdo

- 3) El desarrollo profesional de los empleados se refleja en una administración efectiva del aeropuerto.

1	2	3	4	5
Totalmente en desacuerdo	En desacuerdo	Imparcial	De acuerdo	Totalmente en desacuerdo

- 4) El ascenso de los empleados se refleja en una administración efectiva del aeropuerto.

1	2	3	4	5
Totalmente en desacuerdo	En desacuerdo	Imparcial	De acuerdo	Totalmente en desacuerdo

7. En algunos aeropuertos, existe confianza entre la gerencia y los empleados, mientras que en otros, esta confianza no existe. ¿Cómo calificaría el nivel de confianza entre la gerencia y los empleados de su aeropuerto?

1	2	3	4	5	6	7	8	9	10
Muy Bajo									Muy Alto

8. En algunos aeropuertos, los empleados tienen un alto nivel de productividad, mientras que en otros ocurre lo contrario. ¿Cómo calificaría el nivel de productividad de los empleados de su aeropuerto?

1	2	3	4	5	6	7	8	9	10
Muy Bajo									Muy Alto

9. En algunos aeropuertos, los empleados cuentan con buenas condiciones de trabajo, mientras que en otros, las condiciones de trabajo son malas. ¿Cómo calificaría las condiciones de trabajo en su aeropuerto?

1	2	3	4	5	6	7	8	9	10
Muy Bajo									Muy Alto

10. ¿En qué medida está de acuerdo con las siguientes frases? Los administradores del aeropuerto se reúnen de forma habitual con las otras partes interesadas (pasajeros, ciudadanos y representantes de aerolíneas) para conversar sobre:

(a) Temas relacionados con la política del aeropuerto

1	2	3	4	5
Totalmente en desacuerdo	En desacuerdo	Imparcial	De acuerdo	Totalmente en desacuerdo

(b) Formas de hacer que el aeropuerto sea más atractivo como destino para los pasajeros

1	2	3	4	5
Totalmente en desacuerdo	En desacuerdo	Imparcial	De acuerdo	Totalmente en desacuerdo

(c) Quejas de los pasajeros

1	2	3	4	5
Totalmente en desacuerdo	En desacuerdo	Imparcial	De acuerdo	Totalmente en desacuerdo

16. En algunos aeropuertos, los administradores utilizan planes estratégicos y mediciones de desempeño para mejorar la asignación de fondos, mientras que en otros esto no ocurre. ¿Cómo calificaría el nivel de uso de planes estratégicos y mediciones de desempeño para mejorar el proceso presupuestario en su aeropuerto?

1	2	3	4	5	6	7	8	9	10
Muy									Muy
Bajo									Alto

17. ¿Cuál es su puesto de trabajo? _____

18. Sexo

Masculino

Femenino

19. ¿Cuál de las siguientes categorías lo describe mejor?

Blanco

Negro

Hispano/Latino

Indio americano

Asiático o Isleño del Pacífico

Otro (especifique): _____

20. ¿Cuál fue el grado de escolaridad más alto que obtuvo?

APPENDIX C

AIRPORT MANAGEMENT SURVEY
FRENCH VERSION

6. Dans quelle mesure êtes-vous d'accord avec les affirmations suivantes ?

1) Pour garantir une bonne gouvernance (la procédure suivant laquelle les décisions sont prises et appliquées), chacun doit connaître son rôle dans l'entreprise.

1	2	3	4	5
En désaccord	Pas	Sans avis	D'accord	Tout à fait
Total	d'accord			d'accord

2) Pour garantir une bonne gouvernance (la procédure suivant laquelle les décisions sont prises et appliquées), chacun doit connaître sa fonction dans l'entreprise.

1	2	3	4	5
En désaccord	Pas	Sans avis	D'accord	Tout à fait
Total	d'accord			d'accord

3) Le développement professionnel des employés se traduit par une gestion efficace de l'aéroport.

1	2	3	4	5
En désaccord	Pas	Sans avis	D'accord	Tout à fait
Total	d'accord			d'accord

4) L'avancement des employés se traduit par une gestion efficace de l'aéroport.

1	2	3	4	5
En désaccord	Pas	Sans avis	D'accord	Tout à fait
Total	d'accord			d'accord

7. Dans certains aéroports, la direction et les employés ne se font pas confiance, contrairement à d'autres aéroports où direction et employés se font totalement confiance. Comment évalueriez-vous le degré de confiance entre la direction et les employés dans votre aéroport ?

1	2	3	4	5	6	7	8	9	10
Médiocre									Excellente

8. Dans certains aéroports, les employés sont extrêmement productifs, tandis que dans d'autres, l'inverse se produit. Comment évalueriez-vous la productivité des employés dans votre aéroport ?

1	2	3	4	5	6	7	8	9	10
Médiocre								Excellente	

9. Dans certains aéroports, les employés travaillent dans de bonnes conditions, alors que dans d'autres, l'environnement de travail est mauvais. Comment évalueriez-vous l'environnement de travail de votre aéroport ?

1	2	3	4	5	6	7	8	9	10
Médiocre								Excellente	

10. Dans quelle mesure êtes-vous d'accord avec les affirmations suivantes ? Les administrateurs de l'aéroport rencontrent régulièrement les parties prenantes de l'aéroport (passagers, citoyens et représentants de compagnies aériennes) pour discuter :

(a) Des questions de règlementations

1	2	3	4	5
En désaccord Total	Pas d'accord	Sans avis	D'accord	Tout à fait d'accord

(b) Des moyens de rendre l'aéroport plus agréable pour les passagers.

1	2	3	4	5
En désaccord Total	Pas d'accord	Sans avis	D'accord	Tout à fait d'accord

(c) Des plaintes de passagers

1	2	3	4	5
En désaccord Total	Pas d'accord	Sans avis	D'accord	Tout à fait d'accord

11. Dans quelle mesure êtes-vous d'accord avec les affirmations suivantes ? Les administrateurs de l'aéroport établissent les niveaux de personnel nécessaire en fonction des informations de flux de passagers.

1	2	3	4	5
En désaccord Total	Pas d'accord	Sans avis	D'accord	Tout à fait d'accord

12. Un institut gouvernemental extérieur contrôle l'autorité exercée par les fonctionnaires travaillant à l'aéroport.

Oui Non

13. Dans le cadre de cette enquête, un plan (stratégique) principal d'aéroport fait référence à un plan stratégique utilisé pour préparer et permettre la modernisation des aéroports existants et la création de nouveaux aéroports, quels que soient leur taille, leur complexité ou leur rôle. Dans quelle mesure êtes-vous d'accord avec les affirmations suivantes ? La direction de l'aéroport a mis au point un plan (stratégique) principal pour votre aéroport.

1	2	3	4	5
En désaccord	Pas	Sans avis	D'accord	Tout à fait
Total	d'accord			d'accord

14. Dans le cadre de cette enquête, les outils d'évaluation des performances sont utilisés comme indicateurs afin de déterminer si les objectifs de service ont été atteints. Dans quelle mesure êtes-vous d'accord avec les affirmations suivantes ? La direction de l'aéroport a mis au point des outils d'évaluation des performances pour votre aéroport.

1	2	3	4	5
En désaccord	Pas	Sans avis	D'accord	Tout à fait
Total	d'accord			d'accord

15. Dans le cadre de cette enquête, l'établissement du budget en fonction des performances est un processus budgétaire qui requiert l'utilisation d'un plan stratégique et d'outils d'évaluation des performances afin d'attester de l'efficacité de la direction en termes d'allocation des ressources. Dans quelle mesure êtes-vous d'accord avec les affirmations suivantes ? Le développement futur d'un système d'établissement du budget est très probable.

1	2	3	4	5
En désaccord	Pas	Sans avis	D'accord	Tout à fait
Total	d'accord			d'accord

APPENDIX D

AIRPORT MANAGEMENT SURVEY

PORTUGUESE VERSION

Airport Management Survey

Portuguese version

Pesquisa sobre Administração de Aeroportos

1. Seu aeroporto é privado?

Sim

Não

2. Como você classificaria a capacidade do seu aeroporto para fornecer serviços a clientes?

1	2	3	4	5	6	7	8	9	10
Muito									Muito
Baixa									Alto

3. O desempenho operacional de alguns aeroportos é baixo, enquanto outros apresentam altos níveis de desempenho. Como você classificaria o desempenho operacional do seu aeroporto?

1	2	3	4	5	6	7	8	9	10
Muito									Muito
Baixa									Alto

4. Alguns aeroportos apresentam grandes perdas financeiras a cada ano, enquanto outros apresentam lucros. Como você classificaria o desempenho financeiro do seu aeroporto?

1	2	3	4	5	6	7	8	9	10
Muito									Muito
Baixa									Alto

5. Em alguns aeroportos, a tomada de decisões é centralizada (todas as decisões são tomadas pela alta administração); em outros, a administração e os funcionários participam do processo decisório. Como você classificaria o nível de participação da administração e dos funcionários no processo de tomada de decisões no seu aeroporto?

1	2	3	4	5	6	7	8	9	10
Muito									Muito
Baixa									Alto

6. Indique seu grau de concordância com as seguintes afirmações:

- 1) Para uma boa governança (o processo pelo qual as decisões são tomadas e implementadas), é necessário que todas as pessoas da organização conheçam suas atribuições.

1	2	3	4	5
Discordo totalmente	Discordo	Não concordo nem discordo	Concordo	Concordo totalmente

- 2) Para uma boa governança (o processo pelo qual as decisões são tomadas e implementadas), é necessário que todas as pessoas da organização conheçam suas funções.

1	2	3	4	5
Discordo totalmente	Discordo	Não concordo nem discordo	Concordo	Concordo totalmente

- 3) O desenvolvimento profissional dos funcionários resulta em uma administração eficaz do aeroporto.

1	2	3	4	5
Discordo totalmente	Discordo	Não concordo nem discordo	Concordo	Concordo totalmente

- 4) A promoção de funcionários resulta em uma administração eficaz do aeroporto.

1	2	3	4	5
Discordo totalmente	Discordo	Não concordo nem discordo	Concordo	Concordo totalmente

7. Em alguns aeroportos, a administração e os funcionários não confiam uns nos outros; em outros, há fortes relações de confiança. Como você classificaria o nível de confiança entre a administração e os funcionários de seu aeroporto?

1	2	3	4	5	6	7	8	9	10
Muito Baixa									Muito Alto

8. Em alguns aeroportos, os funcionários exibem altos níveis de produtividade, enquanto em outros ocorre o contrário. Como você classificaria o nível de produtividade dos funcionários de seu aeroporto?

1	2	3	4	5	6	7	8	9	10
Muito									Muito
Baixa									Alto

9. Em alguns aeroportos, os funcionários têm boas condições de trabalho; em outros, o ambiente de trabalho é insatisfatório. Como você classificaria o ambiente de trabalho do aeroporto?

1	2	3	4	5	6	7	8	9	10
Muito									Muito
Baixa									Alto

10. Indique seu grau de concordância com a seguinte afirmação. Os administradores se reúnem frequentemente com os principais interessados do aeroporto (passageiros, cidadãos e representantes das companhias aéreas) para discutir:

(a) Questões relativas a diretrizes

1	2	3	4	5
Discordo	Discordo	Não concordo	Concordo	Concordo
totalmente		nem discordo		totalmente

(b) Formas de tornar o aeroporto um destino mais atraente para o passageiro.

1	2	3	4	5
Discordo	Discordo	Não concordo	Concordo	Concordo
totalmente		nem discordo		totalmente

(c) Reclamações de passageiros

1	2	3	4	5
Discordo	Discordo	Não concordo	Concordo	Concordo
totalmente		nem discordo		totalmente

11. Indique seu grau de concordância com a seguinte afirmação. Os administradores do aeroporto planejam a alocação de funcionários com base nas informações que recebem acerca do fluxo de passageiros.

1	2	3	4	5
Discordo totalmente	Discordo	Não concordo nem discordo	Concordo	Concordo totalmente

12. Um órgão governamental externo controla eventuais abusos de autoridade praticados por servidores públicos do aeroporto.

Sim Não

13. Para os fins desta pesquisa, plano mestre (estratégico) aeroportuário é um plano estratégico usado para preparar e dar suporte à modernização de aeroportos existentes e à criação de novos aeroportos, independentemente de tamanho, complexidade ou função. Indique seu grau de concordância com a seguinte afirmação. A administração desenvolveu um plano mestre (estratégico) para o aeroporto.

1	2	3	4	5
Discordo totalmente	Discordo	Não concordo nem discordo	Concordo	Concordo totalmente

14. Para os fins desta pesquisa, medições de desempenho são indicadores usados para determinar se as metas de serviço pretendidas foram atingidas. Indique seu grau de concordância com a seguinte afirmação. A administração desenvolveu medições de desempenho para o aeroporto.

1	2	3	4	5
Discordo totalmente	Discordo	Não concordo nem discordo	Concordo	Concordo totalmente

15. Para os fins desta pesquisa, orçamento com base no desempenho é um processo orçamentário que exige o uso de planejamento estratégico e medições de segurança para avaliar a eficácia do governo em relação à alocação de recursos. Indique seu grau de concordância com a seguinte afirmação. É altamente provável que a administração irá desenvolver um sistema orçamentário com base no desempenho.

1	2	3	4	5
Discordo totalmente	Discordo	Não concordo nem discordo	Concordo	Concordo totalmente

16. Em alguns aeroportos, os administradores utilizam um planejamento estratégico e medições de desempenho para melhorar a alocação orçamentária de fundos; em outros, nenhum plano estratégico ou medição são usados. Como você classificaria o nível de utilização de planejamento estratégico e medições de desempenho para melhorar o processo orçamentário?

1	2	3	4	5	6	7	8	9	10
Muito									Muito
Baixa									Alto

17. Indique seu cargo: _____

18. Indique seu sexo

Masculino Feminino

19. Qual das opções abaixo melhor descreve sua etnia?

Branco
Negro
Hispânico/Latino
Indígena
Asiático ou nativo das ilhas do Pacífico
Outro. Descrever: _____

20. Indique seu grau de escolaridade?

APPENDIX E

ENGLISH VERSION OF EMAIL INTRODUCTION OF STUDY

University of Texas Latin American and Caribbean Airport Study

The University of Texas Airport Study represents a comprehensive analysis of airports in Latin America and the Caribbean. The primary purpose of this study is to assist airport managers in identifying organizational issues and providing tools to improve airport operations and business.

You are one of a selected number of airport managers in the Latin American and Caribbean region being asked to give their opinion. We want to ask you to consider participating in this project by completing a 5-minute online questionnaire. Your answers to the survey questions will be kept absolutely confidential. We know firsthand the many demands on airport managers, but we hope you can spare a few minutes to participate in this important research endeavor.

To complete this survey please [click here](#).

APPENDIX F

LIST OF PUBLICATIONS ON AIRPORT PRODUCTIVITY STUDIES
USING DEA

List of publications on airport productivity studies using DEA (alphabetical order by year)

Author(s) (Pub. year) Sample Year Sample Size	Model	Input	Output	Remark
Gillen and Lall (1997) <u>Year</u> 1989 - 1993 <u>Size</u> 23 of the top U.S. airports	DEA- Output-CRS DEA- Output-VRS	<u>I. Terminal services</u> 1. # of runways 2. # of gates 3. terminal area 4. # of employees 5. # of baggage collection belts 6. # of public parking spaces <u>II. Movements</u> 1. airport area 2. # of runways 3. runway area 4. # of employees	<u>I. Terminal services</u> 1. # of passengers 2. lbs of cargo <u>II. Movements</u> 1. air carrier movements 2. commuter movements	Estimate two Tobit regression models for explaining terminal and movements efficiency
Gillen and Lall (1998) <u>Year</u> 1989 – 1993 <u>Size</u> 22 of the top U.S. airports	DEA- Output-CRS DEA- Output-VRS	<u>I. Terminal services</u> 1. # of runways 2. # of gates 3. terminal area 4. # of employees 5. # of baggage collection belts 6. # of public parking spaces <u>II. Movements</u> 1. airport area 2. # of runways 3. runway area 4. # of employees	<u>I. Terminal services</u> 1. # of passengers 2. lbs of cargo <u>II. Movements</u> 1. air carrier movements 2. commuter movements	Compute Malmquist TFP by component

<p>Murillo-Melchor (1999)</p> <p><u>Year</u> 1992 - 1994</p> <p><u>Size</u> 33 Spanish civil airports under management of AENA (Spanish Airports and Air Transport)</p>	<p>DEA - Input-CRS</p> <p>DEA - Input-VRS</p>	<p>1. # of workers 2. accumulated capital stock approximated by the amortization estimated in constant value 3. intermediate expenses</p>	<p>1. # of passenger</p>	<p>Compute Malmquist index for individual pair of years</p>
<p>Parker (1999)</p> <p><u>Year</u> Financial years (as of March 31) from 1988/89 - 1996/97</p> <p><u>Size</u> 22 UK airports, including all of British Airports Authority BAA's major airports</p>	<p>DEA – Input-VRS</p>	<p>1. employment 2. capital stock 3. non labor cost 4. capital cost 5. changes in gross domestic product (GDP)</p>	<p>1. # of passenger 2. cargo and mail</p>	<p>Compute mean efficiency rating over 88/89 – 96/97 and use it to rank 22 airports before and after privatization.</p>

<p>Salazar de la Cruz (1999)</p> <p><u>Year</u> 1993 - 1995</p> <p><u>Size</u> 16 main Spanish airports serviced mixed domestic and international passenger traffic; range 1 – 20 million passengers</p>	<p>DEA- Output-CRS</p>	<p>1. total economic cost e.g., cost for annual operations, the current costs and the internal interest on the net assets</p>	<p>1. annual passengers 2. total returns 3. returns on Infra-structure services 4. operative returns 5. final returns</p>	<p>Empirically, observe the extent to which input and output contribute to the change in efficiency by visualizing from graph</p>
<p>Sarkis (2000)</p> <p><u>Year</u> 1990 - 1994</p> <p><u>Size</u> 44 major U.S airports</p>	<p>DEA- Input-CRS</p> <p>DEA- Input-VRS</p>	<p>1. operating costs 2. # of airport employees 3. # of gates 4. # of runways</p>	<p>1. operational revenue 2. # of passengers 3. aircraft movements 4. general aviation movements 5. amount of cargo shipped</p>	<p>Include the following variants</p> <ol style="list-style-type: none"> 1. Simple cross-efficiency (SXEF) (Doyle and Green, 1994) 2. Aggressive cross-efficiency (AXEF) (Doyle and Green, 1994) 3. Ranked efficiency (RCCR) (Anderson and Peterson, 1993) 4. Radii of classification ranking (GTR) (Rousseau and Semple, 1995) <p>Perform nonparametric Mann-Whitney U-test to test the differences of efficiency scores between hub/non-hub, MAS/SAS, and snowbelt/non-snowbelt</p>

<p>Adler and Berechman (2001)</p> <p><u>Year</u> 1996</p> <p><u>Size</u> 26 airports in Western Europe, North America and the Far East</p>	<p>DEA- Input-VRS (dual formulation)</p>	<ol style="list-style-type: none"> 1. peak short and medium haul charges 2. inversed number of passenger terminal 3. inversed number of runways 4. distance to the city center 5. minimum connecting time international –international 6. average delay per aircraft movement in minutes 	<p>Three principal components derived from the following five measures of service quality from airlines' perspective</p> <ol style="list-style-type: none"> 1. suitability 2. operational reliability and convenience 3. cost of using airport 4. overall satisfaction and airport quality 5. factual questions with respect to the wave system and demand 	<p>Survey airport quality of service from airlines rating 14 questions on Likert scale; and due to excessive number of total variables (inputs + outputs), the authors apply Principal Component Analysis (PCA) statistical method to reduce the total number inputs/outputs</p> <p>Apply super-efficient DEA model (Anderson and Peterson, 1993) to fully rank the airports and report unbound results (infeasibility in primal) for some airports.</p>
<p>Fernandes and Pacheco (2001)</p> <p><u>Year</u> 1998</p> <p><u>Size</u> 35 Brazilian domestic airports</p>	<p>DEA-Non-oriented-CRS</p>	<ol style="list-style-type: none"> 1. mean # of employees 2. payroll expenditure, including direct and indirect benefits 3. operating expenditures 4. apron area 5. departure lounge area 6. # of check-in counters 7. length of curb frontage 8. # of vehicle parking spaces 9. baggage claim area 	<ol style="list-style-type: none"> 1. number of passengers, 2. cargo plus mail, 3. operating revenues 4. commercial revenues 5. other revenues 	
<p>Martin and Roman (2001)</p> <p><u>Year</u> 1997</p> <p><u>Size</u> 37 Spanish airports</p>	<p>DEA- Output-VRS DEA- Output-CRS</p>	<ol style="list-style-type: none"> 1. labor expense 2. capital expense, including amortization of fixed assets 3. material expense 	<ol style="list-style-type: none"> 1. air traffic movements 2. # of passengers 3. tonnage of cargo 	<p>Compute technical efficiency by using reciprocal of efficiency score obtained from solving DEA</p> <p>Compute scale efficiency</p> <p>Interpret target output and input slack</p>

<p>Pels, Nijkamp And Rietveld (2001)</p> <p><u>Year</u> 1995 - 1997 (pooled cross- section time series)</p> <p><u>Size</u> 34 European airports</p>	<p>Air transport movements (ATM) model DEA- Input-CRS DEA- Input-VRS</p> <p>Air passenger movements (APM) model</p>	<p>1. airport area 2. runway length 3. # of aircraft parking positions at the terminal 4. # of remote aircraft parking positions</p> <p>1. terminal area 2. # of aircraft parking positions at the terminal 3. # of remote aircraft parking positions 4. # of check-in desks 5. # of baggage claim units</p>	<p>1. Air transport movements (ATM)</p> <p>1. Air passenger movements (APM)</p>	<p>Estimate also the stochastic production frontier (see Table 2.2 for the same authors)</p>
<p>Abbott and Wu (2002)</p> <p><u>Year</u> 1989/1990 to 1999/2000</p> <p><u>Size</u> 12 main Australian airports</p> <p><u>Year</u> 1998/99</p> <p><u>Size</u> 12 main Australian and 13 other international airports</p>	<p>DEA- Input-CRS</p> <p>DEA- Input-CRS</p>	<p>1. number of staffs 2. capital stock 3. runway length</p> <p>1. number of staffs 2. runway length 3. land area 4. number of aircraft standing areas</p>	<p>1. # of passengers 2. freight cargo in tons</p> <p>1. # of passengers 2. freight cargo in tons</p>	<p>Compute Malmquist total factor productivity (TFP) index</p> <p>Estimate Tobit regression for explaining variation in Malmquist TFP</p>

<p>Fernandes and Pacheco (2002)</p> <p><u>Year</u> 1998</p> <p><u>Size</u> 33 Brazilian major domestic airports</p>	<p>DEA- Output-VRS</p>	<ol style="list-style-type: none"> 1. area of apron 2. area of departure lounge 3. # of check-in counters 4. length of frontage curb 5. # of parking spaces 6. baggage claim area 	<ol style="list-style-type: none"> 1. domestic passengers 	<p>Analyze inefficiency level, slacks, potential number of domestic passengers in comparison to demand forecast</p>
<p>Bazargan and Vasigh (2003)</p> <p><u>Year</u> 1996 – 2000</p> <p><u>Size</u> Top 45 US airports, 15 each from large, medium and small hubs (by FAA's definition) during the study period</p>	<p>DEA- Input-CRS</p>	<ol style="list-style-type: none"> 1. operating expenses 2. non-operating expenses 3. number of runways 4. number of gates including gates with jet ways and other non jet- way gates 	<ol style="list-style-type: none"> 1. number of passengers 2. air carrier operations 3. number of commuters, GA and military 4. aeronautical revenues 5. non-aeronautical revenues 6. percentage of on-time operations 	<p>Achieve a full ranking of all airports by introducing a virtual super efficient airport with existing airports so that there will be only one efficient airport. Its inputs and outputs are as follows:</p> <p>Test the difference among three hub types by non-parametric Kruskal-Wallis test.</p>
<p>Pacheco and Fernandes (2003)</p> <p><u>Year</u> 1998</p> <p><u>Size</u> 35 Brazilian domestic airports</p>	<p>DEA- Input-VRS</p>	<ol style="list-style-type: none"> 1. average number of employees 2. payroll, including direct and indirect benefits 3. operating expenses 	<ol style="list-style-type: none"> 1. domestic passengers 2. cargo plus mail 3. operating revenues 4. commercial revenues 5. other revenues 	<p>Use efficient scores from Fernandes and Pacheco (2002) as physical efficiency score and management efficiency score from this study to create Boston Consultancy Group (BCG) matrix</p>

<p>Pathomsiri and Haghani (2004)</p> <p><u>Year</u> 2000, 2002</p> <p><u>Size</u> 63 airports in multiple airport system worldwide</p>	<p>DEA-Output-VRS</p>	<ol style="list-style-type: none"> 1. land area 2. number of runways 3. area of runways 	<ol style="list-style-type: none"> 1. aircraft movements 2. number of passengers 	<p>Perform paired-sample t-test to see if there is significant difference in efficiency scores before and after September-11.</p> <p>Compute target inputs and outputs for inefficient airports</p>
<p>Pels, Nijkamp And Rietveld (2003)</p> <p><u>Year</u> 1995-1997 (pooled cross-section time series)</p> <p><u>Size</u> 34 European airports</p>	<p>Air transport movements (ATM) model DEA-Input-CRS DEA-Input-VRS</p> <p>Air passenger movements (APM) model</p>	<ol style="list-style-type: none"> 1. airport area 2. # of runways 3. # of aircraft parking positions at the terminal 4. # of remote aircraft parking positions <ol style="list-style-type: none"> 1. ATM 2. # of check-in desks 3. # of baggage claim units 	<ol style="list-style-type: none"> 1. Air transport movements (ATM) <ol style="list-style-type: none"> 1. Air passenger movements (APM) 	<p>Estimate also the stochastic production frontier (see Table 2.2 for the same authors)</p> <p>Number of runways is treated as a fixed factor and adopted Banker and Morey (1986) formulation.</p>
<p>Sarkis and Talluri (2004)</p> <p><u>Year</u> 1990 – 1994</p> <p><u>Size</u> 44 major U.S. airports</p>	<p>DEA-Input-CRS</p>	<ol style="list-style-type: none"> 1. operational costs 2. # of airport employees 3. # of gates 4. # of runways 	<ol style="list-style-type: none"> 1. operational revenue 2. passengers 3. aircraft movements 4. number of general aviation movements 5. total cargo 	<p>Rank airports by mean cross-efficiency scores (AXEF) (Doyle and Green, 1994)</p> <p>Identify benchmarks by using the hierarchical clustering technique based on correlation coefficients of the columns in the cross-efficiency matrix. The average linkage method is utilized to derive the clusters. Airports in each cluster have a benchmark.</p>

<p>Fernandes and Pacheco (2005)</p> <p><u>Year</u> 1998 and 2001</p> <p><u>Size</u> 58 airports administered by the Brazilian Airport Infra-structure Enterprise, Infraero</p>	<p>DEA-Input-VRS</p>	<p>1. payroll, including direct and indirect benefits 2. operating and other expenses 3. average # of employees</p>	<p><u>I. Financial performance</u> 1. operating revenues 2. commercial revenues 3. other revenues</p> <p><u>II. Operating performance</u> 1. passengers embarked plus disembarked 2. tonnage of cargo embarked plus disembarked</p>	
<p>Pathomsiri, Haghani and Schonfeld (2005)</p> <p><u>Year</u> 2000, 2002</p> <p><u>Size</u> 72 airports in multiple airport system worldwide</p>	<p>DEA-Output-VRS</p>	<p>1. land area 2. number of runways 3. area of runways</p>	<p>1. aircraft movements 2. number of passengers</p>	<p>Use parametric and nonparametric statistical methods to test the difference of efficiency scores before and after September 11</p>
<p>Pathomsiri, Haghani, Dresner and Windle (2006a)</p> <p><u>Year</u> 2000 – 2002</p> <p><u>Size</u> 72 airports in multiple airport systems worldwide</p>	<p>DEA-Output-VRS</p>	<p>1. land area 2. number of runways 3. area of runways</p>	<p>1. aircraft movements 2. number of passengers</p>	<p>Estimate Tobit regression model to explain variation in airport productivity</p>

APPENDIX G

AIRPORT ONE-ON-ONE QUESTIONS

AIRPORT ONE – ON- ONE INTERVIEW QUESTIONS

Topic: Privatization

1. Do you believe that airport privatization is a good policy for developing nations of the Caribbean?
2. Public Airport (**ask if airport is public mgt**): Do you think that airport privatization could improve the operational and financial performance at your airport?
3. Private Airport (**ask if airport is public mgt**): Do you believe that airport privatization has improved the operational and financial performance at your airport?

Topic: Airport Governance

1. Would you say that good airport governance emphasizes skills and capacity development to enhancement of its employees?

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BIOGRAPHICAL INFORMATION

The author earned a Doctorate of Philosophy in Public and Urban Administration in 2008 from the University of Texas at Arlington School of Urban and Public Affairs. He is currently a Graduate Research Assistant for the University of Texas at Arlington School of Urban and Public Affairs. He holds a Master of Science in Human Resources Management degree from New York Institute of Technology, an MBA in Business Administration from LeTourneau University and a BS in Aeronautical Science from Embry-Riddle Aeronautical University. Prior to joining the UTA School of Urban and Public Affairs, he was Director of Human Resources for Worldwide Flight Services in Dallas, Texas. He was honored as a University Scholar for the UTA School of Urban and Public Affairs in 2006 and 2007. His areas of interest include aviation sector performance, human resources management capacity building in Latin America and the Caribbean.