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PREFERENCES FOR PERFORMANCE MEASURES:  
A STUDY OF A FEDERAL AGENCY

by

GINA WILSON BECKLES  
B.S. Florida A&M University, 1985  
M.B.A. University of Central Florida, 1989

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in the Department of Public Administration  
in the College of Health and Public Affairs  
at the University of Central Florida  
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2006

Major Professor: XiaoHu Wang

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## ABSTRACT

The purpose of this dissertation was to determine the preferences of clients of programs administered by selected federal agencies and the preferences of the federal managers who administer the programs in assessing performance measurement systems. Using the general progression of previous budgetary models used in the public sector, the researcher developed the Modified Balance Scorecard (MBSC), a performance measurement model designed specifically for use within the public sector.

Surveys based on the MBSC were administered to public managers and to clients of those managers in order to determine their preferences. The results showed that managers preferred public good measures and clients preferred financial measures. Both groups' second preferred index of measures was internal management process measures.

This research is important in policy formulation and provides many implications regarding the effective presentation of policies. These results can be used to help craft policies for maximum effectiveness, based on the preferences of the respective groups.

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## CHAPTER I

### INTRODUCTION

The purpose of this dissertation is to determine the preferences of clients of programs administered by selected federal agencies and the preferences of the federal managers who administer the programs in assessing performance measurement systems. Using the general progression of previous budgetary models used in the public sector, the researcher developed the Modified Balance Scorecard (MBSC), a performance measurement model designed specifically for use within the public sector. The MBSC is a combination of elements of previous budgetary models that uses five various measurement perspectives to assess the overall performance of entire systems, whether individual programs or entire organizations. These perspectives include the financial perspective, the client perspective, the employee perspective, the internal management process perspective, and the public good perspective.

In the present research, the preferences of the clients and the managers were measured using two separate survey instruments, one designed specifically for the assessment of the clients' preferences and one designed for the assessment of the managers' preferences. The results of this research are important in policy formulation and provide many implications regarding the effective presentation of policies. These results can be used to help effectively craft policies so that these policies can be presented to various groups, based on the preferences of the particular group to which the policy is being presented.

This dissertation sought to answer the following research questions: What measures should be included in the MBSC model? What are the stakeholders' preferences for the measures? What determines the preferences for the measures?

The research was conducted in two phases. In the first phase, existing literature was examined and synthesized to develop a comprehensive performance evaluation model. The Balanced Scorecard (BSC) model was used as the general framework for the development of this comprehensive model as it integrates both financial and non-financial measures. The resulting model reflects a comprehensive approach to assessing the effectiveness of programs administered by federal government agencies in an accurate and valid way.

The preferences of federal managers and their clients were measured through two separate questionnaires. The first survey was administered to federal business clients as a convenience survey at the 15<sup>th</sup> Annual Office of Small and Disadvantaged Business Utilization (OSDBU) Procurement Conference, which was held on April 21, 2005, at The Show Place Arena in Upper Marlboro, MD. The second was administered by mail to managers from the 66 federal agencies. Data generated from the results of the surveys were used to analyze the preferences of federal program managers and federally program clients.

Prior to the development of the BSC, there were several competing major measurement models. These models are examined in the literature review. This dissertation proposed an additional, more developed, and further refined model that can be used for the effective assessment of programs administered by federal government agencies. However, the main purpose of this dissertation was to determine the preferences of federal managers and federal program clients in performance measurement systems.

This dissertation contributes to the existing body of knowledge in several ways. First, it adds to the literature by incorporating a major aspect of performance measurement within the federal arena that has not previously been formally used within any budgetary assessment model—the public good. The public good is what basically separates the modified balanced scorecard model apart from the BSC. Some previous budgetary models have typically focused on the evaluation of resources consumed for services or production, while others have addressed organizational outputs or outcomes. In this dissertation a comprehensive measurement model was developed to evaluate all major aspects of an organization’s operations—including both organizational outputs and organizational outcomes. The interrelationships among the different measures were examined and the model was used to quantify the preferences of the respondents. In commercial entities, performance measurement is clearly reflected by the entities’ profitability. However, it is much more difficult to measure performance when it falls under the general guise of public entities. This dissertation identifies an appropriate measurement system that captures the essence of the important measures in governmental and other non-profit entities.

Second, this dissertation identifies the performance measurement preferences of both the clients of federal programs and the managers that administer these federal programs. Additionally, various possible determinants of those performance measurement preferences were examined. These results can then be used to analyze and present policies so as to reflect these stakeholder groups’ specific preferences for organizational performance. Though there are other groups found within the model (e.g., employees), only clients and managers were considered for this study. The results of this research should be useful in the area of policymaking and analysis, more specifically within the formulation and presentation of organizational performance assessment policies.

Third, this dissertation builds on a body of knowledge regarding the empirical evaluation of the performance measurement preferences of managers and clients. Additionally, bodies of knowledge can be initiated regarding the preferences of the other groups found within the MBSC. Through further evaluation and ancillary empirical research, the preferences of each of the various stakeholder groups can be empirically assessed so that policies can be crafted to best satisfy the preferences of each group as the policy is being presented to that specific groups. Accordingly, if the policy is presented to a group, based on the preferences of that group, then the likelihood of that group accepting the policy should increase.

Throughout this dissertation, the OSDBU was used for illustrative purposes. The primary purpose of the OSDBU is to promote the utilization of small, disadvantaged, and women-owned businesses by federal governmental agencies. Though the utilization of small businesses is encouraged throughout all federal agencies, the OSDBU was established for the specific purpose of helping the federal government reach its small business goals. The OSDBU accomplishes this by using various programs designed to assist the small business owner in preparing to conduct business with the federal government via contracting. More specifically, this office assists these firms in obtaining contracts and subcontracts with agencies such as NASA and prime contractors that conduct business with these federal agencies by helping these entrepreneurs hone their skills and make themselves as marketable as possible to these federal agencies and their prime contractors.

This dissertation consists of seven chapters. Chapter I introduced the basic research questions and the other underlying issues. Chapter II provides a review of the history and relevant literature regarding various models of measurement. Chapter III presents the Modified Balance Score Card model and elaborates on the significance of the contribution made by this

dissertation. Chapter IV outlines the methodology for conducting both phases of this research. Chapter V presents the results of the client survey. Chapter VI presents the findings of the manager survey. Chapter VII presents and discusses the findings and conclusions from both sets of participants. Additionally, the policy implications and recommendations of these findings are explored in Chapter VII.

## CHAPTER II

### LITERATURE REVIEW

The purpose of this chapter is to review the literature related to developing the measurement model used in this dissertation. In this chapter, the commonly used terminology regarding the measurement of performance within organizations is presented. The literature for previous measurement models is examined and reviewed. Finally, the literature is summarized, including an examination of the shortcomings of previous measurement models.

#### Definitions of Measures

Various measures have been used to assess operational efficiency and effectiveness. In a commonly-accepted typology derived from the open-system theory (Easton, 1979; Katz & Kahn, 1966; Thompson, 1967), performance measures (PM) can be grouped into the three basic categories of input, output, and outcome measures (Greytak, Phares, & Morley, 1976). Input measures are used to assess the resources that governments consume in producing a service or (less often) a product. This is why inputs are considered to be the building blocks for efficiency measures. These measures are easy to define and often readily available (Tigue & Strachota, 1994). On the other hand, inputs fail to indicate levels of services or achievement. This is why most studies of performance measures in local service delivery do not count inputs as performance measures. Examples of classification of inputs by purchase type include personnel, supplies, equipment, utilities, and contractual services.



Output is a measure of “the amount of a product produced, service rendered, or work done, without consideration as to the quality or desirability of what has been done” (Greytak et. al., 1976, p. 17). Outputs are sometimes referred to as “workload” measures (Ammons, 2002) and occasionally are used to measure productivity (Morley, 1986). Continuing to use the OSDBU for illustrative purposes, an example of an output would be the number of clients receiving agency services. Several studies connect output of a service with the cost incurred by the service to measure the efficiency of this service delivery (Greytak et. al., 1976; Hatry, 1979; Millar, Hatry, & Koss, 1977; Morley, Vinson, & Hatry, 2001; Rossi & Freeman, 1989; Wholey & Hatry, 1992, 2004).

Outcome measures address the achievements or consequences of supplying public services to targeted recipients (Greytak et. al., 1976; Wholey, Hatry, Newcomer, & Manion, 1997). Outcomes are sometimes referred to as “impact” in the literature of program evaluation (Rossi & Freeman, 1989). Some authors prefer to use “outcome” as the short-term result of a program and “impact” as the long-term result (Levy, Meltsner, & Wildavsky, 1974). Within the OSDBU, an outcome measure is the assessment of the quality of service supplied, while an output measure is the quantity of service supplied (Tigue & Strachota, 1994). Within the OSDBU, an example of an outcome would be the number of clients who, after attending their training program, successfully secured federal contracts or subcontracts.

#### Use of Measures in the Public Sector: A Review of Budgeting Literature

Performance measurement has been discussed in the context of the strategic planning process, the budgeting process, human resource management, and many other organizational processes. This study reviewed the literature of performance measurement examined in the

public budgetary process because performance measures have been widely used in the budgeting process within the public sector. Though a variety of measures have been developed and implemented to assist budgetary decision-making process, truly adequate systems remain elusive. This situation occurs largely because performance measurement systems are situational in nature, as opposed to being universal, and they are socially constructed, as opposed to being technically constructed (Johnston, 2005). In one case study, environmental factors related to demand was shown to be the strongest single determinant of performance (Fernandes, Mills & Fleury (2005). Nevertheless, the literature about the use of performance measurement in the public budgeting process is rich and growing, providing a solid theoretical foundation that is needed for the formulation of the Modified Balance Score Card (MBSC) model used in this study. Studies have been conducted to evaluate the budget cycles process (Bouckaert & Peters, 2002; Broom, 1995; Joyce, 1993; Martin, 2000; Melkers & Willoughby, 2001; Mercer, 2002; Voytek, Lellock, & Schmit, 2004; Walker, 2002; Wang, 2000). This dissertation focuses on the measurement literature of six major budgeting models, with the MBSC model evolving through the integration of the existing literature. That is, the existing body of knowledge was examined and integrated, thereby resulting in the evolution of a new model which became the MBSC.

Every budget system comprises the purposes and functions of planning, management, and control (Schick, 1994). Planning involves the determination of objectives, the evaluation of alternative courses of action, and the authorization of select programs. Planning is most closely linked to budget preparation. Management involves the programming of approved goals into specific projects and activities, the design of organizational units to carry out approved programs, and the staffing of these units and the procurement of necessary resources to operationalize the plans. The management process is spread over the entire budget cycle. It

should be the link between goals established and activities undertaken. Control refers to the process of binding operating officials to the policies and plans set by their superiors. Control is predominant during the execution and audit stages.

Public budgeting is especially complex and has been evaluated on four dimensions (Hyde & Shafritz, 1978). First, as a political instrument, public budgeting is used to determine the most appropriate allocation of scarce public resources among various social and economic needs. Second, as a managerial or administrative instrument, public budgeting specifies the ways and means of providing public programs and services. Additionally, it establishes the costs and criteria by which activities are evaluated for efficiency and effectiveness. Third, as an economic instrument, public budgeting can direct a nation's or state's economic growth and development, since it is a tool used to redistribute income, stimulate growth, promote full employment, combat inflation, and maintain economic stability. Finally, as an accounting instrument, public budgeting is used as a means of holding governmental officials, and governments in the aggregate, responsible for the expenditure of the funds with which they have been entrusted.

Cozetto, Kweit, and Kweit (1995) identified five major budgetary decision-making approaches that have been adopted throughout the history of budgeting in the United States. These five approaches are line-item budgeting, performance budgeting, planning and programming budgeting (PPB), zero-based budgeting (ZBB), and outcome-based or target based budgeting (also known as New Performance Budgets or NPB). In addition to reviewing these five approaches to public budgeting, the researcher evaluated the Balanced Scorecard (BSC).

## Line-Item Budgetary Model

The line-item budget is the most basic and traditional type of budget format (Cozzetto et al., 1995). Also known as the object-of-expenditure classification (Mikesell, 1999), this type of budget is appropriately named because each item of each program is listed along with the associated expenditure (Cozzetto et al, 1995.). Line-item budgeting was initiated during the early part of the 20<sup>th</sup> century and was one of the first types of budgeting systems introduced into government. It has been used extensively at all levels of government, as well as in the private sector. The standard of budgeting in the public sector has long been the traditional line-item budget (Moylan, 1995). This format serves as the basic structure for budget development in that it has become the template that many agencies use for estimating the cost of carrying out plans for service. Most other budget classifications begin from some type of line-item basis (Mikesell, 1999). It is the building block for budget cost estimates, after it has been determined what the agency wants to do, and provides the focus for the control structures of government operation (Lynch, 1995).

The measurement focus of line-item budgets is on inputs to the flow of service provision (Mikesell, 1999; Moylan, 1995). Its purpose is to identify the cost of specific materials and services. Usually little descriptive information justifying the expenditures is provided. In other words, the focus is on the resources (i.e., labor, equipment, supplies) that the government purchases, whether directly from its suppliers or indirectly through transfer-subsidy-loan programs.

In a line-item budget, particular components of an organization are identified, and a particular allocation of money is specified, with no connection to the program or the expected outcomes produced by an organization (Cozzetto et. al., 1995). The emphasis is on purchase

type, such as personnel, office supplies and equipment, utilities, or contractual services.

According to Cozzetto et al.(1995), line-item budgets were initially used because the role of the budget was to control and account for expenditures of public monies. The line-item budget was developed in response to a government reform movement to stop, or at least control, fraud and abuse in government spending (Lynch, 1995; Martin, 2000).

The strength of input measures, which are emphasized in line-item budgeting, is that they provide a detailed classification of the scope and level of resource consumption for legislative review and managerial decision-making. In addition, line-item measures can be used as the basis for many other types of performance measures such as the creation of efficiency measures that are adopted in many subsequent measurement models. By nature, input measures are simplistic, making them easy to understand, develop, and use. For example, some of the particular strengths of line-item budgets are that they allow for easy comparisons between previous year and current year expenditures, they are easily understood by the layperson, and they allow for a high degree of control over expenditures (Cozzetto et. al., 1995).

One of the major weaknesses of input measures is that they do not consider subsequent actions such as goals achieved, outcomes attained, or output produced (Cozzetto et. al., 1995). These measures simply explain the various categories where resources have been consumed in the production of services. Another weakness is that they provide little in the way of long-term planning. Additionally, they do not address the rationale for the allocation of resources to any specific program. Furthermore, line-item budgets provide little narrative to tie expenditures to performance criteria. Finally, it has been pointed out that line-item budgeting has no direct relationship to the cost of the utility provided by the program, nor does it reflect program goals (Moylan, 1995). For example, if the OSDBU used some form of line-item budgeting system, the

expenditures reflected in these categories would be organized or categorized by expenditure type, such as office supplies, rent, office hardware, furniture, and so on.

### Performance-Based Budgetary Models

The concept of performance budget was introduced at the federal government level in 1949 by the Commission on Organization of the Executive Branch of Government, also known as the “Hoover Commission” (Mikesell, 1999; Posner, 1997; Seckler-Hudson, 1978). One of this commission’s major recommendations was for the federal government to replace the line-item budget format with the performance budget (Cozzetto et. al., 1995), which is prepared on the basis of the functions and objectives of governmental agencies and departments, rather than exclusively on the basis of objects of expenditure and organizational units (Seckler-Hudson, 1978).

As opposed to the inputs reflected in line-item budgets, performance budgets emphasize agency-activity performance objectives and accomplishments (Cozzetto et. al., 1995; Mikesell, 1999). These budgets were initiated as a means of shifting the focus away from the inputs of government and towards the functions, activities, costs, and accomplishments of government (Posner, 1997). In other words, the focus was accomplishments, ends, outputs, or planned agency-activity performance objectives (Mikesell; Moylan, 1995; Seckler-Hudson, 1978). This focus on the use of output and activity measures in performance budgeting serves the dual purpose of allowing elected officials to define policy objectives and designing budgets to accomplish those objectives rather than focusing on allocating resources at the agency level (Cozzetto et. al., 1995; Mikesell, 1999). This particular type of performance model relates groups of expenditures or “activity classifications” to a larger mission (Cozzetto et. al., 1995), such as

consumer output or contribution to public objectives. Therefore, in the performance budget, the single most important task is the precise definition of the work to be done and a careful estimation of what that work will cost (Seckler-Hudson, 1978).

The essence of performance budgets is that the budget should be tied to programs in order to provide an easier basis for policy-making (Emmerich & McLean, 1978; Mikesell, 1999). One of the major characteristics of performance budgeting is that allocations of money are tied to specific program outputs, which is consistent with the search for efficiency through maximizing results from inputs (Cozzetto et. al., 1995). Mikesell (1999) indicated:

The performance classification promises better services at lower costs from more accountable officials; improved legislative review as attention and debate shift away from issues of personnel, salaries, supplier contracts, and the like, toward activity issues more related to how resources are used; and centralized decision making, allowing top management to concentrate its attention on policy matters. (p. 186)

In other words, performance budgets link costs with activities, and this linkage permits unit-cost comparisons across agencies and over time within agencies, thereby representing changes, whether improvements or declines, in operating efficiency.

The performance budget is intended to show the results of government spending and thereby to relate past performance to future policy objectives (Emmerich & McLean, 1978). Performance budgets also have some special, unique implications (Mikesell, 1999). For this type of budget structure, the budgetary decision-making power should always be placed with the central management agencies such as CEO offices for the development and implementation of performance measurement design and performance control. Also, the process of performance budgeting often involves a re-analysis of top functions and a reconsideration of the appropriation process by the legislature (Emmerich & McLean, 1978).

Cozzetto et al. (1995) discussed the strengths of performance budgets. First, performance budgets facilitate more comprehensive decision-making, including allocation and performance criteria. Second, performance budgets expedite the appropriations process, because the amount of detailed cost information is reduced compared to the line-item approach. Third, these budgets allow for internal managerial control over budget and performance guidelines as opposed to control from a central agency. Finally, these budgets become important evaluation tools.

Due to these strengths, performance budgeting grew to become a key management tool for the 1990s (Moynan, 1995). Nonetheless, there were differing perceptions across the branches of government regarding the extent and the success of performance budget implementation (Willoughby & Melkers, 1998). Though performance budgeting allowed for comparisons between programs and within programs (e.g., comparison to the previous year's performance), it also enabled management to periodically review work processes so that inefficiencies could be improved. Finally, it facilitated the challenge of "doing more with less." Linking budgets to performance gained momentum from calls to "reengineer" business and to "reinvent" government in the early 1990s (Burke, Modarresi, & Serban, 1999).

In the 1980s and 1990s management saw different trends, such as management by objectives (MBO) and Total Quality Management (TQM), which are models that emphasize performance. These initiatives are in direct contrast to previous models, which emphasized compliance. Thus, advocates of management by results tend to emphasize performance, while advocates of control by regulation emphasize compliance, and all of these tendencies fueled the performance budgeting trend.

Performance budgets have several major limitations. First, it is difficult to adequately assess program outputs, thereby making the evaluation of overall program performance



problematic (Cozzetto et. al., 1995). This evaluation is more difficult for public agencies, which cannot simply look at profit measures as commercial entities do. Second, the entire process is very long and arduous because of the level of staff involvement and commitment (Moylan, 1995). There must be an accompanying reorganization of the administrative agencies to match programs so that program costs can be translated to administrative-unit appropriations. Without this alignment, the program budget format “yields numbers that are not usable by budget decision-makers and choices will continue to be made in the familiar setting of the traditional (line-item) budgets” (Mikesell, 1999, p. 186). As Mikesell pointed out, many agency managers do not like performance budgets because the nature of this budgeting system exposes the agency to increased scrutiny by external parties such as taxpayers and legislators. Additionally, legislatures must change their review and appropriations procedures to a system that has no apparent linkage to revenue and budget balancing, making it more difficult to measure and more difficult to respond to the demands of citizens. Furthermore, performance budgets do not ask whether the performance being measured is the service the public actually wants (Mikesell, 1999).

Once again, using the OSDBU as an example, instead of simply categorizing expenditures by function, these expenditures would be categorized by goal achieved. For example, if the goal were to serve 200 women-owned businesses in the state of Florida per fiscal year, then the cost for serving these businesses would be calculated as a cost per business served.

### Planning, Programming Budgetary Models

Planning, Programming, Budgeting Systems (PPBS or PPB) represent another step on the road towards budget reform. These types of measurement systems focus on the relationship of

inputs to outputs and emphasize outcomes. Based on the premise that data are to be organized around programs, the budget categories are compiled using a line-item system and the inputs are allocated to particular programs, as opposed to line items within an entire agency. These systems essentially combine the control orientation found in line-item budgets with the management orientation found in performance budgets (Mikesell, 1999), resulting in the planning oriented PPBS model.

Mandated across the federal government in 1965 by President Lyndon B. Johnson (Posner, 1997), PPBS was seen as a means of improving major program decisions in operating agencies (U.S. Bureau of the Budget, 1968). In general, different levels and types of performance could be arrayed, quantified, and analyzed to make the best budgetary decisions. PPBS provides for identification of program issues and consideration of such issues in the framework of a program structure. Therefore, the main difference between Program Budgeting and PPBS is that the former promotes managerial discretion and the development of performance indicators to assist with program evaluation while the latter emphasizes long-term planning, the use of sophisticated quantitative analysis to assist with resource allocation decisions, and standardization of the process across federal agencies.

As stated by Wildavsky (1979), PPBS basically compares consequences horizontally across all major programs. PPBS provides for identification of program issues and consideration of such issues in the framework of a program structure. It requires a structure where all policies related to common objectives are compared for cost and effectiveness. The system has three basic elements: Program memoranda, Special Analytic Studies, and Program and Financial Plans (Hyde & Shafritz, 1978). Program memoranda provide the documentation for the strategic decisions recommended for the budget year. The special analytic studies provide the analytic

groundwork for the decisions reflected in the program memoranda. Program and financial plans provide a continuing record from year to year of the output, costs, and financing of all agency programs.

Each branch of government has its own set of perceptions of PPBS. The various branches perceive the extent that PPBS is being implemented differently, and they perceive the level of success associated with implementation differently, as well (Willoughby & Melkers, 1998). Analysis showed that states with better-known PPBS systems have not necessarily realized greater success in terms of effectiveness from this type of budget reform than states with less popularly known systems. By implementing a PPBS system, agencies will not necessarily see actual changes in spending amounts. Most of the changes that will be experienced at the agency due to the implementation of a PPBS system will be expressed in the way that the agency is managed.

One of the major strengths of PPBS is that it ties expenditures to agency goals, which are usually rooted in specific programs (Cozzetto et. al., 1995). A second strength is that it incorporates useful quantitative tools. A third strength is that it relates expenditures to long-term planning and provides a mechanism for accountability.

One of the major weaknesses of PPBS is that PPBS strategies successful for fund allocation for the national defense may not be met with the similar level of success for civilian programs due to the differences in goal-setting, decision-making, and service delivery structure in these organizations. Another major weakness is that PPBS is extremely complex, making it difficult to be effectively implemented. This difficulty arises because it creates a strong demand for the technical capabilities of budgetary agencies and staff. Program budgets also require new guidelines and extra effort by all involved parties (including legislatures, lobbyists, and

government departments). Therefore, based on the researcher's experience in management, unless all parties actually want the new format and are willing to put the necessary time into learning the new format, it will be ignored in favor of more traditional formats.

The sheer complexity of PPBS causes several other negative situations to arise. For one, the proper use of PPBS requires specific training for budget analysts, often causing adequately trained budget analysts to be in short supply. A second weakness is that it produces voluminous amounts of data that can overwhelm the system. Furthermore, the complexity of this type of budgeting system fosters budget games and financial mismanagement (Cozzetto et. al., 1995). Finally, as stated by Wildavsky (1979), "Program budgeting has not succeeded anywhere in the world it was tried. It has failed because its cognitive requirements—relating causes to consequences in all important areas of policy—are beyond individual or collective human capacity" (p. 179).

To continue with our example: If the OSDBU agency implemented a type of PPBS, all budgeted expenditures would be distributed across the various programs within the agency. For instance, all expenditures for salaries, supplies, and rent would be spread across the various programs within the agency. The total cost for each program would then be tabulated so that the total cost for each program could be calculated and distributed accordingly across the expenditure categories.

### Zero-Based Budgetary Models

Whereas program budgeting compares consequences and results across all major programs (horizontally), zero-based budgeting compares consequences and results within each program (vertically) by starting from scratch each year (Wildavsky, 1979). Former President

Jimmy Carter implemented zero-base budgeting (ZBB) at the federal level during his presidency (Mikesell, 1999; Posner, 1997). ZBB was designed as a holistic management package, integrating planning, operational strategies, resource allocation, and evaluation at all organizational levels. ZBB demands a re-justification of the entire budget submission from ground zero each year, and each agency is required to defend its entire budget annually with no presumption that the agency will receive at least its prior-year appropriation. Consequently, the beginning point for each subsequent year is zero and each program requires analysis and justification each year (Mikesell, 1999). The main focus of ZBB is optimizing accomplishments or outcomes available at various alternative budgetary levels (Posner, 1997). Stated another way, ZBB is a system that requires agencies to prioritize their entire budget each year (Mikesell, 1999). For example, an agency would project levels of outcome if funded at \$2 million versus being funded at \$1 million.

This re-justification of the entire budget submission each year from ground zero is in contrast to the systems that were presented thus far that emphasize incremental changes in budgetary decisions. Incremental budgeting systems essentially respect the outcomes of previous budgetary decisions and focus examination on the margin of change from year to year (Hyde & Shafritz, 1978). Therefore, ZBB is first and foremost a refutation of the incremental nature of budgeting processes.

ZBB focuses on the concept of funding priorities. These priorities should reflect a concern about the projects or activities that governments do. These projects or activities should be prioritized for agencies to make funding decisions (Hyde & Shafritz, 1978, p. 219). ZBB involves five fundamental steps that are used in its application (Cozzetto et. al., 1995). The first step is to prepare “decision units,” which are activity centers, either program-specific or agency-

wide, that fall under the direction of a manager. The second step is to analyze each decision unit within a “decision package.” The third step is to rank decision packages. Fourth, operating budgets must be developed based upon approved decision packages. Fifth, management must evaluate and review the ongoing progress with respect to financial expenditures, as well as program implementation.

ZBB is characterized by numerous strengths (Cozzetto et. al., 1995; Mikesell, 1999). First, it is a management-oriented approach to budgeting that uses standard processes on a system-wide basis. ZBB also presents alternative strategies and describes the effects of various methods of implementation. Additionally, when using ZBB, existing and new programs receive the same level of scrutiny, thereby preventing bias caused by program familiarity. Furthermore, ZBB presents the various ramifications of increases and decreases in funding levels and integrates short-term planning with long-term planning. Finally, ZBB facilitates identification of duplication within the organization.

Despite the many strengths of ZBB, there are three major limitations that hindered its widespread acceptance and use (Cozzetto et. al., 1995; Mikesell 1999). First, there is a demand for the development of decision packages and the process can be very time-consuming. Second, like PPBS, the original form of ZBB is too complex, making it difficult to manage the process and data needed. Third, since there is no guarantee of program continuity, the technical presentation of the ZBB makes it difficult for the legislature to accept and use it.

If the OSDBU were required to utilize a ZBB plan, each program and activity, and all subsequent expenditures provided by the agency, would have to be justified each year if any funds were to be allocated for that purpose. For example, suppose that OSDBU Agency had a program that was established to help business owners write effective business plans and

proposals so that they could secure financing through loans, grants, and contracts. During the first year, this program might receive a substantial amount of money to cover start-up and other initial costs and operating expenses without the program's being undercapitalized. Initially, there might also be a high level of demand for these services. However, during the second year of the program, funding might be cut significantly because this program may not be the priority of legislative consideration for funding.

### Outcome-Based Performance Budgetary Models

Outcome-based performance budgets, also known as new performance budgets (NPB), emphasize program impacts and results in budgetary decision making (Rossi & Freeman, 1989), reflecting the efforts to move budget processes from an input focus to a more results-oriented or outcome-oriented focus (Joyce, 1993; Martin, 2000; Mercer 2002; Mikesell, 1999; Posner, 1997; Walker, 2002). NPB essentially define all activities, direct and indirect, required by a program for support, in addition to estimating activity costs.

NPB involves efforts to link resources to results and is viewed as a specific type of analysis that focuses strictly on outcomes (Martin, 1997; Mercer, 2002; Walker, 2002). By definition, NPB is an integrated annual performance plan and annual budget that shows the relationship between program funding levels and expected results by identifying the relationships between dollars and results, as well as explaining how those relationships are created (Mercer, 2002). NPB, therefore, presents a general indication of how dollars are expected to generate results, which facilitates resource allocation decisions by suggesting the potential effect of budget increases and decreases. This type of outcome-based assessment is especially useful in the human-services–contracting arena. It is used to conduct program evaluations that attempt to

determine or verify accountability by measuring and evaluating the end results of government programs, rather than by monitoring inputs and processes (Dicke & Ott, 1999).

NPB is a valuable diagnostic tool for developing a fundamental understanding of the integration between resources applied and performance achieved (Wang, 2002b). Once created, a performance budget may become the foundation for building a comprehensive performance management system that is a crucial part of the agency-wide overall strategic plan. A well-crafted performance budget provides agency managers with a starting point for monitoring organizational performance.

Social indicators have also been shown to play a role in this type of results-oriented budget system (Aristigueta, Cooksy, & Nelson, 2001). Just as agency performance indicators reflect the level of program outcomes experienced, social performance indicators allow researchers to monitor the general well-being of society at large. Performance measures have been shown to be better at measuring program activities and outputs than measuring outcomes, which are much more difficult to measure (Berman, 2002). One disadvantage to using these measures is that implementing an inadequate performance measurement system can provide a false sense of security and accomplishment, subsequently leading to misdirected resources and activities (Bouckaert & Peters, 2002).

The underlying process involved in NPB begins with agencies' identifying the outputs and outcomes that are to be produced by their programs (Mikesell, 1999). Based on these outputs and outcomes, performance targets are set and budget requests are made. The agency heads are then accountable for achieving those results without micromanagement of the inputs.

Martin (1997) sought to define outcome budgeting. He found outcome budgeting to be different from such traditional budgeting systems as PPB and performance budgeting, because



outcome budgeting involves a specific type of analysis that focuses strictly on outcomes. He stated that outcome budgeting appeared “to be a logical response to the pace of change, the desire for government managers and administrators to become more innovative and entrepreneurial, the devolution of government decision-making and authority, and the demand for more government accountability for results” (p. 112). Martin went on to say that the implementation of outcome budgeting can be thought of as involving at least two major decisions. The first decision is the selection of a basic approach. The second decision is the selection of a level of analysis. Martin (1997) concluded by stating that while outcome budgeting does bear “a resemblance to performance or functional budgeting, it is sufficiently different to constitute a new species of budgeting system” (p. 123).

NPB differs from such traditional budgeting systems as PPBS, management by objectives (MBO), and traditional performance budgeting in that it involves a specific type of analysis that focuses on outcomes and effectiveness (Martin, 1997). This type of budgeting system appears to be a direct result of today's dynamic and unpredictable environment. It allows government managers and administrators to be more innovative and entrepreneurial in the way that they run their agencies and programs. It also provides the necessary accountability, while allowing enough flexibility for the appropriate devolution of decision-making and authority. NPB can further be described as involving a special type of analysis, which can be classified as the analysis of results, accomplishments, or impacts (Martin, 2000). The primary target audience for NPB is external stakeholders, which include elected officials, citizens, advocacy groups, and others.

NPB has also been described as an integrated annual performance plan and annual budget that shows the relationship between program funding levels and expected results (Mercer, 2002).

As an effective budgeting mechanism, NPB can be used to identify the relationships between dollars and results, as well as to explain how those relationships are created. NPB can be used to identify these relationships since NPB defines all activities, direct and indirect, required by a program for support, in addition to estimating activity costs. For example, NPB can be used to produce an estimation of how dollars are expected to generate results. In turn, this information facilitates resource-allocation decisions by suggesting the potential effect of budget increases and decreases. Additionally, performance budgeting is a valuable diagnostic tool for developing a fundamental understanding of the integration between resources applied and performance achieved.

One of the major strengths of NPB is that it can be used to help enhance the government's capacity to assess competing claims in the budget by arming budgetary decision-makers with better information on the results of both individual programs as well as entire portfolios of tools and programs addressing common performance outcomes (Walker, 2002). An additional strength of NPB is that it provides an important tool for assessing how spending changes affect results. NPB can also be used as the foundation for the structure of program outputs and performance goals. NPB is also invaluable in facilitating increased communication between managers and employees because it is a simultaneous top-down and bottom-up process (Mercer, 2002).

Despite challenges, NPB is achievable at the federal level, particularly now that the requisite management reforms emphasizing accountability are in place (Mercer, 2002). NPB is an ongoing process that involves every manager within an agency, from an agency head to individual managers of programs and organizations within an agency. This level of involvement

should foster more understanding and acceptance of the system within the various ranks of management.

Though widely accepted as a promising tool in facilitating the reforms sought within today's government, NPB has been criticized for its inability to bring about fundamental changes in actual budget outcomes (Halachmi 1997; Joyce, 1993). Proponents of NPB cite its potential to bring about basic change in the resource-allocation process by using performance measures as the primary means of allocating government resources. Use of this type of system would require a transformation of most current budget allocation processes, which are heavily focused on inputs, to outcome-oriented systems, which primarily focus on expected results.

Another major limitation is that, by focusing on the results of specific programs, stakeholders may lose sight of what the overall goals of their organizations should be, such as increased quality of life, and focus on more short-term, measurable goals. Losing sight of overall goals will cause stakeholders to shift the focus of their resource-allocation processes away from inputs and towards expected results. Therefore programs that have a more long-term-oriented focus might get shortchanged because of the amount of time that it would take to yield measurable results. Correcting the situation so that programs with a long-term focus do not get shortchanged would require a complete overhaul of the way resources are currently allocated from an input focus to a results focus.

There are other limitations associated with NPB, as well. For one, most government officials do not have enough experience to effectively utilize NPB (Cozzetto et. al., 1995, p. 213). Second, outcome measures will be difficult to compare because no standard measurements exist that will apply across various agencies. Third, there needs to be a strong consensus among elected officials, legislative bodies, and the general public regarding agency

objectives, which is often difficult. Fourth, most accounting systems used by the governmental agencies will have to be modified so that the information that they provide can be linked to outcomes, which is difficult to accomplish within a short period of time and without sufficient investment in technology. Fifth, many outcomes realized by agencies are largely out of their own control, making outcomes all the more difficult to measure. Sixth, legislatures cannot micromanage agencies and therefore cannot control the agencies' outcomes (and micromanagement usually proves to be a problem). Seventh, audits cannot focus solely on financial measures. Obviously there are many limitations that must be considered when examining NPB.

If the OSDBU agency were to categorize its expenditures using a type of new performance budget, an example would be the number of small business-awarded prime contracts with a specified government agency charged to each organizational funding source. Another example is the amount of accounting costs that should be charged to each funding source. The outcomes can be measured as the number of woman-owned businesses that successfully submitted proposals to federal agencies and were awarded contracts as a direct result of the assistance that they received from the OSDBU Agency. Another way the OSDBU Agency could measure outcomes is by the number of businesses that received Small Business Association (SBA) loans as a result of their assistance.

### The Balanced Scorecard Model

In 1990, the Nolan Norton Institute, the research division of KPMG, sponsored a one-year multi-company study on the future of performance measurement (Kaplan & Norton, 1992). David Norton, CEO of Nolan Norton, was the study leader, and Professor Robert S. Kaplan of

the Harvard Business School served as an academic consultant. The dozen companies that formed the original study group believed that exclusive reliance on financial performance metrics was causing their companies to do the wrong things. This study explored new methods of performance measurement.

Kaplan, Norton, and the representatives from the participating companies met bimonthly throughout 1990 to develop a new performance-measurement model. They began by analyzing case studies involving innovative performance-measurement systems. The ideas investigated included shareholder value, productivity and quality measurements, new compensation plans, and a “Corporate Scorecard” (Kaplan & Norton, 1996a, p. 119). This group decided that the scorecard was the most promising system and was therefore the most worthy of further investigation, including refining the model.

The resulting Balanced Scorecard (BSC) model (see Figure 1) has been labeled one of the 75 most influential ideas of the 20th century, according to Harvard Business Review (Niven, 2002), and one that received much acclaim in the relevant literature (Hepworth, 1998). The model was made up of four perspectives—financial, customer, internal processes, and innovation and learning. BSC was significantly different from any existing performance-measurement system and therefore generated considerable excitement in the performance-measurement world. The unique quality of this model is the fact that this model struck a “balance” between leading and lagging indicators, short- and long-term objectives, and external and internal performance perspectives (Kaplan & Norton, 1992).

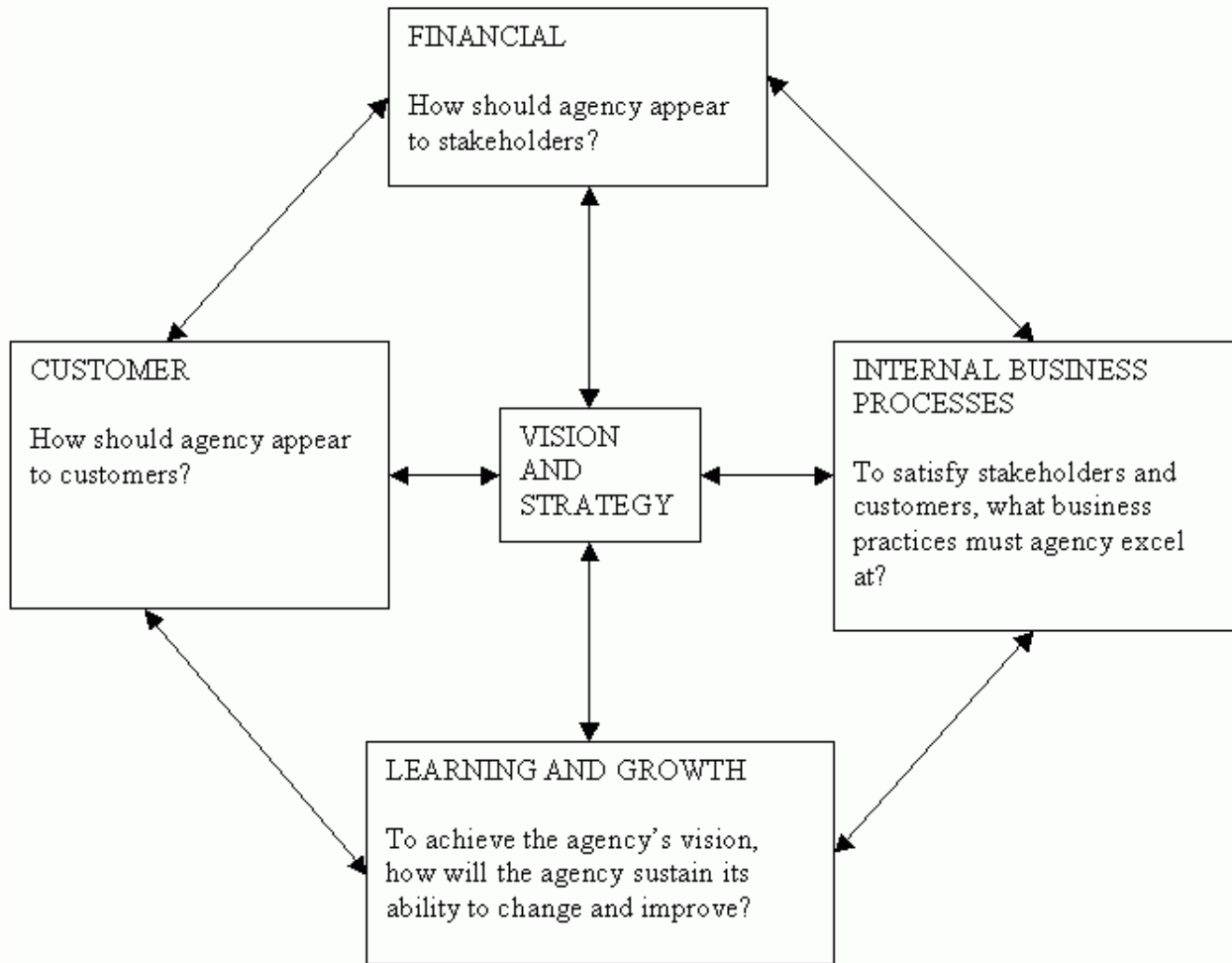


Figure 1. The Balanced Scorecard Model

In 1992, Kaplan and Norton introduced the Balanced Scorecard. Known by the authors as the “strategy scorecard,” it is a management tool used to develop performance measurement standards in organizations. It provides executives with a comprehensive framework that translates a company’s vision and strategy into a strategy-driven set of performance measures (Kaplan & Norton, 1996c; Neely et. al., 2000). BSC basically is a method for translating an organization’s mission and strategy into a condensed set of performance measures (Helfrich & Filip, 2000; Maholland & Muetz, 2002). Therefore, the BSC was developed to be a holistic

strategic management system that wires every part of the organization to its strategy scorecard. BSC serves as a holistic model of strategy that allows employees to see how they are contributing to organizational success (Kanji & Moura, 2001).

Following the development of the BSC model, Kaplan and Norton revised and improved the model as they observed it being used in practical situations. The evolution from being strictly a performance measurement tool to a strategic management system can be chronicled through subsequent Kaplan and Norton articles and books (Kaplan, 1994; Kaplan & Norton, 1992, 1993, 1996a, 1996c, 1996d, 2000, 2001a, 2001b, 2001c, 2004c). This development is explored more thoroughly in Chapter III.

Further work with senior business executives led to experiences with the BSC that demonstrated that metrics spread across the four perspectives could effectively drive a single strategy (Kaplan & Norton, 1996d). Kaplan and Norton based this concept of four perspectives feeding from the overall organizational strategy and vision on the premise that the BSC could be used as the foundation for core managerial processes such as resource allocation, budgeting, planning, goal setting, and employee learning.

Traditionally, most managers have exclusively focused their attention on financial measures, with managers in the manufacturing sector being one extreme example (Gosselin, 2005). Conversely, the BSC is based on the premise that an exclusive reliance on financial measures in a management system is insufficient (Kaplan & Norton, 2001b) and that managers should aim to strike a balance between both financial and non-financial measures. Touted as being as useful as the more traditional framework of income statement, balance sheet, and statement of cash flows for financial planning and reporting (Kaplan & Norton, 1992), the BSC model was designed to bridge the missing gap between financial and non-financial measures.

Kaplan and Norton (2001c) developed the BSC as a means of helping organizations specify the critical elements necessary in implementing growth strategies.

Financial measures have traditionally been used to evaluate performance in the private sector. One of the classic works involving the effects of reliance on accounting performance measures (RAPM) examined the effect of RAPM on job-related tension (JRT) (Hopwood, 1972). This study found that too much emphasis on accounting measures for performance evaluation resulted in increased JRT and dysfunctional behavior. Subsequently, Otley (1978) found conflicting results but suggested that the effects of RAPM in performance appraisal could be mitigated by the appropriateness of the budgetary measures of performance. In other words, the amount of JRT caused by RAPM is determined by the perceived fairness of the budget figures by which the employee is evaluated. These studies led to a large body of research concerning the relationships among systematic differences in the environment (Govindarajan, 1984).

Kaplan conducted research for approximately one year and worked with 12 companies on the cutting edge of management practices to develop the BSC model. Kaplan and Norton (1992) described their model as “a set of measures that gives top managers a fast but comprehensive view of the business” (p. 71). More recently, it has also been proposed that a good scorecard measures process, products, and outcomes and reflects key values of both producers and customers (Lawton, 2002). Additionally, a good scorecard should be elastic and flexible enough to react to strategic changes caused by environmental turbulence (Laitinen, 2005). Therefore, a truly balanced scorecard aligns strategic objectives with customer priorities and should be used as a mechanism for strategy implementation, not strategy formulation (Kaplan & Norton, 1996c). Furthermore, by aligning the BSC with other organizational strategies such as customer priorities, SWOT analysis, and quality function deployment, the scorecard can be translated from



vague strategy into specific actions (Ip & Koo, 2004). This ability to align strategic objectives with customer priorities is especially important for public agencies, since a clause in the Government Performance and Results Act (GPRA) of 1993 instructed federal agencies to “consult” with stakeholders during the strategic development process so that the agency could be more responsive to public interests (Franklin, 2000).

For each perspective of the BSC, managers must identify the organization’s goals and objectives while simultaneously developing measures to achieve these goals. Additionally, cause-and-effect relationships must also be established among objectives and measures in all perspectives so that they can be managed and validated. To avoid information overload, the number of measures identified is limited to those that are most critical to organizational success. Managers must also be realistic about their expectations as to what performance measurement systems can and cannot do. By applying principles adapted from the physical sciences, managers must realize that uncertainty exists within the arena in which they operate (Palmer & Parker, 2001).

In addition to problems with performance measurement in general (Bouckaert & Peters, 2002; De Lancer Julnes, 2001; Grizzle, 2002), problems were identified concerning the basic assumptions and relationships within the BSC (Hellein & Bowman, 2002; Norreklit, 2000). First, it was found that there was an interdependent relationship, as opposed to a causal relationship, between the perspectives within the BSC, thereby causing problems in strategy formulation. Another problem that was identified was a “gap” between the planned strategy and the actions actually undertaken (Norreklit, p. 75, 2000). In other words, strategy deployment had generally been ignored, resulting in implementation problems. Norreklit (2000) suggested that the implementation of a “coherent” set of performance measurements based on a coherent strategy

be used to alleviate these shortcomings (p. 82), with a coherent strategy being defined as one in which the properties of the different perspectives are “integrated and harmonized,” allowing the plans to be achieved through the working together of the properties of the different areas of focus (p. 84). Thus, “the implementation of a coherent set of performance measurements should be based on a coherent strategy” (p. 84).

Other drawbacks have also been identified (KPMG, 2001). One asserted drawback is that the four perspectives are too limiting. There is a lack of consideration in the existing perspectives for knowledge-creation processes and intellectual capital. Some critics of the BSC have even suggested that a “human resource perspective” should be added to help the company focus on the performance drivers that originate from human capital. Additionally, the model has been criticized for having little focus on the external environment (KPMG). By not monitoring outside forces such as market and other competitive changes, the organization makes itself more susceptible to unexpected environmental fluctuations.

Turning once again to the example using the OSDBU Agency, if the BSC were implemented, there would be specific goals under each of the four major areas—financial, customer, internal business processes, and learning and growth. Some examples of types of agency goals could be to decrease general operating expenses by 7%, increase the number of clients served by 10%, cut the amount of time that it takes to process a customer request by 15%, and to make sure that every client that was served during the past fiscal year would be contacted as a follow up. The budget is then allocated to activities related to accomplishing these goals.

## Summary

In this chapter, the development of budgetary formats over the past 100 years was examined (see Table 1). A chronicle of the progression of budgetary models from simple line-item budgets to multifaceted measurement models such as the BSC was presented. A description of the BSC and its design were then discussed and its shortcomings were evaluated.

Table 1

## Budget Format Characteristics

Budget format	Measurement type	Measurement emphasis	Key organizational purposes	Example(s)
Line-Item	Inputs	Accountability	Resource consumption control and budgetary accountability	Amount spent on supplies; the number of employees per 1,000 residents
Performance	Output	Efficiency	Efficiency Improvement Production and process control	The number of clients served; the number of contracts secured
Planning, Programming Budgets	Outcomes	Effectiveness	Improvement of resource allocation decision making	Percentage of total budget amount allocated to a particular program
Zero-Based	Output and outcomes	Effectiveness	Improvement of budgetary decision-making	The amount for a program in each decision package
New Performance	Outcomes	Effectiveness	Improvement of organizational performance and accountability	The number of healthy children in a specific jurisdiction
Balanced Scorecard	Financial/ Non-Financial	Effectiveness	Development of an integrated performance management system	% of budget spent per strategic goal and others

Although the BSC was designed primarily for the commercial sector, by examining the existing literature and integrating the various findings, the researcher developed a new measurement model, the Modified Balanced Scorecard (MBSC) model. The improvement and adaptation of the original model is the purpose of this dissertation.

## CHAPTER III

### THE MODIFIED BALANCED SCORECARD MODEL

In this dissertation, existing budgetary measurement systems are examined and integrated to more accurately reflect the dimensions of performance measurement exhibited in the various microcosms of public organizations. With Kaplan and Norton's Balanced Scorecard Model (BSC) as the latest in the evolution of these models, the existing literature is used to modify and further develop this model specifically for use in public organizations. This chapter explains the significance of this research.

#### Trends in Performance Measurement

Just as some parts of government are being reinvented, so is accountability being reinvented (Gilmour & Jensen, 1998). As the way the business of government is conducted changes, so does the role that accountability plays in that entire process. The trend towards increased accountability is joined by a simultaneous trend towards increased performance (Halachmi, 2002a). This increase in emphasis on accountability has caused most governmental organizations to institute some type of internal auditing process to measure performance and to provide a broader picture of what is going on in the organization (Gilmour & Jensen, 1998). Internal auditing presents a more multidimensional view than financial auditing, which looks at only one aspect of the organization. This new type of performance or operational auditing, used

in the public sector, thereby replaces financial auditing, used in the commercial sector, as the measure of success (Dittenhofer, 2001).

Performance monitoring is not a tool that should be seen as an end in and of itself, and neither is performance assessment. Rather, both of these are tools that should be used as incremental steps in helping public managers be more accountable in their positions and improve public programs (Wholey & Hatry, 1992). Increased emphasis on accountability and reliance on performance or operational auditing are tools that should lead to performance management or effective governing for results (Hatry, 2002). Performance monitoring and assessment should help public managers and administrators specify relative service goals, expectations, and strategies, because they can foster increased communication among the various government stakeholders. For example, it helps legislators “articulate service goals and expectations in budget discussions” (Wang, 2002a, p. 31).

Performance measurement is used in all stages of the budget cycle (Wang, 2000). Regardless of the type, a performance measurement system must simultaneously have validity, clarity, reliability, legitimacy, and functionality to be considered the appropriate tool to use in that particular situation (Bouckaert, 1993; Grizzle, 1985). Additionally, the system should be incremental in order to increase acceptance and help prevent errors in the budgeting process (Schick, 1994; White, 1994). Performance measurement systems tend to evolve over time (Clary, Eberstein, & Harlor, 2000) as performance measurements are used in all stages of the budget cycle (Wang, 2000). Finally, the administrative and political environment influences how the performance measurement system is defined and implemented (Clary et. al., 2000; Schick, 1994). One of the biggest problems in evaluating performance measurement systems is the differing perceptions of use and success among the various “budget players” (Melkers &

Willoughby, 2001, p. 54). Therefore, the adequacy of the performance measures being proposed or used is largely situational (Brooks, 2002; Broom, 1995; Dinesh & Palmer, 1998; Parker, 2000).

While traditional financial performance measures are good at measuring how effective managers are at earning profits in past periods, there are a number of other ways of assessing organizational effectiveness other than the financial. Financial performance measures are lagging indicators of performance, involve only historical data, and use strictly financial data. These measures do not consider the positive effects of managerial duties that affect the future profitability of an organization. Focusing too much on results can cause employees to pursue activities or make decisions that are beneficial to the organization in the short term but detrimental in the long term. For example, from the researcher's years of experience in project management, the forgoing of routine maintenance and repairs makes quarterly expenses seem lower but can result in major damage and the need for subsequent repairs. Focusing too much on results may also weaken employees' commitment to democratic-constitutional values (Piotrowski & Rosenbloom, 2002).

Other ways of assessing organizational effectiveness might include actions such as spending time and money to train employees or paying overtime to technicians in order to ensure greater customer satisfaction. These types of duties sometimes directly conflict with the idea of making more profit in the private sector or being cost efficient in the public sector during a specific period, as they can result in additional expenses incurred. Yet without these activities, an organization loses its ability to effectively compete or even function in today's changing environment.



Effective performance measurement is a planning, budgeting, and accountability tool that should be used to effectively increase performance (Behn, 1995; Fischer, 1994). Humanistic concepts, such as benchmarking, continuous improvement, and participation are simply other types of organizational management theories that evolved throughout the 1980s and 1990s. The trend in performance measurement has moved away from simply looking at efficiency measures and toward the humanistic side of the organization. Additionally, there has been a call for a more systematic approach to performance measurement implementation (Frank & DeSouza, 2004), because so many fundamental questions remain regarding effective performance measurement implementation. These performance measurement tools should also be applied in order to avoid organizations' being stagnant and unresponsive to today's changing environment. (Kouzes, Posner, & Posner, 1999).

Other limitations of simply using financial performance measures have also been documented. While the assumption is sometimes made that the best indicator of future performance is past performance, this assumption is not necessarily true. Because of the historical nature of accounting data, financial measures can be lacking in predictive ability, as they do not measure the factors that contribute to improved future performance (Ittner & Larcker, 1998). By ignoring these factors and allowing managers to be rewarded for good short-term performance only, management may actually be encouraging rewards for the incorrect behavior. Additionally, the effectiveness of the performance measurement tool is limited by the knowledge of the governmental manager using the tool (Streib, 2005). The effectiveness of the tool is also limited by other key elements within the tool itself, including the reliability and relevance of the performance data and cost data used within the tool (Pizzarella, 2004). Furthermore, some researchers feel that performance measurement is simply a form of

administrative idealism that is really not used as much as was once thought (Kelly, 2002).

Nevertheless, the overwhelming motivation to use performance measures stems from a desire to make better decisions and to maintain accountability to citizens and other stakeholders, rather than from the need to meet reporting requirements (Poister & Streib, 1999). It has also been proven that the use of performance measurement impacts organizational efficiency, effectiveness, and accountability (Wang, 2000). With all of this being said, it is evident that one of the essential questions of the future will be how to move to full adoption and implementation of the citizen-drive, data-driven, decision-making (Holzer & Yang, 2004).

Relying too much on financial measures for performance evaluation can also result in dysfunctional behavior of the subordinates being evaluated (Hirst, 1981, 1983; Hopwood, 1972; Tiessen & Waterhouse, 1983). Because financial performance measures fail to include all relevant dimensions of managerial performance in situations where high task and environmental uncertainty exists, managers may view these measures as unfair, leading to anxiety and job-related tension (Hopwood, 1972; Otley, 1978; Weissenfeld & Killough, 1992). Additionally, it has been determined that the financial and economic dimensions of microfinance institutions (i.e. governmental agencies) can effectively be assessed using traditional measures. However, a BSC approach is necessary to evaluate the social objectives, as well as to accommodate the specific nature of microfinance institutions (Koveos & Randhawa, 2004).

In the private sector, financial measures (for example, increasing revenues, decreasing costs, maximizing shareholder wealth) are the universally accepted indicators of success, and these measures ultimately determine the performance of the organization. Though some may argue that customer service is more important, based on the notion that satisfied customers will lead to financial performance, organizational survival depends on an organization's ability to

satisfactorily meet its financial obligations. Regardless, there is no such universally accepted measure of success in the public sector. This is why Kaplan and Norton's BSC, which was specifically designed for the private sector, should be modified.

### Public Interest Values and the Balanced Scorecard Model

The BSC has been a major topic in performance measurement literature in recent years, with many articles focusing on the strategy involved in the implementation of the BSC (Bollinger, 2002; Frank & DeSouza, 2004; Frigo, 2002; Kaplan & Norton, 2001c; Sim & Koh, 2001; Van Veen-Dirks & Wijn, 2002). Although non-financial measures such as those in a BSC are being used more and more in developing and deploying strategy (Amaratunga, Baldry, & Sarshar, 2001), one survey showed that financial measures are still the measures being focused on for performance evaluation (Frigo, 2002). Some studies explained how the BSC is being used in specific industries (Chang, Lin, & Northcott, 2002; Penney, 2002). Other research has focused on performance after the adoption of a BSC (Frigo, 2002; Hoque & James, 2000; Malina & Selto, 2001). Using time-series data, Banker, Potter, and Srinivasan (2000) demonstrated a significant link between non-financial measures and future performance, and also demonstrated that when incentives are tied to non-financial measures, future performance improves even more.

A number of studies have discussed the advantages of developing a BSC for specific industries. The need for the BSC in healthcare administration worldwide was discussed by Forgione (1997). The advantages of the BSC in healthcare were also addressed by Chow, Ganulin, Haddad, and Williamson (1998). More recently, use of the BSC has been researched in academic institutions (Dorweiler & Yakhou, 2005), in the hotel industry (Evans, 2005), in

research and development firms (Bremser & Barsky, 2004), in libraries (Self, 2004), and in microfinance institutions (Koveos & Randhawa, 2004).

Other important issues involving BSC model implementation in healthcare organizations have also been addressed. For example, with increased concern over public interests such as healthcare costs, Griffith and Pattullo (2000) recommended a BSC approach for integrated health systems, although they suggested eight major perspectives for this field due to the uniqueness of the population served.

Few studies have investigated the effectiveness of the BSC model as a performance measurement tool. Some studies have looked at various components of the BSC (Hoque & James, 2000; Johnsen, 2001). However, the reliability of this model compared to that of other tools already in use has not been evaluated. There may be inherent problems with using the BSC model because it uses multiple measures. Lipe and Salterio (2000) were the first to demonstrate a cognitive difficulty in using the BSC model, in that their results show that managers tended to evaluate their divisions on common measures only, with a disregard for measures that are unique to the division. When evaluating multiple business units, their study showed that superiors ignored unique measures for specific units and used only the common measures for determining performance. This bias can be reduced, however, if there is an assurance report over all measures and the evaluator is required to justify the evaluation to a superior (Libby, Salterio, & Webb, 2002).

Another study by Lipe and Salterio (2002) showed how people react differently depending on how the measures in a BSC are categorized. The amount of weight given to each variable is considerably different depending on whether the variable is grouped with other variables or listed separately where there is no clear relationship with other variables.

BSC was capable of capturing the value-creating activities from an organization's intangible assets such as innovative products and services, customer loyalty and relationships, and employee skills and motivation. Kaplan and Norton contended (1992) that these assets could not be adequately valued through traditional financial measures alone. As the authors gained experience through the implementation of the BSC in over 200 various organizations (Kaplan & Norton, 1996a), they determined that it had evolved into an effective tool for organizations to implement and direct their strategies throughout their organizations. The BSC came to be seen as a system that provides real insight into an organization's operations, balances the historical accuracy of financial numbers with the drivers of future performance, and assists in implementing strategy (Niven, 2002). As the BSC model has continued to grow and flourish, Kaplan and Norton have continued publishing papers on the subject (Kaplan, 2005; Kaplan & Norton, 1996a, 1996b, 1996c, 1996d, 1997a, 1997b, 2000, 2001a, 2001b, 2001c, 2001d, 2001e, 2004a, 2004b, 2004c).

The research on the BSC since its inception has been vast, though most of it has concentrated on either the implementation or the effects of implementing a BSC (Helfrich & Filip, 2000; Lawton, 2002). When being used as a tool in the governmental sector, the BSC measures are often used to support various other management functions and are often applied to other models. One such model is the environmental scanning model, also known as SWOT (strengths, weaknesses, opportunities, threats) analysis (Lee & Ko, 2000). The BSC model has also been applied to the McKinsey 7-S model, which was developed by Tom Peters and Robert Waterman (1982). This model basically describes the seven factors critical for effective strategy execution. Only a few projects have studied the BSC as a performance measurement tool (Banker et al., 2000; Libby et al., 2002; Lipe & Salterio, 2000). Some suggested areas of further

research include the use of subjective versus objective measurements, the effects of using broad sets of metrics in performance measurement systems, and determining what “balance” is in the BSC (Ittner & Larcker, 1998). Other researchers have called for an assessment of long-term impacts, as opposed to stand-alone process measures such as outcome measures (Voytek et al., 2004).

### The MBSC Model

When the BSC was developed, it was significantly different from any existing performance measurement system in existence. This evolutionary performance measurement model brought researchers a few steps closer to answering the age-old questions regarding what to measure, how definitions and techniques are chosen, and how they are linked to other aspects of an organization’s structure (Chan, 2004). Over the years, a variety of applications and an assortment of variations have emerged, and much has been written about the BSC and its penetration into mainstream performance measurement and management systems.

Developed in 1992, the BSC was proposed as a means of summarizing the variety of benchmarks that businesses must satisfy in order to be successful in an increasingly competitive world. Furthermore, Kaplan and Norton (2001b) found that many organizations have a strategic planning group that focuses on developing long-range plans and a business planning group that independently develops operating and capital plans. This independence has resulted in over sixty percent of organizations not having a link between their budgets and their strategies (Kaplan & Norton, 2001d). Linking budget and strategy can be accomplished by using the BSC to guide organizations to results by integrating the organization’s strategy throughout its functioning.

Kaplan and Norton (1992) contended that the BSC should play a major role in the budgeting process in that it should be the tool on which spending decisions should be based. They argued that there were basically two budgets within an organization, the operational budget and the strategic budget. The operational budget consists primarily of non-discretionary spending and expenses that are determined by the level of current operations necessary to provide the mix of goods and services that sustains the organization. The strategic budget involves the spending necessary to support future organizational growth. By dividing the budget this way, discretionary spending can be limited to initiatives that drive future performance and are linked to the organization's strategy. The BSC is the link between these processes, enabling managers to effectively manage both tactics and strategies.

Another approach to budgeting is to use the BSC to develop budgets that use strategy as the center of the process. Niven (2002) suggested a budgeting process whereby spending is focused on achieving specific strategic objectives, as opposed to simply modifying the previous year's budget. This approach is different from the one proposed by Kaplan and Norton (1997b) in that only one budget encompassing both operational and strategic initiatives is created. This approach forces everyone within an organization to constantly remain aware of the organizational strategy and the drivers of long-term performance.

The proposed Modified Balanced Scorecard (MBSC) model (see Figure 2) is based on five perspectives, as opposed to the original model which has four. Each of these perspectives will vary from sector to sector, as well as from organization to organization. The "learning and growth" and "internal management processes" perspectives will be most similar for all organizations. The "financial accountability," "client perspective," and especially the "public good" perspectives will basically be different. This is due to the inherent differences between the

public sector and the private sector. The goal of private organizations is measured by profitability, whereas that of public organizations is measured by their contribution to the provision of public goods . Clients of public services do not directly pay for many services that they receive from public organizations whereas customers (clients) of private organizations do pay for the most of goods and services they receive. Private organizations report mainly to their private stakeholders, while public organizations respond to a broader range of stakeholder groups including citizens, public interest groups, and legislative bodies.



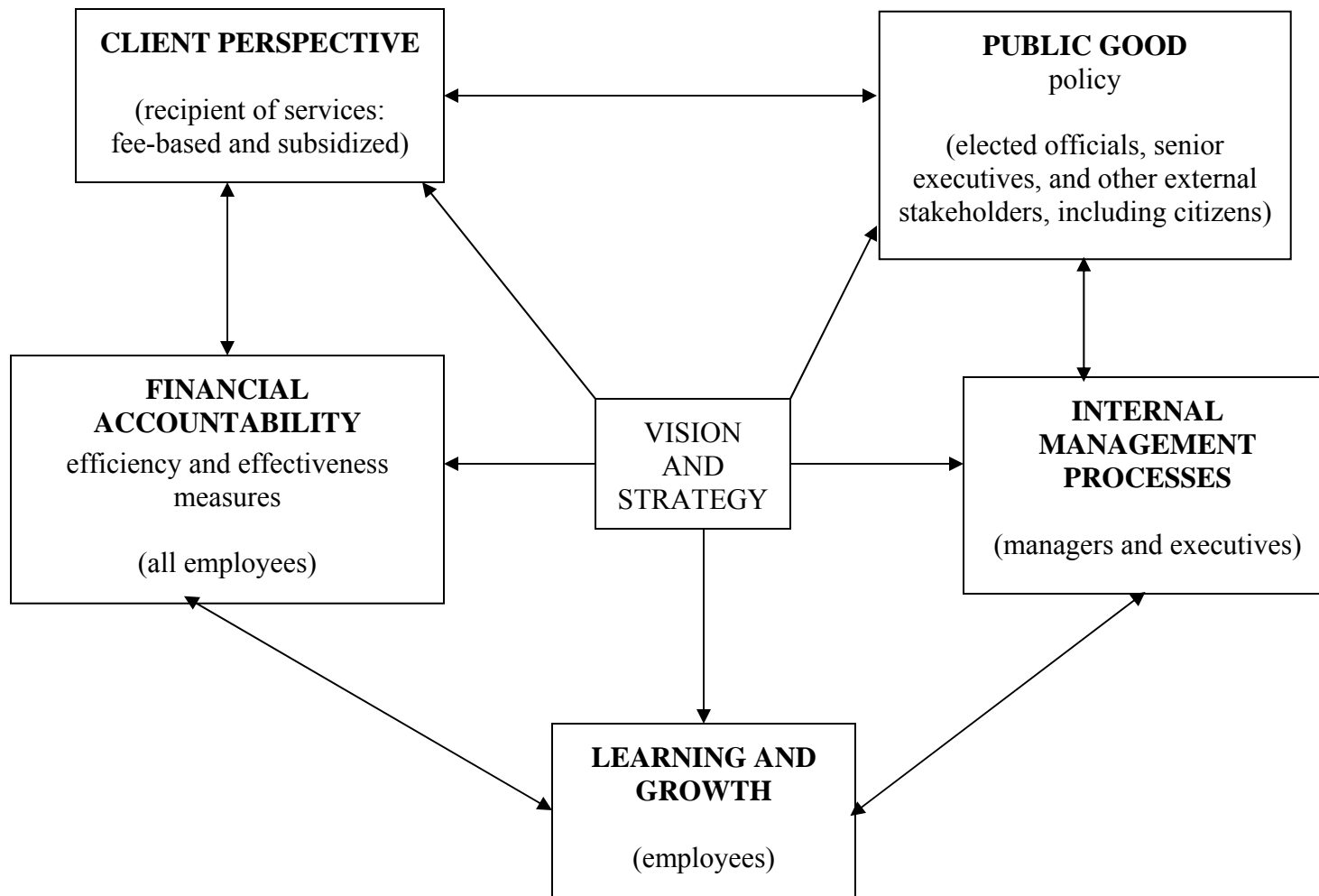


Figure 2. Modified Balanced Scorecard Model

## Perspectives Most Similar Between the Two Models

### Internal Management Processes

The “internal management processes” dimension of both the BSC and MBSC models incorporates the measures related to business processes that have the most significant impact on the day-to-day operations of the business. All organizations should strive to develop internal mechanisms for assessing performance that inspire managerial thinking, thereby leading to increased performance (Ammons, 2002). These internal management processes define the administrative processes and provide the structure necessary to conduct operations. In both the public and private sectors, these processes have an influence on the system that is ultimately used (Clary et. al., 2000).

There is a set of general management functions that summarizes the work of a Chief Executive Officer (CEO), regardless of the sector. The list appeared in Luther Gulick’s classic essay, *Notes on the Theory of Organization* (Gulick, 1937) and included planning, organizing, staffing, directing, coordinating, reporting, and budgeting. Whether the manager is functioning in the public or private arena, the challenge is to integrate all of these functions in a way that maximizes results.

In both sectors, it is important that performance be empirically studied; however the results of these studies should not simply categorize and describe management behavior. In the field of management, effectiveness needs to be studied for the purpose of improving the performance of managers (Cohen, 1993).

For the Office of Supplier Diversity and Business Utilization (OSDBU), management functions include activities such as assisting client firms in obtaining contracts and subcontracts with NASA and its prime contractors and developing and presenting courses such as Training and Development for Small Businesses in Advanced Technologies (TADSBAT). The relative measures would typically relate to the number of clients processed per week or the number of participants attending a training course given by the OSDBU. Another example is examining whether employees found a way to streamline the paperwork process associated with their activities, and any “best practices.”

### Learning and Growth

The environment in both the public and private sector is very dynamic and changes at an increasingly rapid rate. Therefore, organizations must remain flexible and responsive to maintain their existence during these volatile times. In order to remain competitive, both public and private organizations must invest in their employees. To create a productive working environment in public institutions, managers must not only focus on the needs of the public, but also on the needs of each individual employee (Rector & Kleiner, 2002). Additionally, structures must be instituted that will motivate employees to work towards attainment of organizational goals. So in addition to training and development for its clients, employees of the OSDBU must keep abreast of changes and developments that affect both their clients and themselves. These changes include developmental activities such as updating technological skills, learning about changes within the legal and legislative environments, and general continuing education so that clients can get the highest quality assistance available. Therefore, the learning and growth dimensions are common to both the BSC and MBSC models.

### Additional Similarities

In both the private and public sectors, organizational strategy remains at the core of the BSC model (Niven, 2002; Venkatraman & Gering, 2000; Ziegenfuss, 2000). Strategy involves broad priorities that must be pursued in order to achieve the organization's mission. These priorities must be consistent with the unique situational variables associated with the organization and its ability to effectively respond to threats and opportunities as they arise. The problem for public organizations is that these organizations often have a difficult time developing and conveying a clear, concise strategy (Kaplan & Norton, 2001b; Niven, 2002). First, public agencies often have considerable difficulty in clearly defining their strategies. This difficulty in defining strategies is partially due to the fact that components of performance in public and nonprofit organizations include not only the efficiency of operations and the satisfaction of constituents, but also the adequacy of agency funding and the attainment of agency goals (Brooks, 2002). Second, given that achieving financial success is not the primary objective for most public agencies, the scorecard must be altered and customers (or constituents) must be placed at the top of the hierarchy.

### Perspectives Most Different Between the Two Models

The two perspectives discussed above—management processes and learning and growth—are common to both the public and the private sectors, and thus to both the BSC and the MBSC models. Additionally, all organizations, whether public or private, must consider financial aspects of managing their operations; therefore these perspectives will remain the same for both models. All organizations have internal business processes that allow for the smooth day-to-day operations necessary to conduct business. And all organizations have learning and

growth through various types of employee training and development, either in informal, on-the-job-training, or structured courses in a formal class setting.

The focus of this present research is on the three perspectives that are different in the public and private sectors, which then result in differences between the BSC and MBSC models. These differences provide the impetus for the development of the MBSC model and the study that provided the foundation for this dissertation. The development of this new model is the significant contribution this dissertation provides to the existing body of knowledge. In this dissertation, existing budgetary models are synthesized into the MBSC model, which are developed to evaluate the effectiveness of programs administered by federal governmental agencies (see Figure 2). The MBSC model includes input from both the stakeholders and customers/clients, thus reflecting the views of these often-opposing perspectives.

While a crucial responsibility for public managers is to be held accountable for efficient decision making, administrative efficiency is not their ultimate purpose. Public servants work to serve a higher purpose to achieve organizational outcomes that are desirable to the public and can be measured quantitatively (Niven, 2002). Nevertheless, the effort to achieve and measure the public's desired outcomes in the public organization is hindered by difficulties inherent in public organizations. One such difficulty is that it is often difficult to identify the customers and their true interests.

### Financial Accountability

The general trend toward increased financial accountability started in the early 1990s with the passing of the CFO Act of 1990 (Riley, 1995). More recently, the Government Performance and Results Act of 1993 (GPRA) was passed, resulting in a call for a more

widespread emphasis on accountability within the public sector, in addition to a general changing of the nature of performance measurement in government (Halachmi, 2002b; Hirschman, 2002). The GPRA of 1993 was signed into law by President Clinton and sought to improve the efficiency and effectiveness of federal programs by establishing a system to set goals for program performance and to measure program results (Halachmi, 2002b). Unfortunately, the optimism surrounding this legislation is not as strong as it was when it was initially enacted (Radin, 1998). As budgets become tighter and securing congressional funding becomes more competitive, public agencies and their associated programs must pay close attention to the bottom line. They must strive to stay within their budgetary constraints while generating the maximum level of output—clients served and contracts awarded. There has also been an increased emphasis on financial accountability in the private sector. In light of recent, highly publicized scandals involving illegal and unethical financial practices, it is possible that procedures, rules, and laws regarding financial accountability will become progressively more stringent.

All financial measures are designed to measure one of two things: effectiveness (doing the right things) or efficiency (doing things right). The difference between financial measures within the public and private sectors is in the focus of the measures. The sole purpose for existence in the private arena is maximization of shareholder wealth and profits. Therefore, financial goal accountability is, by far, the single most important perspective within the private sector. The public sector is different because financial accountability serves a different purpose than it does in the private sector. Financial process accountability—as opposed to the financial goal accountability found within the private sector—is the most important perspective within the public sector (Niven, 2002). Financial process accountability emphasizes cost control. Public

officials have the additional burden of assessing the organization's true purpose, in addition to counting inputs and outputs of the system. So even though public officials are accountable for the efficient allocation of funds, the officials usually serve an additional, higher purpose, such as the reduction of incidence of HIV or providing housing assistance to low-income families.

### Client Perspective

In their original model, Kaplan and Norton (1996a) identified four categories into which customer concerns should be assessed. These categories included time, quality, performance-and-service, and cost. An important point to bear in mind is that the researcher must be cognizant of the fact that management and customer perceptions of organizational performance often differ. That is why it is important to obtain feedback from customers to ensure that performance is being measured relative to customers' concerns, standards, and satisfaction.

The interests reflected in these measures were developed based on the preferences of clients (more commonly referred to as customers in the private sector) of profit-seeking or commercial organizations. These clients want specific services to be performed, they want these services to be provided in a timely manner, and they want these services to be provided with a reasonable level of quality. Since they are paying for these goods and services, the invisible hand (Smith, 1776, 1961) of our capitalistic society dictates that they have a right to these demands. However, this payment outlook is one of the inherent differences between customers or clients of public organizations and those of private organizations. The clients of public organizations often do not "pay" for their services, and if they do pay, the "price" is usually subsidized by taxpayer dollars (for example, public healthcare, food stamps, housing). Therefore, the citizens within an area pay taxes, which provide the necessary funding for the services and goods provided by

public entities. The clients are a subset of the citizens and are the specific citizens seeking or using the goods and services provided by the public entity.

Additionally, there are often differences between the preferences of stakeholders on the one hand and customers/clients of public organizations on the other, and these differences can affect the perceptions of the levels of service rendered by public organizations. Therefore, the critical questions that must be answered by public officials before appropriate measures can be chosen are, “Who are our customers?” and “What is our value proposition in serving them?” (Niven, 2002; Sanger, 1998). These services also must be provided as efficiently as possible.

### Public Good: Policy

Elected or other government officials include those individuals who are charged with the responsibility of running our public organizations. Whether they are elected politicians, appointed officials, or hired employees, they are all supposed to be accountable for using taxpayer dollars efficiently, effectively, and responsibly. For the purpose of this dissertation, this group will be called the “stakeholders.” They represent the body that addresses our public interest values. The basic assumptions of public interest values are derived from our democratic society and include, among other values, systematic governance, representational democracy, federalism, and capitalism (VanWart, 1998). In being responsible public administrators, those in power have an obligation to support and uphold these values. A MBSC model that has been properly executed should encompass several of these public interest values, thereby further defending the basic constitutional values. More specifically, a well designed MBSC should minimally encompass the public values of systematic governance (internal processes), representational democracy (the public good) and federalism (managers), while still reflecting



capitalism (financial perspective). Furthermore, a well-designed MBSC would protect the values of individualism and religious choice (clients, managers).

When applying public interest values to public administrators, both elected officials and public servants, there are four basic underlying assumptions (VanWart, 1998). The first is that public officials should implement policy but not usurp the process or amass power. By this scorecard being balanced, it inherently distributes both the inputs and outputs used to assess whatever program is being evaluated. The second assumption is that public official should be both effective and efficient with the public's resources, and the MBSC will account for that. Third, it supports the public's right to know by serving as an assessment instrument that lets the public know how various programs are doing. Fourth, it supports the public's right to be involved, because it allows for input for those members of the public that serve as clients and who can attest to their experiences in participating in a particular program or dealing with a particular agency.

In efficiently serving our public interest values, public managers should be greatly concerned about cost, especially as the environment that these stakeholders function within becomes increasingly competitive and budgetary constraints become tighter and tighter. On the other side, cost is not a major concern for public clients who are receiving public services. For example, when a client such as a food-stamp recipient or a citizen receiving hurricane relief is seeking these services from an agency, he or she is not concerned with the cost of the program or its operations. He or she is concerned with receiving a high level of service.

Finally, managers within public organizations have a dual set of responsibilities. First, they must provide the general administrative and supervisory functions that all managers perform, regardless of whether they are in the public or private sector. Also, all managers must

answer in various degrees of accountability to assorted governing bodies. However, managers in the public arena have the additional responsibility of satisfying other stakeholders, who sometimes have opposing views, such as citizens who want increasing levels of services (better schools and roads) and taxpayers who want to minimize their tax bills. Though managers within both public and private organizations are accountable to governing boards, the boards overseeing private organizations have the same consistent goal of other managers within the organization, namely the maximization of shareholder wealth through earning profits.

The sharpest distinction between public and private management is a fundamental constitutional difference. In the private sector, decision-making powers of general management are concentrated and centralized in the upper echelons of an organization, which is composed of the owners and managers of the organization. In a very small organization, this could be one person such as an owner/president. In large organizations, this would encompass all of those persons on the organizational chart with a job title of supervisor on up to the CEO. In contrast, in the U.S. government, the functions of general management are constitutionally spread among competing institutions: the executive branch, the two houses of Congress, and the courts (Allison, 1996). Thus the power is shared by a number of individuals whose ambitions are set against one another. The goal of the separation of responsibilities is to preclude the exercise of arbitrary power.

These officials must learn to dialogue with fellow professionals and elected officials in order to demonstrate the intelligent management of contradictory motives and forces (Roberts, 2002). These political considerations must be carefully navigated, since they play a major role in defining and implementing the system that is ultimately adopted (Clary et al., 2000). Additionally, conducting this type of dialogue can help resolve the accountability paradox and

avoid the atrophy of personal responsibility and political authority. The accountability paradox is the situation faced by public officials wherein they have a personal responsibility to reach goals and to be ethical public servants, while also having the political authority to establish the goals for their organization. In other words, they establish the goals that they must reach.

Research has shown that using a participatory approach in developing performance measurement standards generally facilitates more cooperation satisfaction among the participants (De Lancer Julnes, 2001; De Lancer Julnes & Holzer, 2001). Research also shows that the performance of governmental agencies may be enhanced by letting the agents select the performance measures in the scorecard themselves and by having the agents monitor themselves and each other (Johnsen, 2001). Additionally, using a performance-oriented approach for strategy formulation as opposed to the traditional approach allows for the development of an integrated, holistic performance measurement system that can be used as a performance management system (Kloot & Martin, 2000). Moreover, adding citizen engagement builds an even more effective means of community governance (Marshall, Wray, & Epstein, 1999), especially when more specific subjective indicators are used instead of general satisfaction when evaluating the level of service (Stipak, 1979). Though subjective measures of performance have not always been widely accepted, they do yield results that are statistically similar to those generated using objective measures (Parks, 1984). It has also been found that the multi-item measurement scales (e.g., BSC) generally perform better than single-item (i.e. financial) measurement scales (Ryzin, 2004).

In the original model, Kaplan and Norton (1996a) did not really have to distinguish between the financial good and the organizational good because both perspectives are perfectly aligned in the private sector. They are not closely aligned in the public sector, which is why the

model should (or must) be modified. The MBSC addresses the deficiencies of the traditional measures that were developed for the private sector.

### Summary

This chapter explored the history of performance measurement. The researcher reviewed the literature and presented a chronological progression of the evolution of performance measurement. Initial measures were based on line-item budgets, which are financial measures based strictly on inputs. The next major category of measures that were reviewed were performance budgets, which primarily are efficiency measures based on output. The third major category of measures were PPBS, which are effectiveness measures based on outcomes. The fourth major category of performance measures were zero-based budgets, which are also effectiveness measures based on output and outcomes. The fifth category of performance measures were new performance budgets, which are effectiveness measures based on outcomes. The culmination of these measures was the BSC, which is primarily the integration of both financial and non-financial measures and which represents a holistic strategic management system that measures overall effectiveness and efficiency..

The BSC, which was introduced by Kaplan and Norton in 1992, has grown to be one of the most widely used strategic management tools in the world. The BSC, which was developed primarily for use in the private sector, was extensively evaluated as a performance measurement tool and was modified into the MBSC, which is a model that has been customized for use specifically in the public sector.

In Chapter IV, the details regarding the way this study was conducted are explored. More specifically, the preferences of public managers and their clients regarding the role of their

programs are explored. Data from both managers and clients are used to determine the specific performance measures that should be included in each perspective of the MBSC model. Additionally, indicators are examined to determine if any accurate predictors of preferences can be identified.

## CHAPTER IV

### RESEARCH METHODOLOGY

The literature regarding performance measurement preferences for federal managers and the clients of the programs that they administer is lacking and has not been well documented. The body of knowledge is virtually nonexistent and there is no empirical evidence. At least one study (Wang, 2002a) looked at performance measurement preferences of local officials. However, in this study, the researcher's purpose was to determine if there was a preference for output or outcome measures, rather than looking at specific measures. Therefore, in this dissertation, the researcher explored the measurement preferences of stakeholders and clients of federal programs. This chapter outlines the methodology for conducting this study. The data collected in this study were used to determine the preferred performance perspectives of the public managers versus the preferred performance perspectives of the clients.

As a reminder, the research questions were considered in this dissertation are as follows:

1. What measures should be included in the MBSC model?
2. What are the stakeholders' preferences for the measures?
3. What determines stakeholders' preferences for the measures?

#### Model Overview

The MBSC model developed in this dissertation was used as the framework for determining the performance measurement preferences of federal managers and the clients of

their programs. The model is based on five perspectives that were developed to give a balanced assessment of a public organization, without an over-reliance on financial measures. Each of these perspectives will vary from sector to sector, as well as from organization to organization. However, the general model includes a financial perspective, a learning and growth perspective, an internal management processes perspective, a client perspective, and a public good perspective.

### Research Strategy

For the purposes of this dissertation, the researcher used convenience surveys for the clients and mail surveys for the managers. Since the purpose of this study was to measure preferences, the researcher determined that surveys were the most appropriate medium for gathering the necessary data. These types of surveys were chosen for various reasons. First, the researcher chose to use a convenience survey because of the nature of the customers being surveyed. This population consists of small business owners, who are generally very busy and have a tendency to ignore these types of requests or delegate it to some other person within their organizations. Therefore, administering surveys at a conference where the attendees were the actual business owners was deemed a most rational approach to soliciting their personal opinions. This convenience survey was especially desirable because questionnaires administered in group settings typically have a high response rate (Trochim, 2002). Additionally, if the respondents are unclear about the meaning of a question, they can ask for clarification right on-the-spot.

Second, the research was cross-sectional as opposed to longitudinal. Cross-sectional surveys are used to gather information on a specific population, at a specific point in time

(Babbie, 1973). Cross-sectional surveys can also be also useful in determining the relationship between two factors like the experience level of a business owner and his or her preference for performance measures.

Third, this type of research is non-probability sampling. In this type of sampling, members are selected from the population in some nonrandom manner (Babbie, 1973). These customers were solicited to answer a survey as they enter into the conference area. The researcher and her assistant were physically at a table next to the registration table and conference attendees were asked and encouraged to complete a survey when they entered the conference. Therefore, each attendee had an equal chance of being solicited to complete a survey, with the exception of those attendees that left and re-entered conference activities for whatever reason. Non-probability sampling includes convenience sampling (such as the type of sample used in this dissertation), judgment sampling, quota sampling, and snowball sampling.

Since the collection of information about personal preferences was the purpose here, the use of this type of perception survey was justified and preferred over other methods. By being there with the customers, the researcher and her assistant could reasonably ask people who initially refused to reconsider answering a survey. According to Fowler (1993), between one-quarter and one-third of respondents who initially refuse will agree to be [surveyed] when asked again at a later time. Therefore, this trend was predicted to increase the response rate.

### Research Procedures

The sampling frame of this study included small business owners in attendance at the 15<sup>th</sup> Annual OSDBU Procurement Conference, which was held on April 21, 2005, at The Show Place



Arena in Upper Marlboro, Maryland . The conference announcement was distributed electronically and by regular mail. The e-mail list was compiled from three sources:

1. Business owners that had attended previous conferences
2. Business owners that had e-mailed the OSDBU office with questions and requests for information
3. Names and addresses of businesses provided by the Small Business Administration (SBA)

Business owners that had previously used the services of the OSDBU were also contacted by mail. Therefore, this was a select group of attendees who were all predicted to have a working knowledge of the OSDBU, its purpose, and its operations. The expected attendance at the conference was between 1,200 and 1,500 and the researcher expected a response rate of 20% or approximately 250. Attendees registered up to the last minute, which made it impossible to get an accurate list of attendees until the conference actually took place.

The researcher chose to survey the business owners using a direct, point-of-contact approach, as opposed to mailing hard-copy surveys or e-mailing electronic surveys. Using the knowledge and experience gained from representing the NASA Educator Resource Center (ERC) and Exploration Station (ES) at numerous events, the researcher and her assistant used direct, face-to-face contact to encourage conference attendees to participate in this study. The researcher chose to conduct this phase of the research using convenience sampling because of the nature of the research being conducted. This venue provided the opportunity for the data to be both distributed and collected on site. By using this type of direct contact with the respondents and this method of gathering data, response time was minimized, since the surveys were collected on the spot.

Conducting this type of convenience sample also provided the opportunity for the researcher to experience this event alongside the business owners, enabling the researcher to interact with the business owners, to hear their conversations and concerns, and to observe the business owners as they networked with those federal managers in contract decision-making positions. This unique opportunity exposed the research team to a wealth of rich, qualitative data that the research team would otherwise not have been privy to.

This conference was a one-day event that was sponsored by the Federal government OSDDBU, and it focused on networking and educational opportunities. It targeted small businesses, federal government agencies, and large businesses, thereby exposing the small business owners to both federal agencies with whom they can secure governmental contracts and large businesses with whom they can secure governmental sub-contracts. This conference basically allowed these entities to connect with each other and assist each other in fulfilling specific contracting needs and requirements.

At the conference, the research team conducted surveys at the first event, which was the opening reception that was held on the evening prior to the actual start of the conference. During this time period, the research team was stationed next to the registration table. As attendees registered, they were given a survey and were encouraged to complete it. As an incentive, some type of trinket with a value of less than \$1.00 was given to each survey participant when they completed and submitted their surveys by placing them in a sealed box with a slot on the top of it.

The second registration period was from 7:00 a.m. to 9:00 a.m. on Thursday April 21, 2005. During these registration periods, the research team was located in close proximity to the registration table and concentrated their efforts on distributing the surveys. However, the

research team was present at all times during scheduled events in order to ensure that things went as planned and to encourage attendees to submit their completed surveys.

### Description of the Client Survey Questions

A copy of the actual survey instrument can be found in Appendix A. This section briefly discusses the purpose of these questions.

Question 1 asked the respondents to identify their position within the company. Question 2 asked the respondents to classify their business according to the various socioeconomic categories established by the Small Business Administration (SBA). These questions are demographic questions which give a general description of the respondent and the business itself, both of which are characteristics that could possibly influence a respondent's preferences for performance measures.

Question 3 asked the respondents if they are "Top 100" contractors. This is the elite group that falls within the category of the 100 businesses receiving the most contract dollars from each federal agency. Being a business that has reached this status, the contractor would have had a lot of exposure to the federal contracting arena. This level of experience, coupled with the large amounts of revenues involved here would more than likely have an influence on a respondent's preferences for performance measures.

Question 4 asked the respondents how long their businesses had been in operation. The respondent's level of experience as a business owner could possibly affect their preference for performance measures. This question also served as a filter question, in that a business is not qualified to bid on federal contracts until they have been in operation for at least two years.

Question 5 asked if the business has ever received a federally subsidized loan (i.e., an SBA loan). This question gives a general indication of a respondent's level of reliance on federal programs and the respondent's level of experience in dealing with the bureaucracy involved in doing business with the federal government.

Question 6 asked the respondent to indicate the level of revenues that their business earned during the previous year. The amount of revenues gives a general indication of the solvency and the size of the business, either of which could possibly have an effect on a respondent's preferences for performance measures.

Questions 7 and 8 asked if the business had ever received a prime contract with the government and, if so, what type of contract. These questions show the amount of experience the business owner had in dealing with the federal government and the amount of entrepreneurial experience the business owner had. Primarily prime contractors have been in business longer and are larger businesses than those who are not. Also, the type of contract won will indicate the type of services generally offered by the businesses. More specifically, the researcher has categorized these as supplies and equipment, research and development, technical services, and other. The category indicated here could possibly influence a respondent's preference for performance measures. For example, a contractor that wins a contract in research and development or technical services could possibly have different preferences for performance measurement than other, more general contractors that provide supplies or maintenance.

Question 9 also referred to the type of prime contract won in Question 7. This question asked if the contract was won competitively or through a set-aside program. The answer to this question would indicate the respondent's reliance on government programs. The answer would

also indicate the socioeconomic status and the size of the business, in that there are certain parameters that must be met in order to qualify for a set-aside.

Question 10 asked if the business had ever been awarded a sub-contract with a federal agency. Similar to Question 7, this question would suggest the amount of experience one has in dealing with the federal government. These businesses should tend to be smaller and less experienced than those found in Question 7.

Question 11 asked if the business owner had received training through an OSDBU program. This would indicate the respondent's familiarity with and general knowledge of the OSDBU and the services that it has to offer.

Question 12 asked if the business had ever been part of a teaming agreement and Question 13 asked if the business had ever participated in the Mentor-Protégé Program. Combined, these questions indicated the business owners' willingness to take full advantage of the types of services and programs offered through the OSDBU. Business owners who have participated in both of these programs are people who have taken full advantage of the opportunities available to expose themselves to the appropriate individuals for winning contracts.

Question 14 asked if the business was ISO certified. It is generally a requirement that a business be ISO certified in order to become involved in the contracting arena.

Question 15 asked what the customer feels that the primary mission of the OSDBU is. This question was designed to determine if the customer has an accurate and realistic understanding of what the true goals of the OSDBU are and how they go about accomplishing those goals.

Question 16 was the most crucial question in this survey. The purpose of this question was to determine the customer's actual preferences for performance measures. The questions

were categorized based on the five perspectives of the MBSC model and were grouped accordingly, though this categorization was not revealed to the respondent.

Questions 17 through 19 were general demographic questions. However, the characteristics being questioned here were all features about a respondent that could have an impact on preferences for measuring performance. These qualities were age, gender, and educational level attained. As people tend to mature, their views on life tend to change as well. Their spirit of idealism yields to the fortitude of realism, thus causing their preferences for measuring performance to change. Gender is also a quality that could possibly have an impact on the respondent's performance measurement preferences, since women and men often view things differently. There might also be differences in preferences based on whether the respondent is a high school graduate versus a four-year college graduate.

#### Description of the Federal Manager Surveys

A copy of the instrument is presented in Appendix B. Many questions in this survey are the same in the client survey described above, although there are questions specifically designed for this respondent group. Question 1 asked the respondents to identify their positions within their respective federal agencies or departments. Question 2 asked the respondents how long they had worked in their current positions. Question 3 asked the respondents how long they had worked for their respective federal agencies or departments. Questions 4 and 5 asked the respondents if they had worked for any other federal agencies or departments and, if so, how long. Question 6 asked the respondents to indicate their total number of years of federal governmental experience.

Collectively these first six questions are an indication of how much exposure each manager had to the federal government as a total system. The number of different federal positions an individual has held, the number of years of federal experience, and the highest rank attained should have an impact on that individual's preferences for performance measures.

Question 7 asked for the total dollar amount of the contracts awarded to small businesses by that individual's respective agency or department during the past fiscal year. As more dollars are spent with small businesses, the individuals involved should likely become more familiar with small businesses, thereby possibly having an effect on their preferences for performance measures.

Question 8 asked, in the manager's perception, what the customers of the OSDBU feel is the primary mission of the OSDBU. This question was designed to reveal a respondent's opinion about what the customers want from them. By asking what the managers feel the customers want, the researcher was really trying to determine what the managers feel about their customers.

Question 9 was the most crucial question in this survey. The purpose of this question was to determine the manager's actual preferences for performance measures. The questions were categorized based on the five perspectives of the MBSC model and were grouped accordingly, though this categorization was not revealed to the respondent.

Questions 10 through 12 are general demographic questions. These questions were designed to elicit various characteristics about the respondent that could possibly have an impact on how he or she viewed certain situations, thereby impacting the respondent's preferences for measuring performance. The characteristics being assessed in this study were age, gender, and educational level attained. Most of the managers questioned here tended to be older than 40. These were people that had typically worked their way up through the ranks of federal service

and would therefore have been in the workforce for many years. Simply by virtue of their tenure with the government, these individuals tended to be older workers, which might have had an impact on their preferences for measuring performance.

Gender is also a variable that might possibly have had an impact on these managers' preferences for performance measurement, and might have been reflected in this survey. From the federal OSDBU list, the titles that are listed are Director, Associate Administrator, Deputy Director, Women Business Rep, Veteran Business Rep, and Supplier Diversity Program Manager. Each federal agency or department has at least one of the above listed managers, with most having two to three. Based on their job titles, some differences in preferences could possibly have existed.

There could possibly also have been differences in preferences based on the manager's level of educational attainment. Most of the respondents will have at least a four-year college degree, with many having at least some graduate-level education. Differences in preferences for performance measures could be reflected here based on these various educational levels.

Question 13 asked if the respondent had ever owned his or her own business. Though this was not expected to be a large number, if the manager had owned a business before, he or she might have been expected to have a different perception of what businesses owners' needs are and thereby might have had different expectations about the services that should be offered by the OSDBU. This would likely have had an impact on their preferences for performance measurement.



## Instrumentation and Measurement

For the purposes of this study, the researcher was attempting to determine what the performance measurement preferences are for two separate and distinct groups. The first group was that of federal managers. The second group was the clients that they serve. Once the performance measurement preferences for these groups were identified, the researcher evaluated various characteristics of each sample to see if any of these characteristics were truly indicators or predictors of preferences.

In designing the client survey instrument, the researcher categorized the survey questions so that the responses could be grouped into the five levels of the dependent variable. However, the researcher has chosen to mix the order of the questions so that the visual order of the questions won't be thought of as a unit by the respondents (Dillman, 2000). By mixing the questions, the researcher was encouraging the respondents to think of each question separately. The questions are ordered in the following manner:

Questions 1–4 represent the clients' preferences for client measures

Questions 5–8 represent the clients' preferences for financial measures

Questions 9–12 represent the clients' preferences for learning and growth measures

Questions 13–16 represent the clients' preferences for internal management process  
measures

Questions 17–19 represent the clients' preferences for public good measures.

In designing the manager survey instrument, the researcher also categorized the survey questions so that the responses could be grouped in the five levels of the dependent variable. Once again, the researcher chose to mix the order of the questions for the same reasons as listed above. The questions were ordered in the following manner:

Questions 1–4 represent the managers’ preferences for client measures

Questions 5–8 represent the managers’ preferences for financial measures

Questions 9–12 represent the managers’ preferences for learning and growth measures

Questions 13–16 represent the managers’ preferences for internal management process  
measures

Questions 17–19 represent the managers’ preferences for public good measures.

Though the questions on the survey instrument were mixed, the researcher took measures to ensure that the questions could be re-categorized into groups based on preferences, thereby maintaining the integrity of the original ordering of the questions.

#### Dependent Variables and Independent Variables

The primary dependent variable was constructed to represent aspects of the respondents’ preferences for performance measures. The model represented five levels of the dependent variable derived from the MBSC model. The five levels of the dependent variable were preference for financial measures, preference for client measures, preference for internal management process measures, preference for learning and growth measures, and preference for public good measures. The independent variable measures for the client surveys are represented in Table 2.

Table 2

## Independent Variable Measures for the Client Survey

[Variable] / Operational definition	Type
[Position] within the company	Nominal
[Socio] economic categorization of their respective businesses	Interval
[Top] 100 contractor	Nominal
[Exp] number of years in business	Continuous
[Loan] recipient of federally subsidized loan	Nominal
[Revs] level of annual revenues	Ordinal
[Prime] ever received prime contract	Nominal
[Type] of contract received	Interval
[Comp] was contract bid competitively	Nominal
[Sub] ever received sub-contract	Nominal
[Train] ever participated in OSDBU training	Nominal
[Team] ever participated in teaming agreement	Nominal
[ISO] certification	Nominal
[Mission] of the OSDBU	Interval
[Age] demo	Ordinal
[Gender] demo	Nominal
[Educ] highest level attained	Ordinal

The independent variable measures for the Manager surveys are represented in Table 3.

Table 3

Independent Variable Measures for the Manager Surveys

Variable / Operational definition	Type
[Position] within their respective governmental agencies	Interval
[Exp] length of time in that position	Nominal
[Expagency] worked for other governmental agency	Nominal
[Expother] length of time with other agency(ies)	Ordinal
[Fedexp] total federal experience	Ordinal
[Contdoll] annual contract dollars awarded to small businesses	Ordinal
[Mission] of the OSDBU	Interval
[Age] demo	Ordinal
[Gender] demo	Nominal
[Educ] demo	Ordinal

#### Measuring Client and Manager Preferences in the MBSC

On the client surveys, Question 16 was primarily designed to reveal what measures the customers feel are important. The answers compiled from this section collectively represented the customer preferences for performance measures. A modified five-point Likert scale was used for this series of responses, with the responses being as follows:

Very important = 4

Important = 3

Somewhat important = 2

Not important = 1

Don't know or can't say = 0

The “don't know or can't say” responses were not included in the calculations.

On the manager surveys Question 9 was primarily designed to reveal what managers perceived to be as important. On the client survey, Question 15 primarily solicited the same information. The answers compiled from these questions collectively represented the manager preferences and client preferences for performance measures, respectively. With the exception of the questions mentioned above, the remainder of the questions on both surveys were designed to establish what determines the client and manager preferences for performance measures, thereby identifying specific indicators of performance preferences. The researcher was evaluating a mix of demographic and other characteristics of the clients and managers in order to determine if they have effects on the respective performance measurement preferences. Additionally, there was a question on each respective survey that asked what the respondent understood the mission of the OSDBU as being.

The general statements of hypotheses for this research were as follows:

H1: Clients have different preferences toward different performance measures specified in the MBSC model.

H2: Managers have different preferences toward different performance measures specified in the MBSC model.

H3: Organizational and demographic variables specified in this study are associated with clients' preferences for performance measures.

H4: Organizational and demographic variables specified in this study are associated with managers' preferences for performance measures

The researcher used the data collected in this study to determine if these hypotheses should be accepted or rejected. Additionally, the researcher used the data to determine the order of the preferences of the respondents and generalized the results to the general population of small business owners and federal managers.

### Summary

In this chapter, the researcher explained the methodology for determining the performance measurement preferences of federal managers and the clients that they serve, including their opinions regarding the purpose of the OSDBU. Both a sample of federal managers and a sample of their clients were surveyed to determine what their performance measurement preferences were and if there were any indicators that might predict what those preferences might be based on specific characteristics. In other words, the researcher wanted to determine which variables possibly have an effect on the preferences of the respondents for performance measures.

Chapter V presents the results from the client survey. Chapter VI presents the results from the manager survey. The survey questions used to solicit the preferences of both sets of respondents were identical, with the exception of the questions used to measure the control variables or demographic characteristics. This enabled the researcher to make a comparison of the respective preferences and draw conclusions.

## CHAPTER V

### CLIENT SURVEY RESULTS

#### Introduction

This chapter presents the statistical results of the client survey. This analysis was primarily conducted in two parts, and these two parts were designed to answer the second and third research questions, which are “what are the stakeholders’ preferences for performance measures?” and “what determines the preferences?” The underlying premise is that it is critical to identify such preferences to guide the design and development of an appropriate measurement system so that the measures in the system are more likely to be accepted by stakeholder groups. In this study, preferences of clients and managers are examined. The managers are responsible for the design of a measurement system and the clients are the recipient of the services or products that are measured by the system. This chapter focuses on the preferences of clients on the measures.

#### Univariate Analysis

##### Univariate Analysis of the Dependent Variables

Table 4 presents the survey items that were used to measure the dependent variables that represent the client preferences for the performance measures. Actual survey items and their corresponding measurement perspectives are included in the table.

Table 4

## Survey Items to Measure the Dependent Variables—Preference for Performance Measures

Item	Perspective	Actual survey item
A	client	the number of clients that participate in the Mentor–Protégé Program
B	financial	dollar amount spent by the OSDBU per client
C	employee	the number of employees that attend job related training workshops
D	employee	percentage of employees rated above “satisfactory” on their performance appraisals
E	financial	dollar amount spent per contract by the OSDBU
F	client	the number of clients that participate in teaming agreements
G	processes	the average amount of time for an OSDBU client to be awarded a contract
H	public good	the percentage of citizens who are happy with the performance of the OSDBU
I	client	the number of clients that participate in OSDBU programs
J	financial	the average dollar amount of contracts awarded to OSDBU clients annually
K	employee	the number of OSDBU employees that have a bachelors degree or higher
L	client	the percentage of clients that are happy or very satisfied with the level of service provided by the OSDBU
M	processes	the number of workshops and forums held per year by the OSDBU
N	processes	the number of OSDBU employees per contract awarded to OSDBU clients
O	processes	the average amount of time for an OSDBU client to be become certified
P	financial	the number of contracts awarded to OSDBU clients
Q	employee	the number of employees that attend job-related conferences annually
R	public good	the percentage of elected officials who are satisfied with the performance of the OSDBU
S	public good	the percentage of it SBA mandated goals achieved



The questions on the client-survey instrument were categorized so that the responses were grouped into the five designed measurement perspectives: financial perspectives, client perspectives, employee perspectives, internal management process perspectives, and public goods perspectives. By mixing the order of the questions, the researcher altered the visual arrangement so that the questions would not be thought of as a unit by the respondents (Dillman, 2000), thereby encouraging the respondents to think of each question separately and independently.

Table 5 shows the descriptive statistics of the respondents' preferences for performance measures. Percentages of "very important," "important," "somewhat important," and "not important" of each individual item measuring preferences toward performance measures are presented in the table. The means and standard deviations of these survey items are also presented.

Table 5

## Descriptive Analysis of Respondents' Preferences for Performance Measures

Variable	% Very important	% Important	% Somewhat important	% Not important	Mean	Std dev
Client						
Item A	10.0	12.9	52.0	19.6	2.02	.973
Item F	3.3	13.0	70.3	6.9	2.00	.770
Item I	8.6	23.7	52.9	9.0	2.21	.929
Item L	22.9	57.3	8.6	7.2	2.92	1.04
Average	11.2	26.73	45.95	10.68	2.29	.930
Financial						
Item B	19.7	30.3	31.0	13.1	2.45	1.12
Item E	12.7	35.5	42.0	6.5	2.51	.98
Item J	42.9	37.8	9.7	6.1	3.20	1.20
Item P	36.9	44.4	10.0	5.7	3.07	.98
Average	28.05	37.0	23.18	7.85	2.81	1.07
Employee						
Item C	3.3	6.9	44.9	31.9	1.55	.919
Item D	9.8	14.1	56.9	12.7	2.08	.958
Item K	6.1	8.6	12.2	45.7	1.21	1.12
Item Q	2.9	7.2	42.3	39.4	1.57	.85
Average	5.53	9.20	39.08	32.43	1.60	.96
Processes						
Item G	45.3	35.3	12.2	7.2	3.24	.985
Item M	2.9	14.7	64.5	15.1	2.00	.727
Item N	7.5	14.0	50.9	16.1	1.90	1.03
Item O	37.3	40.5	6.5	15.8	2.99	1.04
Average	23.25	26.13	33.53	13.6	2.53	.95
Public Good						
Item H	7.6	19.8	39.6	24.5	1.93	1.04
Item R	17.2	35.1	23.3	24.4	2.45	1.04
Item S	43.0	35.5	13.6	1.8	3.07	1.09
Average	22.6	30.13	25.5	16.9	2.48	1.06

Note: These items are labeled in Table 4

Table 5 shows several interesting findings. First, on average, survey respondents scored 2.81 on the items measuring preferences for financial measures (with 4 = very important, 3 = important, 2 = somewhat important, and 1 = not important), the highest average score of all measures of the five measurement perspectives. This result indicates that, on average, clients prefer financial measures more than any other type of measures. The result suggests that, although OSDBU is a governmental agency with goals of serving public interests, both financial performance and financial condition are of interest to the clients. This illustrates the importance of effectively and efficiently managing the financial resources of governmental agencies.

Another interesting finding in Table 5 is that there are no apparent differences between preference for internal management process measures (mean = 2.53), preference for public good measures (mean = 2.48), and preference for client measures (mean = 2.29). Clearly, respondents on average think these measures are “somewhat important”(2) or “important”(3) in assessing the performance of OSDBU.

The findings in Table 5 also show that preference for employee measures is the least preferred category of client preferences (mean = 1.60). It is possible that business clients believe that employee management is an internal organizational function, as opposed to being a concern of the clients. It is also possible that respondents may perceive that it is the responsibility of the management of the agency, not its clients, to assess and monitor employee performance.

#### Client Perspective Analysis

Preference for financial measures received the highest overall scores, with a mean score of 2.81. Preference for financial measures also had the tightest overall fit, with a range of 0.75.

The highest score within this perspective was 3.20 and the lowest score within this perspective was 2.45.

Preference for employee measures received the lowest overall scores, with a mean score of 1.60. The range of scores exhibited in this perspective was relatively small, with the range being 0.88. The highest single score in this perspective was 2.08, and this was the only score over 2.0. The other scores in this category ranged from 1.21 to 1.60.

The perspective with the most disparity was internal management processes, with a range of 1.34. Internal management processes also had the highest single score of 3.24. The response associated with this score was “the average amount of time for an OSDBU client to be awarded a contract”—an outcome measure.

The second highest single score was 3.20. This score was associated with the response “the average dollar amount of contracts awarded to OSDBU clients annually.” This response is also an outcome measure. Tied for third were “the number of contracts awarded to OSDBU clients” and “the percentage of SBA mandated goals achieved,” both with mean scores of 3.07 and both outcome measures.

In considering the relationships among and between the various preferences, it is interesting to look into the relationship among these five measurement perspectives to gain information on how they impact each other. Table 6 shows correlation coefficients between the five measurement perspectives:

Table 6

## Client Correlation Matrix of Index Dependent Variables

	Financial	Client	Internal	Employee	Public good
Financial	1.0				
Client	.620	1.0			
Internal	.362	.456	1.0		
Employee	.505	.573	.399	1.0	
Public good	.435	.379	.194	.599	1.0

Several findings of the correlation analysis of the dependent variable are important. First, there is a strong relationship between preferences for client measures and preferences for financial measures. The correlation coefficient for this combination is .620. This indicates that respondents who prefer client measures also prefer financial measures.

Another relatively strong correlation is between public good measures and employee measures ( $r = .599$ ). Respondents who prefer public good measures tend to prefer the measures of employee performance. This relationship suggests that respondents tend to believe that employee performance constitutes of a significant part of what is perceived to be the public good. Collectively, the employees are those people who actually serve the public and are thus those who operationalize and implement public programs. They are the ones that are face-to-face with those clients that receive the public services and goods.

A third potentially significant relationship is that between preference for financial measures and preference for employee measures ( $r = .505$ ). Both types of measures, in addition to the internal management process measures, represent functional areas that primarily fall under the responsibility of the agency managers. Of the five perspectives, these three perspectives are basically internal to the public organizations. The public managers or administrators and the employees operate within the public organization, and they use internal management processes to administer public processes. The other two perspectives represent perspectives found outside of the public organization, with those being the public good and the clients.

#### Univariate Analysis of the Independent Variables

Table 7 presents survey items measuring independent variables. Actual survey items and their abbreviated variables names used in analysis of this study are presented in the table.

Table 7

## Survey Items to Measure the Independent Variables

Item #	Item description	Variable name
1	current position	Posc
2	business classification	Classc
3	top 100 contractor	Topc
4	years business has been in operation	Expc
5	rec'd federally subsidized loan	Loanc
6	annual gross revenues	Revsc
7	ever awarded a prime federal contract	Primec
8	type of contract awarded in #7	Contypec
9	contract in #7 competitive or set-aside	Compc
10	ever awarded a subcontract	Subc
11	ever rec'd training through OSDBU	Trainc
12	ever participated in a teaming agreement	Teamc
13	ever participated in mentor-protégé program	Mentc
14	ISO certified*	ISOc
16	understanding of the OSDBU's mission	Missionc
17	respondent's age	Agec
18	respondent's gender	Genderc
19	respondent's level of educational attainment	Educc

\*International Organization for Standardization

There are 19 independent variables in this analysis. This chapter presents the univariate analysis of selected variables that may interest the reader the most. The variables selected for detailed analysis are annual revenues for the respondent's business, respondent's level of entrepreneurial experience, whether the respondent has ever been awarded a prime contract, whether or not the respondent is ISO certified, and whether or not the respondent has ever been awarded a subcontract. These variables represent the mean responses that were rated most highly by the clients.

Table 8 describes the frequency distributions of annual revenues of respondents' businesses. It is interesting to note that 58.4% of the respondents have revenues of \$750,001 or more annually or 45% of the respondents have annual revenues that exceed \$1,000,000.

Table 8

Annual Revenues of Respondents' Businesses (N = 260)

Annual revenue	Number of cases	Percentage of total
Less than \$100,000	27	10.4
\$100,001 to \$250,000	36	13.8
\$250,001 to \$500,000	36	13.8
\$500,001 to \$750,000	9	3.5
\$750,001 to \$1,000,000	36	13.8
More than \$1,000,000	116	44.6



Table 9 shows frequency distribution of respondents' level of entrepreneurial experience. It is also interesting to note that almost 45% of these respondents have been in business for over 10 years.

Table 9

Respondents' Level of Entrepreneurial Experience (N = 279)

Years of experience	Number of cases	Percentage of total
Less than 1 year	18	6.5
1–2 years	9	3.2
3–4 years	27	9.7
5–6 years	73	26.2
7–8 years	18	6.5
9–10 years	9	3.2
More than 10 years	125	44.8

Findings in Table 10 show that about 58% of respondents have prime contracting experience that directly deals with the federal government, as opposed to being subcontractors or non-contractors.

Table 10

Prime Contracting Experience (N = 278)

Response	Number of cases	Percentage of total
Yes	161	57.9
No	108	38.8
Not sure	9	3.2

Table 11 shows that about 58% of respondents do not have ISO certification. It is even more interesting that almost 20% of these respondents were not sure if they were ISO certified.

Table 11

ISO Certification (N = 278)

Response	Number of cases	Percentage of total
Yes	54	19.4
No	161	57.9
Not sure	54	19.4
Missing	9	3.2

Table 12 shows the respondents' subcontracting experience with the federal government. Nearly 55% of these respondents claim to have subcontracting experience, while nearly 58% claim to have prime contracting experience.

Table 12  
Subcontracting Experience (N = 278)

Response	Number of cases	Percentage of total
Yes	152	54.7
No	108	38.8
Not sure	18	6.5

The results of the above analysis on the selected variables indicate that the respondents come from relatively large revenue companies with strong experiences in management, and the majority of them have worked with the federal government as a prime contractors or subcontractor. These findings suggest that this group of respondents may have sufficient managerial and contracting background to answer the survey questions measuring perception for performance measures in the federal government.

#### Bivariate Analysis

In this section, the independent variables were examined for their relationships with the dependent variables. This analysis is a critical step in the analysis process because these

relationships provide the foundation on which the true relationships between the independent variables and the dependent variables are built.

#### Preference for Financial Measures

Table 13 presents measures of association between respondents' preferences for financial measures and the independent variables. The results show that respondents in organizations that have larger revenues tend to prefer financial measures more (Tau-c = .200).

Table 13

## Preference for Financial Measures

	Measure of association			Test of significance
	Tau-c	Lambda	<i>p</i>	$\chi^2$
Revenues	.200		.000	551.7 ( <i>p</i> = .000)
Experience	.323		.000	345.0 ( <i>p</i> = .000)
Age	-.024		.596	157.8 ( <i>p</i> = .000)
Education	.027		.579	254.2 ( <i>p</i> = .000)
Position	-.208		.000	299.7 ( <i>p</i> = .000)
Prime		.225	.000	121.1 ( <i>p</i> = .000)
ISO		.079	.012	320.0 ( <i>p</i> = .000)
Subcontract		.144	.000	102.8 ( <i>p</i> = .000)
Top 100		.037	.280	73.9 ( <i>p</i> = .000)
Loan		.198	.000	155.3 ( <i>p</i> = .000)
Contract type		.174	.000	160.2 ( <i>p</i> = .000)
Competitive		.206	.000	221.1 ( <i>p</i> = .000)
Train		.163	.000	200.0 ( <i>p</i> = .000)
Team		.064	.000	58.3 ( <i>p</i> = .000)
Mentor		.079	.000	137.5 ( <i>p</i> = .000)
ISO		.080	.009	321.4 ( <i>p</i> = .000)
Mission		.217	.000	442.3 ( <i>p</i> = .000)
Sex		.091	.005	79.8 ( <i>p</i> = .000)

The results show that there is a negative relationship between position and preference for financial measures in these organizations. More specifically, the higher the respondents' position

within the organization, the less the respondents tend to prefer financial measures. This relationship is statistically significant at the .01 level (Tau-c = -.132,  $p = .000$ ).

The results also show that there is a positive relationship between revenues earned in the organizations and respondents' preference for financial measures in these organizations. Based on this finding, the more revenues earned by an organization annually, the higher the level of preference of the respondent in that organization for financial measures. Logically, this relationship makes sense in that people from organizations that earn more would have a stronger preference for financial measures. This relationship is statistically significant at the .01 level (Tau-c = .200,  $p = .000$ ).

An additional positive relationship was shown to exist between organizational experience and respondents' preference for financial measures in these organizations. These findings basically show that the longer an organization has been in existence the higher the level of preference of the respondent in that organization for financial measures. The logic behind that is that older organizations tend to have higher levels of revenues than younger ones, especially when one considers that fact that longevity tends to weed out less successful organizations within the first two years. This relationship is statistically significant at the .05 level (Tau-c = .091,  $p = .041$ ).

Another relationship of interest is that between level of education attained by the respondent and preference for financial measures. This relationship is positive and tends to show that the more education the respondent has the less he or she tends to prefer financial measures, with the implication being that those individuals with more education have more of an appreciation of a balanced set of measures. This relationship is statistically significant at the .01 level (Tau-c = -.121,  $p = .006$ ).

An additional relationship that was shown to exist is that between organizations that have previously been awarded at least one prime contract and preference for financial measures in these organizations ( $\Lambda = .225, p = .000$ ). The average preference for financial measures exhibited by contractors that have previously been awarded at least one contract is 3.05, while the average preference for financial measures exhibited by contractors that have never been awarded a prime contract is 2.49 (Table 14). This finding indicates that, on average, contractors that have previously been awarded at least one prime contract prefer financial measures more than contractors that have never been awarded a prime contract. This finding is consistent with the fact that prime contractors tend to be larger organizations.

Table 14

Average Preferences of Respondents Answering “Yes” and Answering “No” on Yes–No Questions

	<u>Financial</u>		<u>Client</u>		<u>Public good</u>		<u>Processes</u>		<u>Employee</u>	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Prime	3.05	2.49	2.42	2.11	2.61	2.31	2.47	2.62	1.82	1.30
ISO	3.05	2.76	2.14	2.33	2.20	2.55	2.49	2.54	1.26	1.68
Sub	3.00	2.57	2.46	2.09	2.60	2.35	2.56	2.50	1.88	1.26
Top	3.00	2.87	2.50	2.29	2.83	2.48	2.50	2.53	1.25	1.60
Loan	2.57	3.05	1.98	2.25	2.25	2.64	2.64	2.29	1.41	1.84
Competitive	3.01	2.94	2.52	2.27	2.52	2.61	2.73	2.24	1.71	1.79
Train	2.65	2.95	2.36	2.31	2.27	2.61	2.71	2.48	1.71	1.76
Team	2.99	2.45	2.33	2.21	2.54	2.36	2.54	2.51	1.73	1.34
Mentor	3.06	2.74	2.41	2.26	2.15	2.55	2.64	2.50	1.49	1.62
ISO	3.05	2.76	2.14	2.33	2.20	2.55	2.49	2.54	1.26	1.68
Sex	2.63	2.60	2.11	2.39	2.37	2.54	2.43	2.53	1.43	1.44



The results also show that respondents from ISO certified organizations tend to prefer financial measures ( $\Lambda = .079$ ;  $p = .012$ ). The average preference for financial measures exhibited by contractors that are ISO certified is 3.05, while the average preference for financial measures exhibited by contractors that are not ISO certified is 2.76 (Table 14). This finding indicates that, on average, contractors that are ISO certified prefer financial measures more than contractors that are not ISO certified.

Another result shows that there is a relationship between organizations that have previously been awarded at least one federal government subcontract and preference for financial measures in these organizations ( $\Lambda = .144$ ;  $p = .000$ ). This finding is consistent with the previous finding regarding prime contractors. The average preference for financial measures exhibited by contractors that have previously been awarded at least one federal government subcontract is 3.00, while the average preference for financial measures exhibited by contractors who have never been awarded a federal government subcontract is 2.57 (Table 14). This finding indicates that, on average, contractors who have previously been awarded at least one federal government subcontract prefer financial measures more than contractors who have never been awarded a federal government subcontract.

A relationship between organizations that have never received a federally subsidized loan and preference for financial measures in these organizations was also shown to exist ( $\Lambda = .198$ ;  $p = .000$ ). The average preference for financial measures exhibited by contractors that have never received a federally subsidized loan is 3.05 (Table 14), while the average preference for organizations that have received at least one federally subsidized loan is 2.57. This finding indicates that, on average, contractors that have never received a federally

subsidized loan prefer financial measures more than contractors that have previously received at least one federally subsidized loan.

The results from this study also show that there is a relationship between OSDBU training and preference for financial measures in these organizations ( $\text{Lambda} = .163; p = .000$ ). The average preference for financial measures in organizations that have never received training through the OSDBU office is 2.95 (Table 14), while the average preference for financial measures by contractors that have received training through the OSDBU office is 2.65. This finding indicates that, on average, contractors that have not received training through the OSDBU office prefer financial measures more than contractors that have received training through the OSDBU office.

Another result shows that there is a relationship between teaming agreements and preference for financial measures in these organizations ( $\text{Lambda} = .064; p = .000$ ). The average preference for financial measures exhibited by contractors that have previously participated in teaming agreements is 2.99, while the average preference for financial measures exhibited by contractors that have never participated in a teaming agreement is 2.45 (Table 14). This finding indicates that, on average, contractors that have previously participated in a teaming agreement prefer financial measures more than contractors that have never participated in a teaming agreement.

Finally, the results show that there is a relationship between mentorship and preference for financial measures in these organizations ( $\text{Lambda} = .079; p = .000$ ). The average preference for financial measures exhibited by contractors that have participated in the mentorship program is 3.06, while the average preference for financial measures exhibited by contractors that never participated in the mentorship program is 2.74 (Table 14). This finding indicates that, on

average, contractors that have had mentors prefer financial measures more than contractors that have not had mentors.

### Preference for Client Measures

Table 15 presents measures of association between respondents' preferences for client measures and the independent variables.

Table 15

## Preference for Client Measures

	Measure of association			Test of significance
	Tau-c	Lambda	<i>p</i>	$X^2$
Revenues	.305		.000	346.5 ( <i>p</i> = .000)
Experience	.091		.041	356.6 ( <i>p</i> = .000)
Age	-.032		.386	174.9 ( <i>p</i> = .000)
Education	-.121		.006	258.6 ( <i>p</i> = .000)
Position	-.132		.008	218.5 ( <i>p</i> = .000)
Prime		.099	.011	79.8 ( <i>p</i> = .000)
ISO		.079	.012	320.0 ( <i>p</i> = .000)
Subcontract		.099	.015	176.2 ( <i>p</i> = .000)
Top 100		.032	.010	70.0 ( <i>p</i> = .000)
Loan		.182	.000	350.4 ( <i>p</i> = .000)
Contract type		.149	.000	202.2 ( <i>p</i> = .000)
Competitive		.128	.000	128.3 ( <i>p</i> = .000)
Train		.145	.000	208.3 ( <i>p</i> = .000)
Team		.069	.001	84.5 ( <i>p</i> = .000)
Mentor		.078	.000	224.7 ( <i>p</i> = .000)
ISO		.069	.006	360.3 ( <i>p</i> = .000)
Mission		.198	.000	429.3 ( <i>p</i> = .000)
Sex		.108	.000	78.9 ( <i>p</i> = .000)

The most noteworthy level of association is that between revenues and preference for client measures. This result shows that there is a positive relationship between revenues and

preference for client measures in these organizations. More specifically, the more revenues earned by an organization annually, the higher the level of preference of the respondent in that organization for client measures. This relationship is statistically significant at the .01 level (Tau-c = .305,  $p = .000$ ).

There also appears to be a positive relationship between experience and preference for client measures, though the relationship is weak but significant at the .05 level (Tau-c = .091,  $p = .041$ ). As a result, the longer the client has been in business, the more he or she would tend to prefer client measures.

The relationships between position and education with preference for client measures are negative and relatively weak (Tau-c = -.132,  $p = .000$ ; Tau-c = -.121,  $p = .006$ ). Therefore, the higher the rank of the business owner (i.e. CEO, President, Partner, CFO, VP, etc.) and the more education the respondent, the less he or she tends to prefer client measures.

Other relationships were also examined and found to have some level of significance. According to the results obtained here, there is a relationship between organizations that have previously been awarded at least one prime contract and preference for client measures, though the level of association is weak (Lambda = .099;  $p = .011$ ). The average preference for client measures exhibited by contractors that have previously been awarded at least one contract is 2.42, while the average preference for client measures exhibited by contractors that have never been awarded a prime contract is 2.11 (Table 14). This finding indicates that, on average, contractors that have previously been awarded at least one prime contract prefer client measures slightly more than contractors that have never been awarded a prime contract.

These results show that there is a slight relationship between not being ISO certified and preference for client measures (Lambda = .079;  $p = .012$ ). The average preference for client

measures exhibited by contractors that are not ISO certified is 2.33 (Table 14), while the average preference for client measures exhibited by contractors that are ISO certified is 2.14. This finding indicates that, on average, contractors that are not ISO certified tend to prefer client measures more than organizations that are ISO certified, but just slightly more.

These results also show that there is a relationship between subcontracting and preference for client measures ( $\Lambda = .099, p = .015$ ). The average preference for client measures exhibited by contractors that have previously been awarded at least one federal government subcontract is 2.46, while the average preference for client measures exhibited by contractors that have never been awarded a federal government subcontract is 2.09 (Table 14). This finding indicates that, on average, contractors that have previously been awarded at least one federal government subcontract tend to prefer financial measures more than contractors that have never been awarded a federal government subcontract.

The results show that there is a relationship between Top 100 contractors and preference for client measures ( $\Lambda = .032, p = .010$ ), though the relationship is almost infinitesimal. Regardless, the average preference for client measures exhibited by contractors that are considered to be Top 100 contractors is 2.50, and the average preference for client measures exhibited by contractors that are not Top 100 contractors is 2.29 (Table 14).

The results also show that there is a relationship between organizations that have never received a federally subsidized loan and preference for client measures ( $\Lambda = .182; p = .000$ ). The average preference for client measures exhibited by contractors that have never received a federally subsidized loan is 2.25 (Table 14), while the average preference for organizations that have received at least one federally subsidized loan is 1.98. This finding indicates that, on average, contractors that have never received a federally subsidized loan prefer

client measures more than contractors that have previously received at least one federally subsidized loan.

Additionally, the results show that there is a slight relationship between OSDBU training and preference for client measures ( $\text{Lambda} = .145, p = .000$ ). The average preferences for client measures in organizations that have received OSDBU training and organizations that have never received training through the OSDBU office are almost equal at 2.36 and 2.31, respectively (Table 14). This finding indicates that there is literally no difference in the preference for client measures between contractors that have participated in the various opportunities for training offered by the OSDBU and those contractors that have not.

Another result shows that there is a slight relationship between teaming agreements and preference for client measures ( $\text{Lambda} = .069; p = .001$ ). The average preference for client measures exhibited by contractors that have previously participated in teaming agreements is 2.33, while the average preference for client measures exhibited by contractors that have never participated in a teaming agreement is 2.21 (Table 14). This finding indicates that, on average, contractors that have previously participated in a teaming agreement very slightly prefer client measures more than contractors that have never participated in a teaming agreement.

A slight relationship was shown to exist between mentorship and preference for client measures in these organizations ( $\text{Lambda} = .078; p = .000$ ). The average preference for client measures exhibited by contractors that have participated in the mentorship program is 2.41, while the average preference for client measures exhibited by contractors that never participated in the mentorship program is 2.26 (Table 14). This finding indicates that, on average, contractors that have had mentors prefer client measures just slightly more than contractors that have not had mentors.

Finally, these results show that there is a slight relationship between sex and preference for client measures ( $\text{Lambda} = .108; p = .000$ ). The average preference for client measures exhibited by male respondents is 2.11, while the average preference for client measures by female respondents is 2.39 (Table 14). This finding indicates that male and female respondents are almost equal in their preference for client measures.

#### Preference for Public Good Measures

Table 16 presents measures of association between respondents' preferences for public good measures and the independent variables.



Table 16

## Preference for Public Good Measures

	Measure of association			Test of significance
	Tau-c	Lambda	<i>p</i>	$\chi^2$
Revenues	.231		.000	281.8 ( <i>p</i> = .000)
Experience	.141		.001	398.5 ( <i>p</i> = .000)
Age	-.080		.074	192.2 ( <i>p</i> = .000)
Education	-.203		.000	276.4 ( <i>p</i> = .000)
Position	-.180		.000	370.9 ( <i>p</i> = .000)
Prime		.118	.004	70.8 ( <i>p</i> = .000)
ISO		.079	.012	320.0 ( <i>p</i> = .000)
Subcontract		.124	.004	86.4 ( <i>p</i> = .000)
Top 100		.056	.193	52.4 ( <i>p</i> = .000)
Loan		.153	.000	129.5 ( <i>p</i> = .000)
Contract type		.149	.000	116.8 ( <i>p</i> = .000)
Competitive		.279	.000	115.7 ( <i>p</i> = .000)
Train		.120	.002	142.8 ( <i>p</i> = .000)
Team		.067	.037	49.2 ( <i>p</i> = .000)
Mentor		.048	.188	116.2 ( <i>p</i> = .000)
ISO		.133	.001	341.3 ( <i>p</i> = .000)
Mission		.301	.000	463.9 ( <i>p</i> = .000)
Sex		.085	.071	75.0 ( <i>p</i> = .000)

The most noteworthy relationship with preferences for public good measures is that of those organizations that have won bids for contracts that were won competitively (Lambda = .279, *p* = .000). The results show that the average preference for public good

measures exhibited by those respondents that have won competitive bids for federal contracts is 2.52, while the average preference for public good measures exhibited by those respondents that have not won any competitive bids for contracts is 2.61 (Table 14). This finding indicates that, on average, contractors that have competitively secured at least one federal contract prefer public good measures more than contractors that have not been able to competitively secure a federal government contract. In addition to those recipients that have never secured any type of federal contract, the latter category includes those respondents who have secured federal contract dollars through set-asides and through other means such as grants.

There also appears to be a relationship between revenues and preference for public good measures. This relationship is significant at the .01 level ( $\text{Tau-c} = .231, p = .000$ ). The results show that there is a positive relationship between revenues earned by the organization and the respondents' preference for public good measures within these same organizations. More specifically, the more revenue an organization earns annually, the higher the level of preference for client measures.

Another apparent relationship is that between education and preference for public good measures ( $\text{Tau-c} = -.203, p = .000$ ). The results show that relationship is negative between respondents' highest level of education attained and their preference for public good measures. More specifically, the more education the respondent has, the less he or she tends to prefer public good measures.

The results show that there is a slight negative relationship between position and preference for public good measures in these organizations ( $\text{Tau-c} = -.180, p = .000$ ). More specifically, the higher the respondents' position within the organization, the less the respondent tended to prefer financial measures.

When considering the relationship between experience and preference for public good measures, a slight relationship seems to exist ( $\text{Tau-c} = .141, p = .001$ ). More specifically, the more experience the respondent has within the business, the more the respondent tends to prefer public good measures.

A slight relationship also seems to exist between organizations that have previously been awarded at least one prime contract and preference for public good measures in these organizations ( $\text{Lambda} = .118; p = .000$ ). The average preference for financial measures exhibited by contractors that have previously been awarded at least one contract is 2.61, while the average preference for financial measures exhibited by contractors that have never been awarded a prime contract is 2.31 (Table 14). This finding indicates that, on average, contractors that have previously been awarded at least one prime contract prefer financial measures slightly more than contractors that have never been awarded a prime contract.

The results also show that there is somewhat of a relationship between ISO certification and preference for public good measures ( $\text{Lambda} = .079, p = .012$ ). The average preference for public good measures for respondents that come from organizations that are ISO certified is 2.20 and the average preference for public good measures for respondents that come from organizations that are not ISO certified is 2.55. This finding indicates that, on average, contractors that are not ISO certified prefer public good measures slightly more than those contractors that are ISO certified.

Additionally, the results show that there is somewhat of a relationship between organizations that have previously been awarded at least one federal government subcontract and preference for public good measures ( $\text{Lambda} = .144; p = .000$ ). The average preference for public good measures exhibited by contractors that have previously been awarded at least one

federal government subcontract is 2.60, while the average preference for public good measures exhibited by contractors that have never been awarded a federal government subcontract is 2.35 (Table 14). This finding indicates that, on average, contractors that have previously been awarded at least one federal government subcontract prefer public good measures slightly more than contractors that have never been awarded a federal government subcontract.

The results also show that there is a relationship between receiving a federally subsidized loan and preference for public good measures in these organizations ( $\Lambda = .153; p = .000$ ). The average preference for financial measures exhibited by contractors that have never received a federally subsidized loan is 2.64 (Table 14), while the average preference for organizations that have received at least one federally subsidized loan is 2.25. This finding indicates that, on average, contractors that have never received a federally subsidized loan prefer public good measures slightly more than contractors that have previously received at least one federally subsidized loan.

There is also an apparent relationship between OSDBU training and preference for public good measures in these organizations ( $\Lambda = .120, p = .002$ ). The average preference for financial measures in organizations that have never received training through the OSDBU office is 2.61 (Table 14), while the average preference for financial measures by contractors that have received training through the OSDBU office is 2.27. This finding indicates that, on average, contractors that have not received training through the OSDBU office prefer public good measures slightly more than contractors that have received training through the OSDBU office.

Teaming agreements and preference for public good measures also appear to have a relationship in these organizations ( $\Lambda = .067; p = .037$ ). The average preference for public good measures exhibited by contractors that have previously participated in teaming agreements

is 2.54, while the average preference for public good measures exhibited by contractors that have never participated in a teaming agreement is 2.36 (Table 14). This finding indicates that, on average, contractors that have previously participated in a teaming agreement prefer public good measures more than contractors that have never participated in a teaming agreement.

#### Preference for Internal Management Process Measures

Table 17 presents measures of association between respondents' preferences for internal management process measures and the independent variables.

Table 17

## Preference for Internal Management Process Measures

	Measure of association			Test of significance
	Tau-c	Lambda	<i>p</i>	$\chi^2$
Revenues	-.106		.035	186.3 ( <i>p</i> = .000)
Experience	-.138		.001	322.0 ( <i>p</i> = .000)
Age	252.08		.000	252.1 ( <i>p</i> = .000)
Education	-.163		.001	180.6 ( <i>p</i> = .000)
Position	-.106		.047	309.2 ( <i>p</i> = .000)
Prime		.254	.000	134.8 ( <i>p</i> = .000)
ISO		.079	.012	320.0 ( <i>p</i> = .000)
Subcontract		.147	.000	125.3 ( <i>p</i> = .000)
Top 100		.215	.000	158.0 ( <i>p</i> = .000)
Loan		.198	.000	251.8 ( <i>p</i> = .000)
Contract type		.170	.000	196.7 ( <i>p</i> = .000)
Competitive		.216	.000	137.9 ( <i>p</i> = .000)
Train		.155	.000	169.8 ( <i>p</i> = .000)
Team		.000	—	36.4 ( <i>p</i> = .000)
Mentor		.045	.032	100.3 ( <i>p</i> = .000)
ISO		.064	.002	176.4 ( <i>p</i> = .000)
Mission		.219	.000	329.7 ( <i>p</i> = .000)
Sex		.141	.002	76.5 ( <i>p</i> = .000)

The results shown here tend to support the notion that there appears to be a negative relationship between position and preference for internal management process measures. More specifically, the higher the respondents' position within the organization, the less the respondents

tend to prefer financial measures. This relationship is statistically significant at the .05 level (Tau-c = -.106,  $p = .047$ ).

The results also tend to show that there is a negative relationship between annual revenues earned by an organization and respondents' preference for internal management process measures. More specifically, the more revenue an organization earns annually, the less the respondent tended to prefer internal management process measures. This relationship is statistically significant at the .05 level (Tau-c = -.106,  $p = .035$ ).

A negative relationship also appears to exist between organizational experience and respondents' preference for internal management process measures. More specifically, the longer an organization has been in existence, the less the respondent tends to prefer internal management process measures. This relationship is significant at the .01 level (Tau-c = -.138,  $p = .001$ ).

A positive relationship seems to exist between age of the respondent and preference for internal management process measures. More specifically, the older the respondent is, the more he or she tends to prefer financial measures. This relationship is statistically significant at the .01 level (Tau-c = -.152,  $p = .000$ ).

Based on the results of this study, a negative relationship seems to exist between level of education attained by the respondent and preference for internal management process measures. More specifically, the more education the respondent has, the less he or she tends to prefer financial measures. This relationship is statistically significant at the .01 level (Tau-c = -.163,  $p = .001$ ).

The most noteworthy level of association with respondents' preferences for internal management process measures is with prime contracting. The results show that there is a

relationship between organizations that have previously been awarded at least one prime contract and respondents' preferences for public good measures in these organizations (Lambda = .254,  $p = .000$ ). The average preference for financial measures exhibited by contractors that have previously been awarded at least one contract is 2.47, while the average preference for financial measures exhibited by contractors that have never been awarded a prime contract is 2.62 (Table 14). This finding indicates that, on average, contractors that have previously been awarded at least one prime contract tend to prefer financial measures slightly less than contractors that have never been awarded a prime contract.

Another slight relationship that seems to exist is that between organizations that are ISO certified and preference for internal management process measures (Lambda = .079;  $p = .012$ ). The average preference for internal management process measures exhibited by contractors that are ISO certified is 2.49, while the average preference for internal management process measures exhibited by contractors that are not ISO certified is 2.54 (Table 14). This finding indicates that contractors that are and contractors that are not ISO certified tend to prefer internal management process measures at about the same level.

Based on the results of this research there appears to be somewhat of a relationship between organizations that have previously been awarded at least one federal government subcontract and preference for internal management process measures (Lambda = .147;  $p = .000$ ). The average preference for internal management process measures exhibited by contractors that have previously been awarded at least one federal government subcontract is 2.56, while the average preference for internal management process measures exhibited by contractors that have never been awarded a federal government subcontract is 2.50 (Table 14).



Another relationship that seems to exist is that between organizations that have never received a federally subsidized loan and preference for internal management process measures in these organizations ( $\text{Lambda} = .198; p = .000$ ). The average preference for internal management process measures exhibited by contractors that have received at least one federally subsidized loan is 2.64, while the average preference for organizations that have never received a federally subsidized loan is 2.29 (Table 14). This finding indicates that, on average, contractors that have received at least one federally subsidized loan prefer internal management process measures more than contractors that have never received a federally subsidized loan.

There is also an apparent relationship between OSDBU training and preference for internal management process measures in these organizations ( $\text{Lambda} = .155; p = .000$ ). The average preference for internal management process measures in organizations that have received training through the OSDBU office is 2.71, while the average preference for internal management process measures by contractors that have never received training through the OSDBU office is 2.48 (Table 14). This finding indicates that, on average, contractors that have received training through the OSDBU office prefer internal management process measures more than contractors that have not received training through the OSDBU office.

There is a very slight relationship between mentorship and preference for internal management process measures in these organizations ( $\text{Lambda} = .045; p = .032$ ). The average preference for internal management process measures exhibited by contractors that have participated in the mentorship program is 2.64, while the average preference for internal management process measures exhibited by contractors that never participated in the mentorship program is 2.50 (Table 14). This finding indicates that, on average, contractors that have had

mentors prefer internal management process measures more than contractors that have not had mentors.

The results also tend to show that there is a relationship between sex and preference for internal management process measures ( $\text{Lambda} = .141; p = .002$ ). The average preference for internal management process measures exhibited by male respondents is 2.43, while the average preference for internal management process measures by female respondents is 2.53 (Table 14). This finding indicates that male and female respondents are almost equal in their preference for internal management process measures but with female respondents preferring internal management process measures slightly more than male respondents did.

#### Preference for Employee Measures

Table 18 presents measures of association between respondents' preferences for employee measures and the independent variables.

Table 18

## Preference for Employee Measures

	Measure of association			Test of significance
	Tau-c	Lambda	<i>p</i>	$X^2$
Revenues	.200		.000	551.7 ( <i>p</i> = .000)
Experience	.385		.000	348.0 ( <i>p</i> = .000)
Age	.099		.049	199.4 ( <i>p</i> = .000)
Education	.067		.099	220.7 ( <i>p</i> = .000)
Position	-.122		.006	331.6 ( <i>p</i> = .000)
Prime		.098	.000	83.1 ( <i>p</i> = .000)
ISO		.079	.012	320.0 ( <i>p</i> = .000)
Subcontract		.135	.000	102.3 ( <i>p</i> = .000)
Top 100		.019	.680	69.2 ( <i>p</i> = .000)
Loan		.092	.001	122.1 ( <i>p</i> = .000)
Contract type		.134	.000	165.1 ( <i>p</i> = .000)
Competitive		.103	.054	58.9 ( <i>p</i> = .000)
Train		.124	.000	174.9 ( <i>p</i> = .000)
Team		.083	.001	59.5 ( <i>p</i> = .000)
Mentor		.022	.272	59.8 ( <i>p</i> = .037)
ISO		.146	.000	370.9 ( <i>p</i> = .000)
Mission		.198	.000	424.6 ( <i>p</i> = .000)
Sex		.058	.007	51.4 ( <i>p</i> = .004)

The results show that the strongest relationship with preference for employee measures is organizational experience. More specifically, the longer an organization has been in existence,

the higher the level of preference of the respondent in that organization for employee measures. This relationship is significant at the .01 level (Tau-c = .385,  $p = .000$ ).

There is an apparent positive relationship between organizational revenues and respondents' preference for employee measures. More specifically, the higher annual revenues earned by the organization, the higher the level of preference of the respondent in that organization for employee measures. This relationship is significant at the .01 level (Tau-c = .200,  $p = .000$ ).

There also seems to be somewhat of a negative relationship between position and preference for employee measures. More specifically, the higher the position of the respondent, the lower the level of preference of the respondent for employee measures. This relationship is significant at the .01 level (Tau-c = -.122,  $p = .006$ ).

A relatively weak relationship is exhibited between age and preference for employee measures. More specifically, and the older the respondent, the more the respondent was likely to prefer employee measures, but only very slightly. This relationship is significant at the .05 level (Tau-c = .099,  $p = .049$ ).

A slight relationship appears to exist between organizations that have previously been awarded at least one prime contract and preference for financial measures in these organizations (Lambda = .098;  $p = .000$ ). The average preference for employee measures exhibited by contractors that have previously been awarded at least one contract is 1.82, while the average preference for employee measures exhibited by contractors that have never been awarded a prime contract is 1.30 (Table 14). This finding indicates that, on average, contractors that have previously been awarded at least one prime contract prefer employee measures more than contractors that have never been awarded a prime contract.

All of the other independent variables that were considered in this study have weak levels of association with preference for employee measures. Therefore these variables will not be further discussed. Additionally, since preference for employee measures was the least preferred type of performance measures, the researcher has deemed these relationships immaterial and not worthy of further consideration.

### Summary

The following findings were presented in this chapter:

*First, clients tend to prefer financial performance measures the most.* Since this is the client group that is being evaluated in this instance, one could logically expect preference for client measures to be the most highly regarded type of performance measures. However, financial measures were shown to be the most preferred types of measures for the client group. This is especially surprising, considering the fact that there has been such an emphasis on the more humanistic side, as opposed to mechanistic side, of management (i.e. balanced scorecards, TQM, etc). Financial measures are obviously still perceived as being the most important measures in evaluating the performance of the OSDBU.

*Second, internal management process measures are the second most preferred group of performance measures by the clients.* This is a possible indication that people generally have confidence in the security and anonymity of the bureaucratic structure. Once again, internal management process measures would tend to be mechanistic measures. By sheer nature, highly structured systems promote fairness and consistency, thereby minimizing the effects of political behavior, favoritism, and nepotism. This perceived equity associated with bureaucratic structure can serve as a potential source of motivation for the small business owner who can otherwise

become frustrated with the divisiveness of highly political activity. These types of mechanistic measures also provide objectivity in evaluating performance. Therefore, internal management process measures also provide a certain level of assurance of administrative accountability for the service and decision making processes.

*Third, employee measures were the least preferred group of performance measures by the clients.* This result suggests that employees' performance should be the concern of their managers or supervisors, and employees' performance may be addressed as an issue of an agency's internal management practice. Though employee measures are the least preferred measures, these measures should not be misconstrued as not being important. The relationship of employee measures to the other sets of measures is what is noteworthy. The importance of this relationship will be expanded upon in Chapter VI.

*Fourth, there were only slight differences between the client preferences for internal management process measures and public good measures.* This is an indication that there are only slight variations in the level of preferences that the clients have for these two sets of measures. In other words, there are no major variations in the level of preference for these performance measures exhibited by the clients. Perhaps the clients view the measures that determine whether or not the internal mechanisms of the organization are functioning properly as having the same approximate level of importance as the external measures that the overseeing organizations has on these agencies and their programs.

*Fifth, there is strong correlation between preference for financial measures and preference for client measures.* This result may reflect the tendency of respondents, who are the managers in the private sector, to link customer satisfaction with financial success. Satisfied customers tend to be repeat customers. They also tend to promote those businesses with which

they are satisfied via word-of-mouth advertising. Therefore, customer satisfaction tends to lead to increased profits in the commercial arena.

*Sixth, there is a strong relationship between preference for financial measures and experience, and there is a strong association between preference for client measures and revenues.* These findings may reflect the assessment that in the private sector financial success is the key for business. The longer respondents remain in business and the larger their organizations become, the more they tend to realize and agree with this assessment.

*Seventh, there is evidence of a relationship between preference for public good measures and competitive status.* This result may reflect the policy impact of less competitive “set aside” contracting in which disadvantaged business owners are offered assistance. These businesses are more favorable to the measures of public good.

*Eighth, preference for internal management processes and prime contracting seem to be related.* In order for business owners to secure a prime contract with a governmental agency or department, they must be well versed in bureaucratic processes. By conducting business with the federal government, they must contend with the myriad of paperwork and the countless operating procedures typified within the departments and agencies. Consequently, these business owners should have a preference for internal management process measures. Though no one likes bureaucracy, per se, the environment in which prime contractors function is extremely bureaucratic, so it seems natural that these business owners would have a preference for measures that accurately reflect this milieu.

This chapter presented the results of univariate and bivariate analyses, which are sufficient to answer the three research questions. Multivariate analysis was conducted. Nevertheless, multiple regression results of the client survey are very different from the results

from the manager survey, which suggests problems in the specification of the multivariate modeling process. Future efforts will have to validate or invalidate the bivariate and univariate results of this study before multivariate analysis results can be reported with a certain level of confidence. Therefore these results are not being reported in this dissertation.



## CHAPTER VI

### MANAGER SURVEY RESULTS

#### Introduction

This chapter presents the statistical results of the manager survey. This analysis will primarily answer the second and third research questions: “What are the stakeholders’ preferences for performance measures?” and “What determines the preferences?” As discussed in Chapter V, the underlying premise is that it is critical to know what various stakeholder groups want from a performance measurement system. A critical step is the identification of the stakeholder group to which the policy is being presented so that the policy can be appropriately framed.

In Chapter V, the results of the client survey were presented. In this chapter, the results of the manager survey are presented. Preferences of surveyed managers to performance measures will be presented. Managers develop and implement measurement systems. Their perception of the importance of different measures is critical for the design and implementation of measures.

## Univariate Analysis

### Univariate Analysis of the Dependent Variable

Table 19 presents survey items to measure the dependent variables that are the manager preferences for the performance measures. Actual survey items and their corresponding measurement perspectives are included in the table.

Table 19

## Survey Items to Measure the Dependent Variables—Preferences for Performance Measures

Item	Perspective	Description
A	client	the number of clients that participate in the Mentor–Protégé Program
E	client	the number of clients that participate in teaming agreements
J	client	the percentage of clients that are happy or very satisfied with the level of service provided by the OSDBU
P	client	the number of clients that participate in OSDBU programs
C	financial	dollar amount spent by the OSDBU per client
I	financial	dollar amount spent per contract by the OSDBU
B	financial	the number of contracts awarded to OSDBU clients
L	financial	the average dollar amount of contracts awarded to OSDBU clients annually
F	employee	percentage of employees rated above “satisfactory” on their performance appraisals
D	employee	the number of employees that attend job related training workshops
G	employee	the number of OSDBU employees that have a bachelors degree or higher
Q	employee	the number of employees that attend job-related conferences annually
K	processes	the number of workshops and forums held per year by the OSDBU
O	processes	the number of OSDBU employees per contract awarded to OSDBU clients
N	processes	the average amount of time for an OSDBU client to become certified
M	processes	the average amount of time for an OSDBU client to be awarded a contract
H	public good	the percentage of citizens who are happy with the OSDBU’s performance
R	public good	the percentage of elected officials who are satisfied with the OSDBU’s performance
S	public good	the percentage of its SBA mandated goals achieved

The questions on the manager survey instrument were categorized so that the responses were grouped into the same five designed measurement perspectives used in the client survey instrument: financial perspectives, client perspectives, employee perspectives, internal management process perspectives, and public good perspectives.

Table 20 shows the descriptive statistics of the respondents' preferences for performance measures. Percentages of "very important," "important," "somewhat important," and "not important" for each individual item that assesses preferences towards performance measures are presented in the table. The means and standard deviations of these survey items are also presented.

Table 20

## Descriptive Analysis of Respondents' Preferences for Performance Measures

Variable	% Very important	% Important	% Somewhat important	% Not important	Mean	Std dev
Client						
Item A	—	8.7	56.7	34.6	1.74	.607
Item E	—	25.8	53.9	20.3	2.05	.679
Item J	—	22.7	57.0	20.3	2.02	.658
Item P	23.4	59.4	16.4	0.8	3.05	.656
Average	5.85	29.15	46.0	19.0	2.22	.650
Financial						
Item C	12.5	57.8	28.1	1.6	2.81	.661
Item I	—	11.0	50.4	38.6	1.72	.651
Item B	4.7	50.4	38.6	6.3	2.53	.687
Item L	—	9.4	60.2	30.5	1.79	.597
Average	4.30	32.15	44.33	19.25	2.24	.649
Employee						
Item F	1.6	14.1	58.6	25.8	1.91	.676
Item D	44.5	45.3	10.2	—	3.34	.657
Item G	18.8	61.7	18.8	0.8	2.98	.640
Item Q	16.4	68.0	14.8	0.8	3.00	.589
Average	20.3	47.3	25.6	9.13	2.13	.641
Processes						
Item K	—	22.7	51.6	25.8	1.97	.698
Item O	24.2	60.2	14.8	0.8	3.07	.647
Item N	—	24.4	64.6	11.0	2.13	.582
Item M	41.4	49.2	7.8	1.6	3.30	.714
Average	16.33	39.13	34.7	9.8	2.62	.660
Public Good						
Item H	7.1	31.7	50.0	11.1	2.35	.773
Item J	22.6	62.1	12.1	3.2	3.03	.721
Item S	46.8	41.3	9.5	2.4	3.32	.776
Average	25.5	45.0	23.87	4.9	2.90	.757

Note: See Table 19 for item descriptions.

Table 20 shows several interesting findings. First, on average, survey respondents scored 2.90 on the items measuring preference for public good measures (with 4=very important, 3=important, 2=somewhat important, and 1=not important), the highest average score of all measures of the five measurement perspectives. This result indicates that, on average, managers prefer public good measures more than any other type of measure. The result suggests that the federal managers that work for the various OSDDBU offices within the various governmental agencies are committed to serving those to whom they report. With the public good measures representing the elected officials, and thus the citizens of the respective jurisdictions, the managers appear to have preferences that are aligned with those measures that reflect these constituencies and the public in general.

Another interesting finding is that, on average, survey respondents scored 2.62 on the items measuring preference for internal management process measures. This result indicates that these employees have a relatively strong preference for the mechanistic processes found within the intensely bureaucratic structure of the federal government. Since most of these managers have more than five years experience within their current positions (Table 21), these employees have been acclimated to the rigid policies and procedures typically found within these organizations.

Table 21

Respondents' Level of Experience Within Current Position (N = 126)

Years of experience	Number of cases	Percentage of total
Less than 1 year	1	0.8
1–2 years	6	4.8
3–4 years	10	7.9
5–6 years	12	9.5
7–8 years	47	37.3
9 or more years	50	39.7

A third interesting finding is that preference for financial measures ranked third among the federal managers. Financial measures are the bottom line within profit-seeking organizations and are therefore the preferred types of measures for those within the private sector. However, based on these findings, the federal managers prefer both public good measures and internal management process measures over financial measures. This difference indicates that these managers are more committed to serving the public and their superiors and that they are more committed to functioning within the confines of the federal bureaucratic structure than they are to financial measures.

A fourth finding of interest is that, just as employee measures are the least preferred measures for the clients, employee measures are also the least preferred measures for the managers.

As shown in Table 22, there are no strong correlations found within this correlation analysis of the dependent variable. This finding in and of itself possibly represents a sort of diversity within the ranks of the respondents. Though the managers that responded to these questionnaires are similar in that they have served in their current positions for many years, they are also diverse in that they all work for different agencies. There are approximately three to four respondents per agency. Therefore, these respondents are spread relatively evenly across many agencies, thereby reflecting many different organizational expectations, norms, and values.

Table 22

Manager Correlation Table of Index Variables

	Financial	Client	Internal	Employee	Public good
Financial	1.00				
Client	-.003	1.00			
Internal	-.063	.130	1.00		
Employee	-.068	.096	-.063	1.00	
Public good	-.079	-.013	-.044	-.176	1.00

### Manager Perspective Analysis

Preference for public good measures received the overall highest scores, with a mean score of 2.90. Preference for public good measures also had the tightest overall fit, with a range



of 0.97. The highest score within this perspective was 3.32 (the second highest single score), and the lowest score within this perspective was 2.35.

The second highest single score was 3.32. This score was associated with the response “the number of workshops and forums held per year by the OSDBU,” which is an internal management process measure. The third highest single score was 3.30, and this score was associated with the response “the number of workshops and forums held per year by the OSDBU.” As opposed to the top three responses for the client groups which preferred outcome measures, the manager group rated output measures highest.

Interestingly, the next three highest responses, which the researcher terms “second tier” responses, were rated extremely closely. These responses were “the average amount of time for an OSDBU client to become certified” (3.07), “the average amount of time for an OSDBU client to be awarded a contract” (3.05), and “the percentage of elected officials who are satisfied with the OSDBU’s performance” (3.03). Once again, of the six highest rated responses, only the fifth response is an outcome measure. The other measures are all output measures.

Preference for employee measures received the lowest overall scores, with a mean score of 2.13. Interestingly, the highest single score in this perspective was 3.34, which coincidentally was the highest overall single measure. This score was associated with the response “the number of clients that participate in OSDBU programs.” Another interesting fact is that this perspective also had the highest disparity, with a range of 1.43. Though preference for employee measures was the lowest scoring perspective for both client measures and manager measures, the manager ratings were obviously not as low as the client ratings. In other words, the managers tend to have more regard for employee measures than clients do, though both groups rate them relatively low.

## Univariate Analysis of the Independent Variables

Table 23 presents survey items measuring independent variables. Actual survey items and their abbreviated variable names used in analysis of this study are presented in the table.

Table 23  
Survey Items to Measure the Independent Variables

Item	Description	Variable name
1	respondent's current job title	titlem
2	amount of time in that position	posexpm
3	amount of time in that agency or department	depexpm
4	other federal agency experience	otherm
6	total years of federal government experience	fedexpm
7	annual contract dollars awarded to small businesses by that agency	contm
8	respondent's opinion of client perception of the OSDBU mission	custm
9	has respondent ever owned own business	ownm
11	respondent's gender	genderm
12	respondent's age	agem
13	respondent's level of educational attainment	educm

There are 19 independent variables in this analysis and they are the same as the ones used in the client survey. This section of this chapter presents the univariate analysis of several selected independent variables. The variables that were selected for detailed analysis are level of

experience in current position, annual contract dollars awarded to small businesses by the respective agency, the perception of client's understanding of the OSDBU mission, age, and gender. These variables represent the mean responses that were rated most highly and therefore can be considered to be most important to the respondent.

Table 21 describes the frequency distribution of the respondents' level of experience within their current positions at their respective agencies. Approximately 77% of the respondents have seven or more years of experience in their current positions and nearly 40% of the respondents have nine or more years of experience in their current positions. The longevity of these federal government managers is consistent with the nature of these positions. In order for offices such as the OSDBU to effectively run and manage the various programs that they are responsible for administering, the overseer needs to be a very "seasoned" executive. He or she must have a very strong network of individuals, both within their federal governmental agencies and entrepreneurs operating as contractors and sub-contractors. This individual must be very knowledgeable of the administrative processes to keep the operations functioning properly.

Around 75% of these agencies award in excess of \$7,500,000 to small businesses annually (see Table 24). Around 64% of them award more than \$10,000,000 annually. Though these may sound like very large amounts, they are a mere fraction of the amounts of overall contract dollars awarded by federal agencies each year. Though these small businesses cannot compete with the huge prime contractors such as Lockheed-Martin or Boeing, these small business fill critical niches that often cannot be filled by these mega corporations. They are also often much more responsive and flexible because they do not have the strict bureaucratic processes often associated with large companies.

Table 24

Annual Contract Dollars Awarded to Small Businesses by Respondents' Respective Agencies

(N = 125)

Annual contracts awarded	Number of cases	Percentage of total
Less than \$1,000,000	18	14.4
\$1,000,001–\$2,500,000	9	7.2
\$2,500,001–\$5,000,000	6	4.8
\$5,000,001–\$7,500,000	0	0.0
\$7,500,001–\$10,000,000	12	9.6
More than \$10,000,000	80	64.0

Though the purpose of the OSDBU is to provide information to the small business owners, it is interesting to note that 30% of the managers feel that the small business clients believe that it is the OSDBU's responsibility to actually find contracts for them (see Table 25). Additionally, nearly 24% of these managers believe that the small business clients are of the opinion that it is the OSDBU's responsibility to introduce them to contracting officers or those persons that are in charge of awarding contracts. However, nearly half of these respondents were correct in their perception of the mission of the OSDBU.

Table 25

Respondents' Perception of Clients' Understanding of the OSDBU Mission (N = 193)

Respondents' perception	Number of cases	Percentage of total
To find contracts for clients' businesses	37	29.4
To help clients write proposals	—	—
To introduce clients to contracting officers	30	23.8
To provide sources of funds for clients' businesses	—	—
To disseminate information to clients	126	46.8

Note: The question did not indicate that the respondent should check only one answer, and quite a few respondents selected more than one answer.

Only 5.6% of the respondents were 30 years old or younger (see Table 26); therefore 94.4% of the respondents are more than 30 years old. This distribution is also an indication of the experience that is necessary to effectively function in a position such as this one. Though some of the knowledge and skills needed for this position are those types of skills that can be learned in a classroom and through other types of formal structured learning, much of it must be acquired through experience and longevity, particularly the people skills that must be relied upon when interacting with all involved parties.

Table 26

Respondents' Age (N = 126)

Respondents' age	Number of cases	Percentage of total
30 or younger	7	5.6
31–39	30	29.4
40–49	67	53.2
50–59	19	15.1
60 or older	3	2.4

Table 27 shows that just slightly more than half of the respondents were male and slightly less than half female, indicating that a person of either sex can effectively function in these types of administrative positions.

Table 27

Respondents' Gender (N = 126)

Gender	Number of cases	Percentage of total
Male	70	55.6
Female	56	44.4

## Bivariate Analysis

### Preference for Financial Measures

Table 28 presents measures of association between preferences for financial measures and the independent variables.

Table 28

#### Preference for Financial Measures

	<u>Measure of association</u>			<u>Test of significance</u>	
	Tau-c	Lambda	<i>p</i>	$X^2$	<i>p</i>
Position experience	-.075		.242	17.34	.968
Annual contract dollars	-.045		.525	305.03	.408
Mission perception	.008		.924	8.77	.723
Age	-.172		.003	20.74	.654
Gender		.007	.796	2.08	.912

The results show that there is a slight negative relationship between age and preference for financial measures (Tau-c =  $-.172$ ,  $p = .003$ ). More specifically, the older the respondent, the less likely he or she is to prefer financial measures. This relationship is significant at the .002 level. Age is the only independent variable that is shown to have a significant relationship with preference for financial measures.

### Preference for Client Measures

Table 29 presents measures of association between preferences for client measures and the independent variables.

Table 29

#### Preference for Client Measures

	<u>Measure of association</u>			<u>Test of significance</u>	
	Tau-c	Lambda	<i>p</i>	$\chi^2$	<i>p</i>
Position experience	.048		.506	35.96	.209
Annual contract dollars	-.066		.336	276.31	.833
Mission perception	-.042		.602	6.16	.908
Age	.030		.643	16.75	.859
Gender		.043	.154	6.03	.420

These results do not show any independent variables that have a significant measure of association with client measures.

### Preference for Employee Measures

Table 30 presents measures of association between preferences for employee measures and the independent variables.



Table 30

## Preference for Employee Measures

	<u>Measure of association</u>			<u>Test of significance</u>	
	Tau-c	Lambda	<i>p</i>	$\chi^2$	<i>p</i>
Position experience	-.009		.885	56.37	.012*
Annual contract dollars	.049		.441	334.50	.716
Mission perception	.012		.887	12.00	.606
Age	.028		.713	60.67	.000**
Gender		.035	.410	7.13	.406

\* $p < .05$ . \*\* $p < .01$

These results show that there is a very slight negative relationship between position experience and preference for employee measures (Tau-c = -.009,  $p = .003$ ). In other words, the longer a respondent has been in his or her position, the less likely he or she is to prefer employee measures. This relationship is significant at the .05 level. Age is also shown to have a relationship with preference for employee measures ( $\chi^2 = 60.67$ ,  $p = .000$ ).

## Preference for Internal Management Process Measures

Table 31 presents measures of association between preferences for internal management process measures and the independent variables.

Table 31

## Preference for Internal Management Process Measures

	<u>Measure of association</u>			<u>Test of significance</u>	
	Tau-c	Lambda	<i>p</i>	$\chi^2$	<i>p</i>
Position experience	.045		.467	16.66	.976
Annual contract dollars	-.015		.831	318.81	.218
Mission perception	.001		.994	9.84	.630
Age	.054		.447	23.40	.496
Gender		.050	.405	10.98	.089

These results do not show any independent variables that have a significant measure of association with internal management process measures.

## Preference for Public Good Measures

Table 32 presents measures of association between preferences for public good measures and the independent variables.

Table 32

## Preference for Public Good Measures

	<u>Measure of association</u>			<u>Test of significance</u>	
	Tau-c	Lambda	<i>p</i>	$\chi^2$	<i>p</i>
Position experience	.011		.872	37.70	.574
Annual contract dollars	-.096		.161	383.83	.711
Mission perception	-.139		.089	18.57	.292
Age	.010		.890	30.49	.543
Gender		.107	.136	10.84	.211

These results do not show any independent variables that have a significant measure of association with public good measures.

### Summary

Based on the results of the univariate analysis, *public good measures were the most preferred measures by managers in the survey*. Clients, on the other hand, preferred financial measures most. Based on these findings, the researcher concluded that managers within the federal government have a preference for the measures that represent and assess public good. These measures are largely determined by those public administrators who are responsible for developing the macro measures that the governmental agencies must abide by. Some examples include the SBA, which sets the mandates for contracting goals and the Government Accounting Office (GAO), which determines the financial standards for the other governmental agencies.

The managers' preference for public good measures may possibly be a result of, once again, a preference for strict adherence to administrative procedure. Another possible explanation is that these managers prefer public good measures because they are public officials and they work to serve the interests of public, which is represented by the elected officials.

*Second, preference for internal management processes was the second most preferred measure by the federal managers.* It is not surprising that these managers would prefer internal management processes. Rank, promotions, and raises are typically more systematic in the public sector. This is because salary grades are usually very specific and promotions are relatively well defined within the federal government. Therefore, those managers that have chosen career paths within the federal government have chosen to function in this environment.

*Third, preference for financial measures and preference for client measures are almost equal, though financial measures were slightly more preferred.* The researcher finds this conclusion to be especially noteworthy because both preference for public good measures and preference for internal management process measures were rated more highly than financial measures by the surveyed managers. This indicates that federal managers are more concerned with administrative processes than with fiscal effectiveness. Financial success in the public sector is difficult to assess, and traditionally these measures are not emphasized in daily management. This finding may suggest a need to provide financial education to federal managers, thereby enhancing their sense of fiscal responsibility.

Similar to the results of the client surveys, *employee measures are the least preferred by the federal managers.* As was mentioned in the summary of Chapter V, it is interesting to note that both clients and managers rated employee measures lowest. One logical explanation is that the managers feel that once the individual secures a position within the governmental agency, he

or she simply becomes a mechanism in the entire system. Once he or she becomes a part of the system, then the individual's performance becomes the responsibility of his or her manager. Basically, the system should be evaluated from a macro point of view. In other words, both managers and clients are more concerned with organizational measures as opposed to individual measures.

*None of the preferences for these perspectives were correlated with each other.*

Therefore, all of these stand alone, independently. This result is surprising in light of strong associations of clients' preferences for measurement perspectives. Managers may clearly realize the different roles of these measurement perspectives in assessing organizational performance, while clients' views of these roles may be unclear.

As was done with the results of the client survey in Chapter V, the data from the manager's survey and the resulting analysis presented in this chapter include only univariate and bivariate analysis. These analyses are sufficient to answer three research questions. Though multivariate analysis was conducted, the results from the managers' survey were very different from those of clients. For example, none of independent variables is found to be statistically associated with the preferences for performance measurement, while in the analysis of client survey, a large number of independent variables are found to be associated with the preferences. This discrepancy leads to a possibility of a problem in the multivariate model specification. Because of this and other reasons, these multivariate analysis results are also not being reported in this dissertation.

## CHAPTER VII

### CONCLUSIONS

#### Introduction

Despite the importance of federal managers and their clients in the administrative process, little is known about the preferences of these groups when it comes to performance measures. This dissertation provided an analysis of the performance measurement preferences of federal managers and their clients. Based on the results and findings about these two groups of stakeholders, a clearer understanding of the preferences of various groups of stakeholders emerged. Understanding the preferences of the various groups of stakeholders makes it possible to develop, use, and maintain effective and efficient performance measurement systems.

Performance measurement systems are not meant to be developed and to then sit in a binder on a shelf as a type of trophy or status symbol. These systems should be developed so that the execution of public policy through very specific mechanisms of departmentalization and other forms of administrative processes, policies, and procedures can be accomplished. If done in an effective and efficient way, these systems should both promote accountability and provide the means for demonstrating that accountability when called upon to do so. By executing the study reported in this dissertation, the researcher has attempted to bring some conceptual clarity to the area of performance measurement systems.

The researcher attempted to answer three research questions: What measures should be included in the MBSC model? What are the stakeholders' preferences for these measures? What determines the preferences?

In order to answer the first research question, the general progression of previous budgetary models used in the public sector was used to develop the Modified Balance Scorecard (MBSC). Based on the BSC model, which is touted as being one of the most influential ideas of the 20th century, this model has the potential to revolutionize current performance measurement standards within the public sector. The MBSC is a model of five measurement perspectives that integrates elements of previous budgetary models into an overall, comprehensive performance measurement system. The five perspectives include the financial perspective, the client perspective, the employee perspective, the internal management process perspective, and the public good perspective. These perspectives were included in the model based on the results of an analysis of the existing literature regarding performance measurement in the public sector.

More important than the practical contributions of this dissertation are the theoretical contributions. Though there have been increasing demands for accountability within the public sector, adequate methods of providing this information have not been developed. Simply using models developed for the private sector is not sufficient. By nature, the public sector is different from the private sector. There is a type of "fused" interest that exists within the public sector that does not exist within the private sector, in that the taxpayers that ultimately fund the operations of the public sector are also the recipients of the services (and some times goods) provided by the public sector. Within the private sector, the owners of the company, or its shareholders, provide the necessary funding for the operations of the organization while its customers or clients receive the services or goods provided by the company. Though the

shareholders and clients of a company can be one in the same, typically this is not the case. Due to the existence of this distinctive characteristic, there is a definitely need for the development of new performance measurement models or the adaptation of existing ones and the MBSC provides a good base model that is flexible enough to be used for the further development of future assessment models.

The second question was answered through quantitative analysis. Based on these results, the researcher determined that clients mainly prefer financial, internal management process, and public good measures, in that order. Alternatively, the managers prefer public good, internal management process, and financial measures, in that order. Both groups tended to prefer employee measures least.

The third question was also answered using quantitative analysis. The most significant factors in influencing what determines the preferences of clients were experience, revenues, competitiveness, and prime contracting. The only factor that was found to be significant in influencing the performance measurement preferences of the managers was experience.

These factors and their resulting preferences can be used to design assessment instruments that are customized for the appropriate stakeholder group. Consequently, the results of this research are important in policy formulation and provide many implications regarding the effective presentation of policies. These results can be used to help effectively craft policies so that these policies can be presented appropriately to various groups. If executed correctly, this should aid in presenting performance measurement systems in the most favorable light, thereby maximizing acceptance in the utilization of these systems and accuracy in assessing the results of implementing these systems.



Though the introduction of the Kaplan's and Norton's BSC in 1992 as an assessment tool was phenomenally important in the area of performance measurement, this model needed to be specifically adapted for the public sector. The four perspectives of the BSC presented a more comprehensive assessment of performance than had previously been available for use within the commercial sector; however, this model failed to adequately encompass the public sector values that must be considered when measuring performance within that sector. By adding a fifth perspective, the public good, the MBSC was devised for use within the public sector.

### Implications and Recommendations

#### Policy Implications

This research was necessary because there is a lack of empirical research regarding the identification and development of performance measures at the federal level, and this includes all of the various stakeholder groups. Quality performance measurement systems are even more necessary as increasing accountability remains the trend in government. Taxpayers of the United States are becoming more sophisticated through better education and increased access to information, thereby resulting in increasing demands for more accountability from those responsible for running our federal government and from other elected officials.

#### Managerial Implications

From a practical point of view, these findings can be applied to the way policy is presented to the various stakeholders. Based on these findings, when policies are being presented to client groups, the policy should be presented by emphasizing points from the financial and

internal management process perspectives. On the other hand, when policies are being presented to managers groups, the policy should be presented by emphasizing points from the public good and internal management process perspectives.

### Implications for Further Research

Many areas of research touched on in this dissertation can be further investigated. First, manager and client preferences for performance measures could be researched at the state and local levels. Second, differences between various client groups could be researched, such as prime contractors vs. sub-contractors or small corporations vs. large corporations. One could also look at minority owned versus non-minority owned businesses. Additionally, one could research differences between federal employees and federal managers.

One could also alter the research design by changing the types of measures being evaluated. For example, one could look at outcome vs. output measures within the same measurement perspective. Finally, a fully developed model should be developed to better explain stakeholders' preferences with a probability sampling.

Another possibility for further research is investigating an agency that is more humanistic or one that deals with more social issues, such as the agencies that provide health services. The agency that was used in this dissertation is very technical and scientific in nature. Therefore, the generalizability of the results is questionable.

Furthermore, multivariate analysis can and should be conducted. In order to strengthen and verify the findings of the univariate and bivariate analysis, multivariate analysis can and should be conducted. Once confirmed through further analysis, all results can be reported with confidence and the generalizability of the findings can be incorrigibly established.

In closing, performance measurement is vitally important, and its significance continues to grow as accountability is emphasized more and more in government. High quality empirical research remains necessary in the quest for ideal standards for assessing organizational outcomes. Though performance measurement is dynamic and situational, continuous improvement should always be the ultimate goal in the long and never-ending process of developing and implementing adequate performance-measurement tools. By diligently pursuing enhanced standards of accountability, public servants everywhere work together for the betterment of the common good for stakeholders at every level, from the meekest citizen to the highest elected official. It all falls together in working for the pursuit of a better democratic society.

APPENDIX A  
CLIENT SURVEYS

1. Please indicate your current position.

- (1) \_\_\_\_\_ Owner, CEO or President
- (2) \_\_\_\_\_ Financial Manager or CFO
- (3) \_\_\_\_\_ Operations Manager
- (4) \_\_\_\_\_ Office Manager
- (5) \_\_\_\_\_ Other

2. Which of the following classifications best describes your business?

(Check all that apply.)

- (1) \_\_\_\_\_ Small Business
- (2) \_\_\_\_\_ Small Disadvantaged Business
- (3) \_\_\_\_\_ 8(a)
- (4) \_\_\_\_\_ Woman Owned Business
- (5) \_\_\_\_\_ HUBZone Small Business

3. Are you a "Top 100" contractor?

- a. yes
- b. no

4. How long has your business been in operation?

- \_\_\_\_\_ Less than one year
- \_\_\_\_\_ 1 – 2 years
- \_\_\_\_\_ 3 – 4 years
- \_\_\_\_\_ 4 – 5 years
- \_\_\_\_\_ 6 – 7 years
- \_\_\_\_\_ 8 – 9 years
- \_\_\_\_\_ more than 10 years

5. Has your business received any type of federally subsidized loan before?

- (1) \_\_\_\_\_ Yes
- (2) \_\_\_\_\_ No

2. Please indicate the amount of revenues your business earned last year.

- \_\_\_\_\_ less than \$100,000
- \_\_\_\_\_ from \$100,001 to \$250,000
- \_\_\_\_\_ from \$250,001 to \$500,000
- \_\_\_\_\_ from \$500,001 to \$750,000
- \_\_\_\_\_ from \$750,001 to \$1,000,000
- \_\_\_\_\_ More than \$1,000,000

7. Has your business ever been awarded a prime contract with a federal governmental agency?

- (1) \_\_\_\_\_ Yes
- (2) \_\_\_\_\_ No

8. If so, what type of contract was it? If not, go to question #8.

- (1) supplies and equipment
- (2) research and development
- (3) technical services
- (4) other services

9. Was it won competitively or through a set-aside program?

- (1) competitive
- (2) set aside
- (3) I've won both types of contracts before

10. Has your business ever been awarded a sub-contract with a federal governmental agency?

- (1) \_\_\_\_\_ Yes
- (2) \_\_\_\_\_ No

11. Have you ever received training through an OSBDU program?

- (1) \_\_\_\_\_ Yes
- (2) \_\_\_\_\_ No

12. Have you ever been part of a teaming agreement?

- (1) \_\_\_\_\_ Yes
- (2) \_\_\_\_\_ No

13. Have you ever participated in the Mentor-Protégé Program?

- (1) \_\_\_\_\_ Yes
- (2) \_\_\_\_\_ No

14. Are you ISO 9000 certified?

- (1) \_\_\_\_\_ Yes  
(2) \_\_\_\_\_ No

15. From my understanding, the mission of the OSDBU is to

- (1) \_\_\_\_\_ Find contracts or subcontracts for my business  
(2) \_\_\_\_\_ Help me write proposals to the government when bidding on contracts  
(3) \_\_\_\_\_ Introduce me to the appropriate contracting officer  
(4) \_\_\_\_\_ Provide sources of funds for my business  
(5) \_\_\_\_\_ Dissemination of information and exchange of ideas relative to the utilization of small businesses

16. Below is a list of federal OSDBU performance measures. Please read this list and assess how important they are to you in determining the organization's level of achievement, using the following scale.

Very important =4

Important =3

Somewhat important = 2

Not Important =1

Don't know or can't say =0

- [ ] the number of clients that participate in the Mentor-Protégé Program
- [ ] the number of clients that participate in teaming agreements
- [ ] the percentage of clients that are happy or very satisfied with the level of service provided by the OSDBU
- [ ] the number of clients that participate in OSDBU programs
- [ ] dollar amount spent by the OSDBU per client
- [ ] dollar amount spent per contract by the OSDBU
- [ ] the number of contracts awarded to OSDBU clients
- [ ] the average dollar amount of contracts awarded to OSDBU clients annually
- [ ] percentage of employees rated above "satisfactory" on their performance appraisals
- [ ] the number of employees that attend job related training workshops
- [ ] the number of OSDBU employees that have a bachelors degree or higher
- [ ] the number of employees that attend job-related conferences annually
- [ ] the number of workshops and forums held per year by the OSDBU
- [ ] the number of OSDBU employees per contract awarded to OSDBU clients
- [ ] the average amount of time for an OSDBU client to be become certified

- ] the average amount of time for an OSDBU client to be awarded a contract
- ] the percentage of citizens who are happy with the performance of the OSDBU
- ] the percentage of elected officials who are happy with the performance of the OSDBU
- ] the percentage of employees in other parts of NASA who are happy with the performance of the OSDBU
- ] the percentage of it SBA mandated goals achieved

17. Please indicate your age.

- \_\_\_\_\_ less than 30 years old
- \_\_\_\_\_ 31 to 39 years old
- \_\_\_\_\_ 40 to 49 years old
- \_\_\_\_\_ 50 to 59 years old
- \_\_\_\_\_ 60 to 69 years old
- \_\_\_\_\_ 70 to 79 years old
- \_\_\_\_\_ 80 years old or older

18. Please indicate your gender.

- \_\_\_\_\_ male
- \_\_\_\_\_ female
- \_\_\_\_\_ not sure

19. Please indicate the highest level of education that you have attained.

- \_\_\_\_\_ less than a high school diploma or GED
- \_\_\_\_\_ High school diploma or GED
- \_\_\_\_\_ Some college
- \_\_\_\_\_ AA or AS (Two year) degree
- \_\_\_\_\_ BA or BS (Four year) degree
- \_\_\_\_\_ Some graduate education
- \_\_\_\_\_ Master's degree
- \_\_\_\_\_ Doctoral degree



APPENDIX B  
MANAGER SURVEYS

**1. Please indicate your current title.**

- (1) \_\_\_\_\_ Director
- (2) \_\_\_\_\_ Deputy Director
- (3) \_\_\_\_\_ Women Business Rep
- (4) \_\_\_\_\_ Veteran Business Rep
- (5) \_\_\_\_\_ Other

**2. How long have you worked in this position?**

- \_\_\_\_\_ Less than one year
- \_\_\_\_\_ 1 – 2 years
- \_\_\_\_\_ 3 – 4 years
- \_\_\_\_\_ 4 – 5 years
- \_\_\_\_\_ 6 – 7 years
- \_\_\_\_\_ 8 – 9 years
- \_\_\_\_\_ more than 10 years

**3. How long have you worked for your respective agency or department?**

- \_\_\_\_\_ Less than one year
- \_\_\_\_\_ 1 – 2 years
- \_\_\_\_\_ 3 – 4 years
- \_\_\_\_\_ 4 – 5 years
- \_\_\_\_\_ 6 – 7 years
- \_\_\_\_\_ 8 – 9 years
- \_\_\_\_\_ more than 10 years

**4. Have you ever worked for any other federal agencies? If no, go to question 6.**

- \_\_\_\_\_ yes
- \_\_\_\_\_ no

**5. Which other federal agency or agencies have you worked for?**

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**6. Please indicate the total number of years that you have worked for the federal government.**

- \_\_\_\_\_ Less than one year
- \_\_\_\_\_ 1 – 3 years
- \_\_\_\_\_ 3 – 5 years
- \_\_\_\_\_ 6 – 10 years
- \_\_\_\_\_ 11 – 15 years
- \_\_\_\_\_ 16 - 20 years
- \_\_\_\_\_ more than 20 years

**7. Please indicate the total dollar amount of contracts awarded to small business by your respective agency last fiscal year.**

- \_\_\_\_\_ less than \$1,000,000
- \_\_\_\_\_ from \$1,000,001 to \$2,500,000
- \_\_\_\_\_ from \$2,500,001 to \$5,000,000
- \_\_\_\_\_ from \$5,000,001 to \$7,500,000
- \_\_\_\_\_ from \$7,500,001 to \$10,000,000
- \_\_\_\_\_ More than \$10,000,000

**8. In my perception, most OSDBU customers feel that the OSDBU mission is to:**

- (6) \_\_\_\_\_ Find contracts or subcontracts for their businesses
- (7) \_\_\_\_\_ Help them write proposals when bidding on contracts
- (8) \_\_\_\_\_ Introduce them to the appropriate contracting officers so that their bids will be exposed to the right person
- (9) \_\_\_\_\_ Provide sources of funds for their business
- (10) \_\_\_\_\_ Disseminate information and exchange ideas relative to how their businesses can be fully utilized in support of your agency's or department's mission

**9. Below is a list of federal OSBDU performance measures. Please read this list and assess how important you feel each measure is in determining the organization’s level of achievement and success. Use the following scale.**

**Very important =4**

**Important =3**

**Somewhat important = 2**

**Not Important =1**

**Don’t know or can’t say =0**

- ] the number of clients that participate in the Mentor-Protégé Program
- ] the number of clients that participate in teaming agreements
- ] the percentage of clients that are happy or very satisfied with the level of service provided by the OSDBU
- ] the number of clients that participate in OSDBU programs
- ] dollar amount spent by the OSDBU per client
- ] dollar amount spent per contract by the OSDBU
- ] the number of contracts awarded to OSDBU clients
- ] the average dollar amount of contracts awarded to OSDBU clients annually
- ] percentage of employees rated above “satisfactory” on their performance appraisals
- ] the number of employees that attend job related training workshops
- ] the number of OSDBU employees that have a bachelors degree or higher
- ] the number of employees that attend job-related conferences annually
- ] the number of workshops and forums held per year by the OSDBU
- ] the number of OSDBU employees per contract awarded to OSDBU clients
- ] the average amount of time for an OSDBU client to be become certified
- ] the average amount of time for an OSDBU client to be awarded a contract
- ] the percentage of citizens who are happy with the OSDBU’s performance
- ] the percentage of elected officials who are happy with the OSDBU’s performance
- ] the percentage of employees in other parts of the federal agency who are happy with the performance of the OSDBU
- ] the percentage of its SBA mandated goals achieved

**10. Please indicate your gender.**

- \_\_\_\_\_ male
- \_\_\_\_\_ female
- \_\_\_\_\_ not sure

**11. Please indicate your age.**

- less than 30 years old
- 31 to 39 years old
- 40 to 49 years old
- 50 to 59 years old
- 60 to 69 years old
- 70 to 79 years old
- 80 years old or older

**12. Please indicate the highest level of education that you have attained.**

- less than a high school diploma or GED
- High school diploma or GED
- Some college
- AA or AS (Two year) degree
- BA or BS (Four year) degree
- Some graduate education
- Master's degree
- Doctoral degree

**13. Have you ever owned your own business?**

- yes
- no



APPENDIX C  
IRB APPROVAL LETTER



Office of Research

April 19, 2005

Gina Beckles  
5521 Oak Hollow Drive  
Titusville, FL 32780

Dear Ms. Beckles:

With reference to your protocol #05-2574 entitled, "Assessing Preferences of Performance Measures: A Study of the Office of Supplier Diversity and Business Utilization" I am enclosing for your records the approved, expedited document of the UCFIRB Form you had submitted to our office. **This study was approved by the Chairman on 4/19/05. The expiration date for this study will be 4/18/06.** Should there be a need to extend this study, a Continuing Review form must be submitted to the IRB Office for review by the Chairman or full IRB at least one month prior to the expiration date. This is the responsibility of the investigator. **Please notify the IRB when you have completed this study.**

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board through use of the Addendum/Modification Request form. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur.

Should you have any questions, please do not hesitate to call me at 407-823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

A handwritten signature in cursive script that reads "Barbara Ward".

Barbara Ward, CIM  
IRB Coordinator

Copy: IRB file



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