The Relationships Between Needs Assessment Measures, Productivity Measures, and Ethics in Developing a Budget Allocation Model for Higher Education

by

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Abstract

To maintain credibility, leaders entrusted with public funds need to ensure their decisions regarding those funds are ethical and moral. The research investigating the relationships between needs assessment measures, productivity measures, and ethics in developing budget allocation models is lacking in academic institutions. The purpose of this study was to assess the importance of needs assessment measures, productivity measures, and ethics in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. This study also focused on developing a budget allocation model to assist administrators in making ethical and moral funding decisions. The items included in the survey for this study were developed using four categories: budget allocation preference items, needs assessment measures, productivity measures, and demographic items.

This study was specifically designed to find the difference in the level of agreement in needs assessment measures, productivity measures, and between needs assessment measures and productivity measures. The repeated measure results yielded a statistical significance, indicating the agreement level toward the needs assessment measures in a budget allocation model were different. The Summer Budget Distribution is not as important as all the other needs assessment items. Funds Requested are for Continuing Funds is more important than Funds Requested are for One Time Funds and Summer Budget Distribution.

The repeated measure results yielded a statistical significance, indicating the agreement level toward the productivity measures in a budget allocation model were different. The results

indicated that Number of Degrees Granted is not as important as Full Time Equivalent Student Units or Student Credit Hours.

The repeated measure results yielded a statistical significance, indicating the agreement level toward the needs assessment measures and productivity measures in a budget allocation model were different. The results indicated that needs assessment measures are not as important as productivity measures.

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CHAPTER I. INTRODUCTION

Introduction

Fundamentals to consider in state financing of public higher education are general factors, operating budget process, and capital budget process. In general, there is no perfect system or process in state financing of public higher education, and institutional character dictates the financing or budgeting approach. Institutional character is defined, in part, by its culture, climate, history, size, and mission. Whether or not the institution has centralized or decentralized governance and administration, is public or private, and is affiliated or independent also defines institutional character.

The processes and decisions of leaders, especially those in public institutions entrusted with public funds, should be very transparent to their stakeholders. To maintain their credibility, leaders entrusted with public funds need to ensure their decisions regarding those funds are ethical and moral. A steward of public funds cannot afford to have his or her credibility damaged or even appear to be damaged. Efficiency was the key word of the 1980s, quality was the touchstone of the 1990s, and quality control with accountability has become the leadership philosophy of the new millennium (Milliken & Colohan, 2004). The leaders—top administrators at public universities—are stewards of taxpayers' dollars. According to Senge, et al. (2000), one of the three primary tasks of leadership includes leader as steward.

Professors at business schools know how to train people in accounting, finance, management, and marketing. However, with regard to educating students in ethical and moral

decision making, faculty at colleges and universities have failed (Boyer, 1986). This failure is evident in the frequent media reports concerning corruption in business, government, and colleges and universities.

Joanne Ciulla (2004) argues that the definition of leadership studies is not really about the question, "What is leadership?" (p. 17–18). It is about the question, "What is good leadership?" By good, she means morally good and effective. This is why she thinks it is fair to say that ethics lies at the heart of leadership. Researchers in the field of leadership need to have an understanding of the ethical elements of leadership in order to be clear on what the term leadership implies. In higher education institutions, morally good and effective leaders need to have several methods in which to make decisions. According to Gini (2004), perhaps the best method suited to the general needs of the ethical enterprise is a modified version of the scientific method.

A modified version of the scientific method includes: observation, inquiry, hypothesis or research questions, experimentation, and evaluation. Observation is the recognition of a problem or conflict. Inquiry is a critical consideration of the facts and issues involved. Hypothesis or research questions are the formulation of a decision or plan of action consistent with the known facts. Experimentation and evaluation are the implementation of the decision or plan in order to see if it leads to the resolution of the problem (Gini, 2004).

This modified version of the scientific method could be applied in higher education financing. An emphasis on the scientific method and data driven decision making has grown as technology has made the access and use of data easier (Data-driven decision-making, 2004). But what has really driven the use of data in education has been its impact (Banta, Busby, Kahn, Black, & Johnson, 2007). The scientific method could provide colleges and universities data for

academic planning and management, assessment and evaluation services, and progress reports on mission-critical goals. The scientific method and data driven decision making could help institutions respond to a fiscal crisis and support long-range financial planning. The scientific method could be used in budget allocation decisions at higher education institutions where this method could foster ethical and moral decision making.

The first step in the scientific method is observation. Observation is the recognition of a problem or conflict. The problem with current budget allocation practices is the lack of transparency, accountability, and moral decision making. To maintain credibility, leaders entrusted with public funds need to make sure their decisions regarding those funds are ethical and moral.

The second step in the scientific method is inquiry. Inquiry is a critical consideration of the facts and issues involved. The purpose of this study is to design a budget allocation model to assess the importance of needs assessment measures and productivity measures in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. This comprehensive, objective model addresses both needs assessment measures and productivity measures.

The third step in the scientific method is hypothesis or research questions. The following research questions guided this study: What is the relationship between needs assessment measures in a budget allocation model? What is the relationship between productivity measures in a budget allocation model? What is the difference in the level of agreement between needs assessment and productivity in a budget allocation model?

The fourth step in the scientific method is experimentation. The purpose of the survey in this study is to assess the importance of needs assessment measures and productivity measures in

developing a comprehensive, objective budget allocation model. The comprehensive, objective model would address budget allocation preference items, needs assessment measures, productivity measures, and demographic items.

The fifth step in the scientific method is evaluation. The purpose of this study is to assess the importance of needs assessment measures and productivity measures in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. The comprehensive, objective model would address both needs assessment measures and productivity measures. The evaluation would answer the three research questions.

In summary, leadership ethics can also serve as a critical theory that opens up new kinds of dialogues among researchers and practitioners. Work in leadership ethics should generate different ways of thinking about leadership and new ways of asking research questions. To some extent, the ideas of servant leadership and transforming leadership have already done this. The territory of ethics lies at the heart of leadership studies and has veins that run through all leadership research. Ethics also extends to lands waiting to be explored. As an area of applied ethics, leadership ethics needs to take into account research on leadership, and it should be responsible to the pressing ethical concerns of society (Gini, 2004).

Statement of the Problem

Public colleges and universities are responsible, in part, for educating their citizens and improving the local and state economies. States are responsible, in part, for funding the public colleges and universities. This university-state relationship is eroding. This is seen by drastic cuts in state appropriations over the last two and a half decades. Although there are many factors contributing to the nationwide decline in state support for public colleges and universities, the

major reason is due to economic recessions that have occurred over the last 25 years (Weerts & Ronca, 2006).

According to Engle (2010), annual budgets are invaluable because they provide administrators with a tool to allocate resources, communicate the institution's strategy, and monitor the strategy's results. Budgets determine in advance where scarce resources will be spent. Budgeting is most effective when it reflects the institution's strategic plan, is realistic, includes flexibility, and is evaluated against performance measures.

To maintain credibility, leaders entrusted with public funds need to make sure their decisions regarding those funds are ethical and moral. The research investigating the relationships between needs assessment measures, productivity measures, and ethics in developing budget allocation models is lacking in academic institutions. This study focused on developing a budget allocation model to assist administrators in being able to make ethical and moral funding decisions at public colleges and universities.

Purpose of the Research

The purpose of this study was to assess the importance of needs assessment measures, productivity measures, and ethics in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. This comprehensive, objective model addresses both needs assessment measures and productivity measures. The independent variable is a traditional, subjective budget allocation model. The dependent variables are needs assessment variables and productivity variables. The items on the survey for this study were developed using four categories: budget allocation preference items, needs assessment measures, productivity measures, and demographic items.

Research Questions

The following research questions guided this study:

1. What is the relationship between needs assessment measures in a budget allocation model?

2. What is the relationship between productivity measures in a budget allocation model?

3. What is the difference in the level of agreement between needs assessment measures and productivity measures in a budget allocation model?

Significance of the Study

The key challenge to academic leadership is to restructure the allocation of academic assets (Rich, 2006). Higher education is in the midst of a transformation that has altered requirements for success in university administration. Across the nation, the political priority of higher education has declined. For most universities, public funding has eroded. At the same time, public demands have intensified to restrain increases in tuition and fees. These factors are restructuring the underlying political environment of higher education. This creates pressures to change how higher education values and priorities are established and promoted, how the resources to support higher education are generated and allocated, and how and by whom academic programs are provided and assessed. This creates pressure to change the practice of academic administration (Rich, 2006).

A leader's decision making process, especially those in public institutions entrusted with public funds, should be transparent to his stakeholders. Leaders entrusted with public funds need to make sure their decisions regarding those funds are ethical and moral. A steward of public funds cannot afford to have his or her credibility damaged or even appear to be damaged.

Accountability has become the leadership philosophy of the new millennium. The leaders, top administrators at public universities, are stewards of taxpayers' dollars. A comprehensive, objective budget allocation model addressing budget allocation preferences, needs assessment measures, and productivity measures may be a method to ethically and morally allocate public resources in public institutions.

Assumptions of the Study

The following assumptions were made:

1. Because only 6 of the 16 institutions asked to participate in the survey agreed to participate, the chief financial officers in the sample are not representative of the chief financial officers in the population.
2. The budgeting processes at the 6 SREB institutions are fundamentally similar.
3. Participants answered the survey honestly, thoughtfully, and consistently.

Limitations of the Study

This was an exploratory study limited to six schools in the Southeast region of the United States. Therefore, conclusions cannot be generalized from the target population to other populations. Also, all survey data was self-reported with results based on the assumptions that the respondents were thoughtful and honest when giving responses.

The research was designed to email the survey to the sample population. Jaeger (1984) named several disadvantages to issuing a survey. First, participants may not respond because of a lack of interest in the topic. Second, surveys often have a low rate of return. Third, sometimes it is unclear to the participants who should respond. Fourth, many times the respondents do not open the survey because it appears to be junk mail.

In order to address the disadvantages of surveys the following precautions were taken:

1. The titles/job responsibilities of the sample were verified prior to being sent the survey.
2. The email addresses of the chief financial officers were verified prior to being sent the survey electronically.
3. The non-respondents were sent a second request to complete the survey.
4. The email, cover letter, and survey contained information (i.e., institutional affiliation, purpose of the study, significance of the study, and contact information) to exhibit the survey was legitimate and not junk mail.

Definition of Terms

For the purpose of this study, the following terms are described conceptually followed by operational definitions. Reference books, selected documents, and personal interpretation from the literature serve as the source for these definitions.

Assessment Instrument: For this study, assessment instrument refers to the rating scale (survey) used for this study to assess items that could be used in developing a budget allocation model for public institutions of higher education.

Budget Allocation Model: A budget allocation model reflects the allocation of funds to meet the institution's program and facilities commitments in support of the institution's strategic plan.

Chief Financial Officers: For this study, a chief financial officer is defined as a provost, vice president of business and finance, dean, director, or department head or chair.

Ethics: Ethics is a branch of philosophy which seeks to address questions about morality. This study is concerned with applied ethics or how a moral outcome can be achieved in specific budget decision situations.

Needs Assessment Measures: In this study, needs assessment is defined as a structured process to determine the financial needs of a college or university. The needs assessment variables in this study are One Time Funds, Continuing Funds, Reserve Amount to the Base Amount (as a percent), Summer Budget Distribution, and Summer Budget Distribution per Student.

One Time Funds: In higher education, in this study, one time funds are dollars that are received one time and are not guaranteed to recur, although the funds may be allocated for a few years. A current example of one time funds is the State Fiscal Stabilization Fund. These funds were received by the states from the Federal government for years 2010 and 2011. These funds will not be given for year 2012.

Continuing Funds: In higher education, in this study, continuing funds are dollars that are guaranteed to recur. An example of continuing funds is state appropriations.

Reserve Amount to the Base Amount (as a percent): In this study, reserve amount is the amount of funds remaining at the end of the fiscal year. Base amount is the amount of dollars allocated from the state at the beginning of the fiscal year. An example of a reserve amount to the base amount (as a percent) is: $100,000 (reserve amount) divided by $1,000,000 (base amount) equals 10% [reserve amount to the base amount (as a percent)]. $100,000 and 10% are the dollar amount and percent of the funds carried over to the next year as one time funds.

Summer Budget Distribution: In higher education, in this study, summer budget distribution is the amount of funds earned and distributed for teaching courses in the summer.

Summer Budget Distribution per Student: In this study, summer budget distribution per student is the amount of funds earned and distributed for teaching courses in the summer per student. An example of this would be: $446,000 (summer budget distribution) divided by 892 (students) equals $500 (summer budget distribution per student).

Productivity Measures: Productivity is an efficiency measure. It measures the ratio of outputs over inputs. The productivity variables in this study are Full Time Equivalent Student Units, Number of Degrees Granted, Student Credit Hours, Full Time Equivalent Faculty Units, and Cost of Instruction.

Full Time Equivalent Student (FTES) Units: In this study, full-time equivalent students (FTES) is different from the number of students attending the university who are enrolled "full-time". Historically, FTES has been a measurement of enrollment derived by dividing total student credit units for a term by 15, both for the undergraduate and graduate level. Since Fall 2006, a new re-benched FTES calculation specifies that graduate student units get divided by 12 instead of 15.

There are two methods used to calculate FTES (taken and taught), each producing entirely different results. For budget and resource purposes, the calculation for FTES is always done using course enrollments (FTES Taught). For instance, FTES for a particular department is based on all units taken in all courses offered by the department. This is the most commonly used method.

Number of Degrees Granted: In this study, the number of degrees granted is defined as the number of degrees granted in the academic year.

Student Credit Hours: In this study, one credit hour is worth 50 minutes of contact/lecture time per week. For example, a 3 credit-hour course meets for 150 minutes every week for ten weeks of classes.

Full Time Equivalent (FTE) Faculty Units: In this study, budgeted full-time equivalent faculty is the sum of the appointment percentages of all faculty in a particular department, college, or other unit. To calculate budgeted FTE faculty for a particular program, such as Instruction, each appointed percentage is multiplied by the percent of the individual's salary paid from that program, and then summed. For example, a professor in a full-time appointment who receives one-half of his salary from Instruction and one-half from Organized Research would be counted as one (1.00) budgeted FTE faculty member with one-half (0.50) budgeted FTE to Instruction and one-half (0.50) budgeted FTE to Organized Research.

Cost of Instruction: In this study, cost of instruction is defined as expenditures per student where "expenditures" is defined as total state appropriations.

Southern Regional Educational Board (SREB): Founded in 1948, the Southern Regional Education Board is a nonprofit, nonpartisan organization that works with leaders and policy-makers in 16 member states to improve pre-K through postsecondary education. The 16 member states are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Of these 16 member states, 6 chose to participate. The 6 universities that chose to participate were the University of Virginia, University of Maryland, University of Mississippi, University of North Carolina, University of Oklahoma, and University of South Carolina.

Strand: A strand is a means of identification of items for a budget allocation model, which aid in defining and organizing the model. Specific strands for this study are: budget allocation preferences, needs assessment measures, and productivity measures.

Organization of the Study

Chapter I introduces the study by presenting a statement of the problem, purpose of the research, research questions, significance of the study, assumptions of the study, limitations of the study, definition of terms, and organization of the study. Chapter II contains a review of the related literature concerning state financing of public higher education, resource allocation within public institutions, ethics in budget allocation processes (including accountability and transparency), historical budget processes at public institutions, current budget processes at public institutions, needs assessment measures, productivity measures (including financial outputs and student outputs), budget allocation models, and a summary. Chapter III addresses the procedures used in this study, including an introduction; purpose and design; population and sample; instrumentation; data collection procedures and analysis; and a summary. Chapter IV presents the findings of the study and an interpretation of the data. Chapter V offers a summary of the study, conclusions, implications, and recommendations for further practice and research.

CHAPTER II. LITERATURE REVIEW

Purpose

To maintain credibility, leaders entrusted with public funds need to make sure their decisions regarding those funds are ethical and moral. The research investigating the relationships between needs assessment measures, productivity measures, and budget allocation models is lacking in academic institutions. The purpose of this study was to assess the importance of needs assessment measures, productivity measures, and ethics in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. This study focused on developing a budget allocation model to assist administrators in being able to make ethical and moral funding decisions at state colleges and universities.

State Financing of Public Higher Education

Public colleges and universities are responsible, in part, for educating their citizens and improving the local and state economies. States are responsible, in part, for funding the public colleges and universities. This university-state relationship is eroding. This is seen by drastic cuts in state appropriations over the last two and a half decades. Although there are many factors contributing to the nationwide decline in state support for public colleges and universities, the major reason is due to economic recessions that have occurred over the last 25 years (Weerts & Ronca, 2006).

Increased state-funding needs for Medicaid, elementary and secondary education, and the criminal justice system have put increasing pressure on state tax revenue (Ehrenberg, 2006;

Hovey, 1999; Kane, Orszag, & Gunter, 2003). The consequence has been that there have not been sufficient revenues available to fund public higher education to their pre-1970s levels. Over the last 25 years there have been dramatic reductions in the share of state budgets devoted to higher education (Ehrenberg, 2006). According to Mortenson (2004), state appropriations for higher education (adjusted for inflation) have declined 40% since 1978. Even today the states provide over four dollars of support for higher education expenses for every dollar of federal subsidy. Yet public effort in support of higher education has been in decline for the last quarter century. Aggregate state effort has fallen by 30% since the late 1970s (Archibald & Feldman, 2006).

Public higher education's changing financial environment is well documented (Archibald & Feldman, 2006; Hossler, Lund, Ramin, Westfall, & Irish, 1997; Kane et al., 2003; Rizzo, 2004; Slaughter & Leslie, 1997; Toutkoushian & Hollis, 1998; Weerts & Ronca, 2006). With shrinking budgets, competing priorities, public resistance to increasing state taxes, and prohibitions on deficit spending, state legislators find themselves in the position of debating how essential each state service is, including postsecondary education. As a result of this debate, postsecondary education, which is most often a discretionary budget item, has often been moved to the end of the state funding list of priorities. This results in state governments allocating a smaller share of their spending to higher education (Kane et al., 2003; Rizzo, 2004).

Due to decreased spending on higher education, the purchasing power of state appropriations per full-time equivalent student in 2003–2004 reached its lowest point in the 30-year period ending in 2004. Periods of growth and decline in state appropriations occurred as the economy fluctuated, but the declines were generally larger than the recoveries (Cheslock & Gianneschi, 2008). State appropriations were slashed $650 per student between FY2001 and

2004, a period marked by widespread fiscal crisis among states (Jenny & Arbak, 2004). For a variety of reasons, (increases in state-funding expenditures for Medicaid, elementary and secondary education, and the criminal justice system) the purchasing power of state appropriations to higher education may continue to decrease in the future (Hovey, 1999; Kane et al., 2003).

Decreases in state support for discretionary programs such as higher education have also been attributed to a shift in the federal government's role. During the last 25 years, the federal government has transferred partial or full responsibility for many programs to the state level. This shift in philosophy, known as "new federalism", has resulted in steep cuts in federal and state aid for municipal and county governments (Peterson, 1995). This shift has resulted in a significant decrease in higher education appropriations for most states. The funding squeeze in higher education has occurred because public universities are forced to compete more for dollars with other state programs such as Medicaid, K–12 schools, social services, and corrections (Schuh, 1993). As a larger share of public funds will be required to support the aging population of Baby Boomers, Medicaid is forecasted to put an especially intense squeeze on higher education (Kane et al., 2003).

Due to these economic and political factors, the relationship between states and public higher education is changing across the country. This change is especially noticeable at major public research universities which are increasingly becoming quasi-private institutions (Weerts & Ronca, 2006).

Flat funding used to be a dirty word in public higher education. Today, chief financial officers at public colleges and universities long for flat funding. According to Dillon (2005), public support for public education, measured per student, has dropped more rapidly since 2001

than it has in the last two decades. Several university presidents are calling the decline in state support and the increase in tuition a de facto privatization of the institutions that played a crucial role in the creation of the American middle class. Many university presidents also believe that higher tuition cost is a result of public higher education's slide toward privatization (Dillon, 2005).

Are we losing our public universities to de facto privatization? The historical role of public institutions was to provide free public education to its citizens. As these public institutions have to rely more on private sources of support, is their public mission at risk? These changes did not emerge from public debate but from the need to alleviate the gap in public funding. Some universities are shifting to greater reliance on private funding. Many states have been encouraged or have been allowed to raise tuition which may reduce student access and need-based aid. Some universities have sought agreements with private entities (Levin, 2007).

Levin (2007) argues that the privatization drift has been ongoing as budgetary pressures push institutions toward solutions that involve greater privatization. The challenge arises primarily from the decline in public funding, constrained tuition for state residents, and the loss of faith in the public benefits of higher education. Most states have reduced their financing of higher education funding over the last decade. Public universities used to get about 50 percent of their budgets from state funds. Now they receive about 30 percent or less from state funds (Lyall & Sell, 2006).

According to Ehrenberg (2006), increased state-funding needs for Medicaid, elementary education, secondary education, and the criminal justice system have put increasing demands on state tax revenues. As the share of public investment in public institutions declines, institutions

are required to function in the competitive marketplace and become privatized (Lyall & Sell, 2006).

Many state budgets are experiencing deficits in meeting their current demands (Ehrenberg, 2006). Due to these deficits, there have not been sufficient funds to continue level funding of public higher education. The amount of funds to support public higher education is being reduced. State support for public higher education is one of the few discretionary categories in state budgets. Higher education is one of the few state agencies that charges for its services. As the amount of funds available to support public higher education institutions has been decreasing, there has been increasing enrollment in public higher education institutions (Ehrenberg, 2006).

This shift toward an increasingly "private" public research university has been accompanied by an increasing tension between higher education administrators and state legislators (Weerts & Ronca, 2006). Mark Yudof, President of the University of Texas System, has bemoaned the fact that the consortium that once governed states and public research universities "has withered, leaving public research universities in a purgatory of insufficient resources and declining competitiveness" (Yudof, 2002, p. B24). Other public research university presidents have echoed Yudof's concerns (Gose, 2002). Many universities have resorted to tightening enrollments and significantly increasing tuition as a way to remain competitive (Serban & Burke, 1998). Others have feared a shift toward privatization may precipitate declining participation rates of low-income students and may adversely influence research agendas, decision making, and salary gaps between the humanities and the sciences (Gose, 2002). Accompanying these perspectives is a growing view among lawmakers that

higher education is a private good that should be supported more by students and donors, rather than a public good supported by the state (Selingo, 2003).

Resource Allocation within Public Institutions

Decreases in state appropriations can substantially alter the distribution of resources across institutions of higher education. Up until now, most of the attention has focused on the growing inequality in resources between public and private institutions (Cheslock & Gianneschi, 2008).

In recent years, changing financial and political conditions have prompted many colleges and universities to revise their internal management processes. There has been an increase in the implementation of incentives-based budget systems (IBBS), which place greater authority but also greater accountability at the academic department level within the college (Lang, 2001; Massy, 1996a; Priest, Becker, Hossler, & St. John, 2002). Other popular titles for IBBS is Responsibility Center Management (RCM) and Value Centered Management (VCM).

Responsibility Centered Management (RCM) is a management philosophy. RCM focuses on operational decentralization and is designed to support achievement of primary academic priorities. When using RCM budget follows priorities, aligns authority with responsibility, and creates "full cost" view of academic operations (Hearn et al., 2006).

Under the RCM model, operational authority is delegated to major academic units within the university. The delegation is made to make progress towards achieving academic priorities, and to maintain financial balance over time. RCM places a premium on institutional planning (Hearn et al., 2006).

Under the principles of RCM, the degree of operational decentralization should be proportional to the size and complexity of an organization. Higher education institutions are

complex organizations. Administrators at higher education institutions need to recognize inherent responsibility for mission critical activities within academic units. The size of the academic unit is always an issue (Hearn et al., 2006).

Under the principles of RCM, explicit organizational rules are required. Alignment of authority and responsibility requires being explicit about who is responsible for what kinds of decisions. An essential attribute of a responsibility center is that someone needs to be in charge. This requires rethinking of fundamental roles of key university managers (executive, academic, and support) (Hearn et al., 2006).

Operational decentralization requires shareable, timely management information. RCM requires an information environment. The information must be timely. With RCM there can be no data wars, shareable information is desired, and technology should facilitate sharing management information (Hearn et al., 2006).

Under the principles of RCM, a stable environment is desired. If priorities constantly change, there are no priorities. If rules constantly change, there are no rules. The budget must follow already established priorities. Achievement of objectives may require a longer planning horizon than a single fiscal period. Strive for total resource management (Hearn et al., 2006).

Under the principles of RCM, university leadership must retain sufficient leverage to maintain overall balance of the institution. In a public university, leadership controls allocation of governmental support. In a private university, leadership controls subvention (funds generated through taxes to academic unit revenues). In addition RCM requires certain services for the collective benefit of the university. Administrators of RCM need to determine which services are to be treated as public utilities and which are discretionary. They need to establish standards (Hearn et al., 2006).

The general purpose of all of these approaches is to integrate budgeting and management decision-making more fully at the level of individual cost centers (departments, service centers, programs, etc.) within institutions. The move to IBBS reflects the higher education institution's interest in more decentralized management and budget approaches. Unfortunately, there has been little research conducted on the benefits and challenges of the IBBS approach (Hearn, Lewis, Kallsen, Holdsworth, & Jones, 2006).

The top priority for college and university administrators should be to ensure that their instructional programs and their entire institutions are managed in the most efficient and effective manner possible (Zumeta, 2007). Proper management of fiscal resources determines the degree to which institutions are open and affordable. Appropriate program management is paramount because, though there is an increasing demand for postsecondary education in America, the availability of resources to support instructional demand is lagging. When the demand for programs outstrips the ability of an institution to deliver, decisions about the use of available resources must be made (Henry, 2007). Traditional nonprofit colleges and universities are challenged to find new ways to make resource allocation decisions, given their personnel policies and their social, cultural, political, and organizational traditions (Sayers, 2006).

According to Engle (2010), annual budgets are invaluable because they provide administrators with a tool to allocate resources, communicate the institution's strategy, and monitor the strategy's results. Budgets determine in advance where scarce resources will be spent. Budgeting is most effective when it reflects the institution's strategic plan, is realistic, includes flexibility, and is evaluated against performance measures.

To be effective, the budget must be realistic, which begins with the revenue forecast. The current business climate makes forecasting more difficult. Inflation, asset values, the cost and

availability of capital, employment, and savings rates have all changed dramatically. Realism also applies to expenses. The long-term trend indicates that inflation averages 2 percent to 3 percent per year and has for the last 50 years (Engle, 2010). Flexibility is required because market conditions and competition change quickly. Some institutions hold resources in reserve in case of an unforeseen opportunity or threat. The institution's management must monitor the budget against actual results so they can adjust and measure the company's performance against the strategic plan (Engle, 2010).

Typically, an institution's strategic plan is a three to five year plan for achieving the organization's long-term goals and objectives. The organization's strategic plan usually includes achieving financial benchmarks through revenue growth and improved efficiencies. Budgeting allows its resources to be allocated in the areas of the institution that will produce the desired results. Increased staffing and expense rates are provided to areas that have the greatest impact on improved results (Engle, 2010).

According to Shuppy (2006), downturns in the U.S. national economy cause states to cut higher education appropriations, which contributes to increases in tuition that are not matched by growth in family income and student aid. She explains that even after U.S. states recover from economic downturns, access to higher education continues to suffer because appropriations for colleges and financial aid do not recover as quickly as the states' economies.

"As an enterprise that relies heavily on state funding, public higher education has long seen its support rise and fall with the boom-and-bust cycle of the economy" (Kirwan, 2007, p. 41). Kirwan (2007) returned to the University System of Maryland (USM) knowing that the economic downturn opening the twenty-first century would be drastically different from years past. Several factors were in play that would dramatically alter public higher education both

internally and externally. Internally, in addition to budget cuts, they were forced to grapple with surging enrollment. In addition, the "new economy brought increased demands from the business community in need of more well educated, highly skilled workers. Externally, even as the state budget recovered, obligations for Medicare, statutory commitments to elementary and secondary education, and public safety costs put pressure on state resources (Kirwan, 2007).

The combination of these internal and external developments led to the conclusion that the UMS and many in public higher education needed to take on much more responsibility in terms of their own success. The needs and expectations were growing and the resources were simply not going to be available to generously fund public higher education. The metric that many had come to expect — ride out the storm until we are able to return to business as usual — is no longer operative. The lasting seriousness of these circumstances prompted the USM to undertake revolutionary change: a top-to-bottom reengineering of how they operated. This reengineering was not simply to get them through the tough times but to reposition the USM to thrive in this new era of permanently diminished resources and escalating demands (Kirwan, 2007).

The totality of these circumstances prompted the University System of Maryland (USM) to undertake revolutionary change, embrace a flurry of cost-effective activities, make a conscious effort to shift support to need-based financial aid, implement a groundbreaking Effectiveness and Efficiency (E&E) Initiative, and place emphasis on accountability (Kirwan, 2007).

The impetus of this revolutionary change is in how the USM addressed the state budget cuts. The USM faced a $206 million budget gap brought about by the combination of an 18 percent cut in the State General Fund base and an increase in unfunded mandated costs. The USM took action to cover nearly two-thirds of the budget gap through expenditure reduction and

cost containment, with the remainder (just over one-third) covered by tuition increases. The USM eliminated nearly eight hundred positions, froze salaries, implemented a hiring freeze for all but essential personnel, reduced academic offerings at some institutions and eliminated low productivity programs, and hired less costly part-time faculty in lieu of full-time faculty (Kirwan, 2007).

Beyond the initial cost-cutting and cost-containment actions, the USM embraced a flurry of cost-effective activities. The USM is home to the University of Maryland University College (UMUC), the leader in the development of online education. With more than 150,000 course registrations, UMUC has the largest number of online enrollments in the world. It will soon be the largest university in the system not just by head count but in FTE students. UMUC entered into an agreement with community colleges in Maryland. Under this agreement, a community college and UMUC can guarantee students enrolling in the community college that if they complete the two-year college preparatory curriculum, they can complete a four-year degree from UMUC drawing upon UMUC's online and onsite course delivery capabilities (Kirwan, 2007).

To expand access, the USM intensified their focus on financial aid, with a conscious effort to support need-based aid. The USM conducted a study to determine the debt load of their graduates. They learned that their poorest students were graduating with the most debt. That was not the intention when financial aid programs were created several decades ago. The USM's board of regents adopted a new financial aid policy which mandated by the 2008-09 year their lowest-income students must graduate with a debt burden that is 25 percent below the average or less. This required a huge shift in their distribution of financial aid from merit-based to need-based programs (Kirwan, 2007).

As vital as these steps were in their drive to contain costs, expand access, and enhance quality, this was merely a precursor to the USM's groundbreaking Effectiveness and Efficient (E&E) Initiative. E&E has come to be recognized as a model for enhancing productivity, ensuring cost containment, and elevating accountability, all while improving access and maintaining quality in higher education. Led by the board of regents, E&E required the broadest possible involvement: the regents, presidents, vice presidents, provosts, faculty, staff, and students came to the table. They recognized their obligation to rework, reexamine, and reengineer their academic and administrative process to address the three key issues of quality, affordability, and capacity given the changing landscape of state funding. Through system wide and campus-based efforts, E&E has taken tens of millions of dollars directly out of costs and avoided tens of millions in expenses. Quality has been not only protected but also enhanced (Kirwan, 2007).

The final element of USM's E&E is emphasis on accountability. Students and parents have every right to expect easy access to information such as costs, degree offerings, graduate placement statistics, graduation rates, transfer rates, average test scores, and GPAs. There is also a need to measure and report how higher education institutions fare in meeting the big three core educational outcomes: critical thinking, analytical reasoning, and written communication skills. The USM has developed a series of performance measures called dashboard indicators that enable the USM community to readily assess the system and its thirteen individual institutions. Among the core dashboard indicators for many of the system institutions are average SAT scores; graduation, retention, and freshmen acceptance rates; minorities as percentage of total undergraduates; total R&D expenditure per full-time faculty; facilities utilization; and teaching workload. Given the differences in size, scope, mission, and focus of our nation's colleges and

universities, there will never be a one-size-fits-all approach. A relatively standardized, transparent, accessible system that answers the questions stakeholders want makes common sense and in today's environment is a must (Kirwan, 2007).

The key challenge to academic leadership is to restructure the allocation of academic assets (Rich, 2006). Higher education is in the midst of a transformation that has altered requirements for success in university administration. Across the nation, the political priority of higher education has declined. For most universities, public funding has eroded. At the same time, public demands have intensified to restrain increases in tuition and fees. "Political and ideological intrusiveness has increased, and universities have been pressured to demonstrate greater accountability on issues of access, cost containment, and learning outcomes" (Rich, 2006, p. 37).

These factors are restructuring the underlying political environment of higher education. This creates pressures to change how higher education values and priorities are established and promoted, how the resources to support higher education are generated and allocated, and how and by whom academic programs are provided and assessed. This creates pressure to change the practice of academic administration, thereby altering what may attract faculty to and repel them from becoming administrators (Rich, 2006).

The new political economy encourages administrators to view the challenges to higher education as business problems requiring business solutions. Although copying private sector business practices is not new, the scale and priority being given to marketing and commercialization efforts by universities is now much greater than before. As a result, university administration appears better suited to those with business skill than to those with academic talents. Yet this appearance is deceiving (Rich, 2006).

Because the environment presses for a greater focus on market competitiveness, university administrators are needed who can keep focused on core academic priorities while still responding effectively to the new political environment of higher education. Universities must succeed as businesses or they will not succeed for long. But they also cannot succeed if they greatly compromise the basic priorities that constitute the academic bottom line. The academic bottom line is how to strengthen the key ingredients of academic success, promote the highest level of educational attainment for all students, and support excellence in teaching, scholarship, and public service. The key restructuring needs to be in the allocation of the most important and most expensive academic assets, the faculty, in ways that better serve emerging societal and scholarly needs (Rich, 2006).

Ethics in Budget Allocation Processes

Kuhn (1996) defines a paradigm in the hard sciences as "work that has been done once and for all" (p. 23). A paradigm in social science is the term used to describe a set of experiences, beliefs, and values. A paradigm affects the way an individual perceives reality and responds to that perception (Shapiro & Stefkovich, 2005). According to Shapiro and Stefkocvich (2005), there are four paradigms of ethical leadership. The four paradigms are the ethic of justice, the ethic of critique, the ethic of care, and the ethic of the profession.

The ethic of justice addresses what is fair; issues of equity and equality; fairness of rules, laws, and policies. The ethic of justice examines whether laws are absolute and the rights of individuals versus the greater good of the community (Shapiro & Stefkovich, 2005). The ethic of justice focuses on rights and laws and is part of a liberal democratic tradition that, according to Delgado (1995), "is characterized by incrementalism, faith in the legal system, and hope for progress" (p. 1). The liberal part of this tradition is defined as a "commitment to human

freedom," and the democratic aspect implies "procedures for making decisions that respect the equal sovereignty of the people" (Strike, 1991, p. 415). Kohlberg (1981) believes justice is not a set of rules but is a moral principle. Sergiovanni (1992) believes educational leaders are stewards of students, teachers, administrators, families, and community.

When examining the ethic of critique many writers and activists are not convinced by the analytic and rational approach of the justice paradigm. Some of these scholars find a tension between the ethic of justice, rights, and laws and the concept of democracy. In response, they raise difficult questions by critiquing both the laws themselves and the process used to determine if the laws are just (Shapiro & Stefkovich, 2005).

Rather than accepting the ethic of those in power, these scholars challenge the status quo by seeking an ethic that will deal with inconsistencies, formulate the hard questions, and debate and challenge the issues. Their intent is to awaken us to our own unstated values and make us realize how frequently our own morals may have been modified and possibly even corrupted over time. Not only do they force us to rethink important concepts such as democracy, but they also ask us to redefine and reframe other concepts such as privilege, power, culture, language, and even justice (Shapiro & Stefkovich, 2005).

Some theorists ask how I/we can make the world a better place. Giroux (1994) asked educators to understand their classrooms are political as well as educational and can serve as locations which can fight social injustices. When developing curriculum, oversight committees could also look at societal issues and concerns and how those can be addressed and changed (Greene, 1998). According to Parker and Shapiro (1993), educational leaders could give more attention to social class in the preparation of principals and superintendents.

Roland Martin (1993) believes the ethic of care involves caring, concern, and connection. Some feminist scholars have challenged the dominant, and what they consider to be often patriarchal, ethic of justice in our society by turning to the ethic of care for moral decision making. Attention to this ethic can lead to other discussions of concepts such as loyalty, trust, and empowerment. Similar to critical theorists, these feminist scholars emphasize social responsibility, frequently discussed in the light of injustice, as a pivotal concept related to the ethic of care (Shapiro & Stefkovich, 2005).

In her classic book, *In a Different Voice*, Gilligan (1982) introduced the ethic of care by discussing a definition of justice different from Kohlberg's in the resolution of moral dilemmas. In her research, Gilligan discovered that, unlike the males in Kohlberg's studies who adopted rights and laws for the resolution of moral issues, women and girls frequently turned to another voice — that of care, concern, and connection — in finding answers to their moral dilemmas. Starratt (1991) said education is a human enterprise. This is an especially important concept for educational leaders who were taught the military or business models of leadership. Beck (1994) emphasized relationships and connections and said it is essential for educational leaders to move away from a top-down model of leadership.

Considering the ethic of profession, Starratt (1994b) postulated that the ethics of justice, care, and critique are not incompatible, but rather complementary, the combination of which results in a richer, more complete, ethic. Shapiro and Stefkovich (2005) agree with Starratt. But, they have also come to believe that, even taken together, the ethics of justice, critique, and care do not provide an adequate picture of the factors that must be taken into consideration as leaders strive to make ethical decisions within the context of educational settings. What is missing — that is, what these paradigms tend to ignore — is a consideration of those moral

aspects unique to the profession and the questions that arise as educational leaders become more aware of their own personal and professional codes of ethics. To fill this gap, Shapiro and Stefkovich (2005) add a fourth to the three ethical frameworks described in this chapter, a paradigm of professional ethics.

In summary, Shapiro and Stefkovich (2005) have described a paradigm for the profession that expects its leaders to formulate and examine their own professional codes of ethics in light of individual personal codes of ethics, as well as standards set forth by the profession, and then calls on them to place students at the center of the ethical decision-making process. It also asks them to take into account the wishes of the community. As such, the professional paradigm the authors are proposing is dynamic-not static-and multidimensional, recognizing the complexities of being an educational leader in today's society.

Thus, taking all these factors into consideration, this ethic of the profession would ask questions related to justice, critique, and care posed by the other ethical paradigms, but would go beyond these questions to inquire: What would the profession expect me to do? What does the community expect me to do? And what should I do based on the best interests of the students, who may be diverse in their composition and their needs.

Joanne Ciulla (2004, p. 17–18) argues that the definition of leadership studies is not really about the question, "What is leadership?" It is about the question, "What is good leadership?" By good, she means morally good and effective. This is why she thinks it is fair to say that ethics lies at the heart of leadership. Researchers in the field need to have an understanding of the ethical elements of leadership in order to be clear on what the term leadership implies. In higher education institutions, morally good and effective leaders need to have several methods in which to make decisions. According to Gini (2004), perhaps the best

method suited to the general needs of the ethical enterprise is a modified version of the scientific method.

The first step in the scientific method is observation. Observation is the recognition of a problem or conflict. The problem with current budget allocation practices is the lack of transparency, accountability, and moral decision making. To maintain credibility, leaders entrusted with public funds need to make sure their decisions regarding those funds are ethical and moral. The second step in the scientific method is inquiry. Inquiry is a critical consideration of the facts and issues involved. The third step in the scientific method is hypothesis or research questions. The fourth step in the scientific method is experimentation. The fifth step in the scientific method is evaluation. The evaluation would be: Did the study answer the research questions? What were the conclusions, discussion, and recommendations found with this study?

Leadership ethics can also serve as a critical theory that opens up new kinds of dialogues among researchers and practitioners. Work in leadership ethics should generate different ways of thinking about leadership and new ways of asking research questions. To some extent, the ideas of servant leadership and transforming leadership have already done this. The territory of ethics lies at the heart of leadership studies and has veins that run through all leadership research. As an area of applied ethics, leadership ethics needs to take into account research on leadership, and it should be responsible to the pressing ethical concerns of society (Gini, 2004).

Accountability

Calls from tax payers and legislators for accountability in higher education have become more frequent in the last several decades (Achtemeier & Simpson, 2005). The idea of accountability implies policy "designed to make institutions accountable to some higher authority, typically the governor and state legislature" (Nettles, Cole, & Sharp, 1997, p. 24).

"Accountability is on the higher education policy agenda in many systems" (Huisman & Currie, 2004, p. 529). Analysts of accountability generally agree that it is the "answerability for performance" (Romzek, 2000, p. 22) or "the obligation to report to others, to explain, to justify, to answer questions about how resources have been used, and to what effect" (Trow, 1996, p. 310).

Romzek (2000) identifies four basic types of accountability relationships: hierarchical, legal, professional, and political. The last two types, professional and political, are more often found in higher education. Romzek explains that the difference between professional and political accountability is the *source* of the stand for performance. "Professional accountability systems are reflected in work arrangements that afford high degrees of autonomy to individuals who base their decision-making on internalized norms of appropriate practice" (2000, p. 26). Political accountability relationships afford managers the discretion or choice to be responsive to the concerns of key interest groups, such as elected officials, clientele groups, and the general public (Huisman & Currie, 2004).

Trow (1996) points to the functions of accountability and more specifically focuses on the higher education context. He first maintains that accountability is a constraint on arbitrary power, thereby discouraging fraud and manipulation, and strengthening the legitimacy of institutions that are obligated to report to appropriate groups. Second, accountability is claimed to sustain or raise the quality of performance by forcing those involved to examine their operations critically and to subject them to critical review from outside the institution. Third, accountability can be used as a regulatory device through the kind of reports and the explicit and implicit criteria to be reported to the institutions.

A transformation of the definition and substance of state-level accountability in higher education is under way and is likely to profoundly affect future policy (Ewell & Jones, 2006). The established model of accountability for American higher education emerged in the 1960s and 1970s. The focus was: Were public institutions abiding by established regulations, and were monies being spent for intended purposes? The task of the state was to ensure that public funds were spent efficiently and that the opportunity to benefit was available to all citizens. Accountability in this period rested primarily on annual institutional compliance reporting. A change in this pattern occurred between 1985 and 1989 when many states enacted assessment mandates. These mandates brought results in the form of learning outcomes to the accountability table for the first time. Some of the change in accountability was attributed to the need for new state policy strategies for higher education in a severely constrained fiscal operating environment (Ewell & Jones, 2006).

According to Wellman, "higher education accountability has public trust dimensions that require communicating in ways the public can understand" (2006, p. 111). The notion of public accountability for the public trust begins with the meaning of the public trust for higher education and how that term has evolved from a traditional focus on the institution, to the intersection of higher education and society, to the public agenda for higher education. Communication to the general public is one aspect of improved accountability for the public agenda.

Wellman (2006) explores the notion of public accountability for the public trust. Public trust in higher education has evolved from a traditional focus on the institution to the intersection of higher education and society to the public agenda for higher education. Developers of a public agenda for higher education argue that the country needs new comprehensive strategies to

increase production, quality, and efficiency across the education pipeline (Wellman, 2006). According to Carey (2007), accountability in American higher education is largely a myth. He claims higher education needs accountability in more than name. It needs accountability that is real. Carey (2007) claims the two elements of real accountability are truth and action. The degree to which an institution has fulfilled its purpose is the truth element. Real accountability systems push institutions to act on that information in a manner that is designed to change what they do in order to make them more successful than they would otherwise be. Real accountability systems matter.

Transparency

The National Commission on the Future of Higher Education met six times between October 2005 and August 2006 (Commission on the Future of Higher Education, 2006). One recurring theme in its deliberations was higher education's aversion to transparency and accountability (Kuh, 2007). According to Kuh (2007), to balance the demands of public interest and institutional autonomy, administrators need to determine the legitimate applications of common-reporting templates. A common reporting template is intended to serve three general purposes: improvement, transparency, and accountability. Information collected through common-reporting templates should be used to guide policy and improvement. Otherwise, collecting and reporting information is a hollow exercise (Kuh, 2007).

In an effort to become more transparent and accountable, institutions of higher education must change from a system based on reputation to one based on performance. The Department of Education should collect and provide information on institutional outcomes and student performance, provide annual reports on college revenues and expenditures, and establish a privacy-protected information system that collects and analyzes student-level data. This data

could be used as a tool for accountability, policy making, and consumer choice (Lingenfelter, 2007).

"All of the states in the union have had at least three decades of experience with legally mandated openness in their public-sector institutions, including public higher education institutions" (McLendon & Hearn, 2006, p. 675). In the latter half of the 20th century the states moved to expand public access to information about state governmental activity, including public higher education institutions, through adoption of open-meetings and records laws. These laws are known as sunshine laws. State sunshine laws are widely viewed as an accepted and largely healthy element in the institutionalized structure of campus relations with external bodies. Though sometimes these laws are perceived as time-consuming and a hindrance to quick action, there is substantial consensus that the benefits of mandated openness and transparency outweigh the costs (McLendon & Hearn, 2006).

"The aim of quality assurance codes of practice and guidelines is, in theory, to give a clear indication to stakeholders, governments, financers, partners and the public at large about the various course providers and the level of education they offer" (Aelterman, 2006, p. 227). Greater transparency improves the understanding and interpretation of qualifications and competencies. Transparency of qualifications and competences can be described either as a political problem needing a technical solution, or a technical problem needing a political solution. While progress has been made both at political and technical levels, there is still quite some way to go in implementing the solutions, especially at the national level (Deane, 2005).

Accountability pressures in higher education are not new. What is relatively new is the prominent place that issues of accountability and transparency now occupy on the nation's higher education agenda (McCormick, 2009). An example is the 2006 report of the Secretary of

Education's Commission on the Future of Higher Education (Spellings Commission), *A Test of Leadership*:

> Colleges and universities must become more transparent about cost, price, and student success outcomes, and must willingly share this information with students and families…. This information should be made available to students, and reported publicly in aggregate form to provide consumers and policy makers an accessible, understandable way to measure the relative effectiveness of different colleges and universities. (p. 4)

Reforms in the accreditation system have also played a role in the emphasis on accountability and transparency for student outcomes (McCormick, 2009). Accreditation is an accountability system, although the mechanism for accountability is grounded in peer review rather than public reporting (Burke, 2005). Accreditation has shifted its emphasis away from demonstrating that an institution satisfies minimum capacity and infrastructure standards towards a focus on an institution's plans and processes for the assessment and improvement of educational effectiveness (Eaton, 2001).

According to McCormick (2009), there is an important difference between accountability articulated by the accrediting agencies and the Spellings Commission. Accrediting agencies operate under the guide that educational assessment and improvement is an internal matter, and that accountability is accomplished through the approval of accrediting bodies (McCormick, 2009). The focus of the Spellings Commission is on public disclosure and transparency in the interest of providing consumer information. Under the Spellings Commission, accountability is accomplished by the marketplace which rewards and punishes institutions based on publicly reported performance information (Burke, 2005).

Historical Budget Processes at Public Institutions

There are several historical budget processes at public institutions. A number of these processes are incremental budgeting, zero based budgeting, line item budgeting, program budgeting, static budgeting, flexible budgeting, and capital budgeting.

Incremental budgeting is used most often in historical budget processes at public institutions (Massy, 1996b). Incremental budgeting uses a budget prepared using a previous period's budget or actual performance as a base, with incremental amounts added for the new budget period. The allocation of resources is based upon allocations from the previous period. This approach is not recommended as it fails to take into account changing circumstances. Moreover, it encourages "spending up to the budget" to ensure a reasonable allocation in the next period. It leads to a "spend it or lose it" mentality (Massy, 1996b).

Some advantages of incremental budgeting are the budget is stable and change is gradual, managers can operate their departments on a consistent basis, the system is relatively simple to operate and easy to understand, conflicts are avoided when departments appear to be treated similarly, coordination between budgets is easier to achieve, and the impact of change can be seen quickly (Massy, 1996b). Some disadvantages of incremental budgeting are it assumes activities and methods of working will continue in the same way, no incentive for developing new ideas, no incentive to reduce costs, encourages spending up to the budget in order that the budget is maintained next year, the budget may become out-of-date and no longer relate to the level of activity or type of work being carried out, the priority for resources may have changed since the budgets were originally set, and there may be budgetary slack built into the budget which is never reviewed. Managers might have overestimated their requirements in the past in

order to obtain a budget which is easier to work within, and which will allow them to achieve favorable results (Massy, 1996b).

Zero based budgeting requires a rigorous review and approach to budgeting. In traditional incremental budgeting, departmental managers justify only increases over the previous year budget and what has been already spent is automatically sanctioned. By contrast, in zero-based budgeting, every department function is reviewed comprehensively and all expenditures must be approved, rather than only increases. No reference is made to the previous level of expenditure. Zero based budgeting requires the budget request be justified in complete detail by each division manager starting from the zero base (Massy, 1996b).

Line item budgeting is a budget that lists the individual costs of all budgeted items such as personnel participating in the project, fringe benefits, travel, equipment, and supplies. A line item budget should always be separate from the budget narrative and identify each budget period separately. A line item budget is a highly detailed budget often adopted with the idea of greater control over expenditures. Its name is derived from the fact that it expresses each kind and quantity of expenditures and revenues as a single item on one line of the budget (Dongsung, 2005). Line item budgeting or earmarking can also be an attempt to garner additional public resources. Through this device, an institution receives a specified amount directly from the government's budget without any intervening decisions by the institution (Schuster, 1990).

Program budgeting is a better approach than incremental budgeting, zero based budgeting, or line item budgeting. This approach to budgeting is more encompassing and flexible. Program budgeting is the budgeting system that, contrary to conventional budgeting, describes and gives the detailed costs of every activity or program that is to be carried out in a budget. Program budgeting is budgeting for the delivery of a particular program. The focus of

program budgeting is on the purpose of the program and its outcome rather than the components of the program (as is the case in line item budgeting). Less attention is paid to the specific spending items of the program and more on its expected output (Wooldridge, Garvin, & Miller, 2001).

Static budgeting is a budget based in a fixed set of assumptions. For example, the manufacturing division establishes a budget at the start of the fiscal period that cannot be altered, no matter what occurs with respect to prices, demand, or the economy. Static budgeting is one based on a single level of activity (e.g., a particular volume of sales or production). It has two characteristics: (1) it is geared toward only one level of activity, and (2) actual results are compared against budgeted (standard) costs only at the original budget activity level (Webster, 1993).

A flexible (variable) budget differs from a static budget on both scores. First, it is not geared to only one activity level, but rather, toward a *range* of activity. Second, actual results are not compared against budgeted costs at the original budget activity level. Managers look at what activity level was attained during a period and then turn to the flexible budget to determine what costs should have been at that actual level of activity. A flexible budget is a projection of costs and revenues at various levels of output and revenue. Flexible budgeting is a more impartial way to budget (Webster, 1993).

Capital budgeting is budgeting for long term assets (e.g., land, buildings, etc.) and has to account for the time value of money. Under capital budgeting it is difficult to compare total costs to total benefits. Capital budgeting is the process in which an institution determines whether projects such as building a new plant or investing in a long-term venture are worth pursuing. Oftentimes, a prospective project's lifetime cash inflows and outflows are assessed in

order to determine whether the returns generated meet a sufficient target benchmark (Wooldridge, Garvin, & Miller, 2001).

Ideally, institutions should pursue all capital budgeting projects and opportunities that enhance shareholder value. However, because the amount of capital available at any given time for new projects is limited, management needs to use capital budgeting techniques to determine which projects will yield the most return over an applicable period of time. Popular methods of capital budgeting include net present value (NPV), internal rate of return (IRR), discounted cash flow (DCF) and payback period (Wooldridge, Garvin, & Miller, 2001).

The literature on budgeting within organizations is relatively limited (Pondy, 1970). According to Pfeffer and Moore (1980),

> One of the central issues in budgeting research is the extent to which a political model accounts for observed outcomes in contrast to a rational or bureaucratic model, and the conditions under which the political model is more or less likely to hold. (p. 637)

Pfeffer and Salancik (1974) argued that organizational budgeting was a political process. For example, they and others found that power and social-influence processes were more important in decision situations characterized by uncertainty (Pfeffer, Salancik, & Leblebici, 1976; Salancik & Pfeffer, 1978), scarcity and criticalness (Hills & Mahoney, 1978; Salancik & Pfeffer, 1974), and in decision situations in which information used to make the decisions and the decision outcomes themselves were secret (Pfeffer & Moore, 1980, p. 637; Salancik & Pfeffer, 1978).

A second issue was what determined the power of departments within the organization. In their study of the University of Illinois, Salancik and Pfeffer (1974) found that power accrued to the academic departments that provided grants and contracts for the organization. Hills and

Mahoney (1978) observed a significant relationship between an academic department having an outside advisory board and its ability to obtain incremental budget. Freeman and Hannan (1975) argued that position in the decision-making process affected power. For example, administrators at the head of the decision-making and information systems could protect themselves better from cutbacks under declining enrollments than lower-level groups.

A third issue concerned how to distinguish power from other related concepts (such as size), how to measure it in a social system, and how to assess the validity of political models versus alternatives. March (1966) argued that power was often incorrectly attributed. In social-process models of decision making, March (1966) maintained that much of what occurs in organizations is accidental rather than the result of interests being pursued by powerful organizational actors.

Pfeffer and Moore (1980) examined the determinants of power and budget allocations on two campuses of a large, state university system. As in previous studies, it was determined that faculty positions and budget allocations were a function of student enrollment and departmental power, and departmental power was related to the amount of a department's grant and contract funds as well as enrollment. In a comparison of resource allocation on the two campuses, it was found that for the campus that faced less scarcity of resources, enrollment was more highly related and departmental power less strongly related to allocations (Pfeffer & Moore, 1980).

Current Budget Processes at Public Institutions

What is Privatization?

Privatization occurs when state support of public higher education institutions declines, forcing public institutions to seek support from the private sector. When this occurs, stakeholders share in public higher education shift from the state to other supporters or

stakeholders. Some private sector supporters are parents, alumni, donors (private and public), cities, and other institutions of higher education (Lyall & Sell, (2006).

Privatization of public higher education is when students are forced to pay increased amounts for tuition and fees when state appropriations per student decreases. According to Tooley and Dixon (2006), there are three types of privatization: demand-side financing, reforms to the educational supply side, and de facto privatization.

Lyall and Sell (2005) suggest in terms of numbers of students served per dollar of public investment, the public university has kept pace with productivity increase in the private sector. The problems with this measure (number of students served per dollar of public investment) are the use of more part-time faculty, larger classes, and online courses. These have reduced costs but have not been evaluated for their effectiveness. According to Lyall and Sell (2005), the proposed solution is a deliberate effort to form a new kind of public purpose institution. These new quasi-public institutions would have better business practices and planning, more collaboration with other institutions, and more responsibility to broaden their boards to represent a wide range of public interests. Public support would be 30 percent of costs; student tuition would be 20 percent of costs; and income from donors, alumni, and others the remaining 50 percent. Student access would be a top priority. Also, the institution would have a greater responsibility to state economic and labor markets. The public purpose university would not give up its mission to research but would shift to more applied research that would better benefit the state. This would mean that fewer public universities would make it into the top research rankings (Lyall & Sell, 2005).

Lyall's and Sell's (2005) plan looks somewhat like the restructuring of Virginia's public education system. All of Virginia's higher education institutions are eligible for three

differentiated levels of increased autonomy. The increased autonomy would be in exchange for agreeing to meet specific performance goals regarding student access, institutional collaboration, student transfers from two- to four-year institutions, and systematic and strategic planning. Financial incentives are provided for performance on these measures. The incentives are an exchange of greater flexibility and autonomy from the state for meeting responsibilities and levels of public performance (Lyall & Sell, 2005).

According to Levin (2007), there are two elements missing in the book by Lyall and Sell. The first is that costs of education will continue to rise. There is no evidence that this cost has been stemmed by rising productivity in higher education even when technology, online learning, large class sizes, and where more part-time faculty members are added. There is little evidence that quality has been maintained, and there have been reports of deterioration in student outcomes. Second, the book does not explain who will pay for the rising costs of tuition in a nation of stagnant earning levels for much of the parent population. The financing of student costs is still the issue that has not been addressed in the public purpose university (Levin, 2007).

America is privatizing public higher education institutions without serious public policy analysis or debate. Much of the support and influence for higher education institutions have shifted to parents, donors, alumni, and corporations (Lyall & Sell, 2006). Lyall and Sell (2006) ask the following questions regarding de facto privatization in American public higher education: What is privatization? What is some evidence of privatization? Is privatization a cyclical or long-term trend? What are some consequences of privatization? What are universities doing to cope with privatization? What are states doing to cope with privatization? What will happen next with privatization? and, What to do next about privatization?

Evidence of Privatization

Some evidence of privatization, according to Lyall and Sell (2006), are the state appropriation per student, the share of state budgets spent on higher education, and the investment per $1,000 of state income devoted to higher education have all been declining for more than a decade. Public colleges and universities enroll about 77 percent of American college students. In 1980, the state support for these public institutions was around 50 percent. Today, state support for these public institutions is down to approximately 30 percent. At some of the top ranked public universities state support is only around 10 percent. To offset this reduction at public institutions, tuition rates have had to be increased. These increased rates can negatively impact access and quality of instruction (Lyall & Sell, 2006).

To offset this negative impact, public colleges and universities have been diversifying revenues, streamlining costs, and adopting technology. As a result of diversifying revenue streams, a shift has occurred in the claims and constituencies to which university presidents, faculty, and staff are responsible. At many public institutions the financial support provided by students, alumni, and donors exceed public support. Annual budget decisions made by legislatures undercut their roles to control the plans of college and universities (Lyall & Sell, 2006).

Cyclical or Long-Term Trend

Lyall and Sell (2006) believe that a shift to privatization is not cyclical but a long-term trend. It is due in part to a profound change in political philosophy. This new political philosophy shifts the burden and responsibility from the public sector (state) to the private sector (parents, donors, corporations, etc.). This is happening when an education beyond high school is essential. State lawmakers perceive there is an easy availability of an alternative source of

revenue (tuition). Added to these burdens is the federal tendency to shift to the states responsibility for meeting increased domestic needs such as Medicare and homeland security. In addition to this, is a profound change in our sense of obligation to future generations (large tax debt burdens) (Lyall & Sell, 2006).

Consequences

Some of the consequences of privatization are viewed as good, bad, and mixed. The consequences of privatization viewed as good are public institutions will have to increase efficiency and pay more attention to consumer preferences. Public universities will have to focus their resources on the services that the consumers want and are willing to pay for, and less on what the universities would like to produce. The states' outdated operating systems will have to transform themselves into market place competitors. For some public institutions, the diversification of revenues may help to make institutions less vulnerable to shifts in state economic conditions. Finding a new balance among the new and different stakeholders is a very large task requiring realistic public-policy dialogue (Lyall & Sell, 2006).

The consequences of privatization viewed as bad are access for low- and moderate-income students is declining as tuition rises, and financial aid fails to keep up with need. The main federal need-based aid program (Pell Grants) covered 35 percent of costs at four-year public universities in 1980–1981 and 23 percent in 2003–2004. Privatization also increases the risk of conflict of interests with corporations and research sponsors. The market dictates that expensive research results from labs often be sold, and not given away for the public good. Also, it is not clear if public colleges and universities will continue to educate teachers, nurses, physical therapists, and social workers. These professions have essential skills, but modest market rewards. Privatization also weakens the public service component of land-grant

universities such as extending knowledge to farmers, start-up businesses, community service organizations, and state and local governments (Lyall & Sell, 2006).

According to Lyall and Sell (2006), if the capacity to produce college educated citizens declines there will be an adverse effect on both the economic opportunity and the social mobility on which democracy depends and the knowledge and skills that are essential to the economy. According to an Organisation for Economic Co-operation and Development (OECD) report, that is already occurring; the United States has 32.5 percent of 20- to 24-year olds participating in college as compared to 37.2 in other OECD countries. This will profoundly change our nation's economic and political future.

There are some of the consequences of privatization that are viewed as mixed or unclear. Privatization may impose greater accountability on universities to students, donors, and alumni. The pressures of the market may force accountability goals that may be at odds with public purposes. Market-led missions may limit the role of public universities as instruments for social critique, social justice, and economic change. The move to privatization shifts the emphasis away from the collective advantages of an educated population (reduced lifelong healthcare costs, reduced criminal activity, greater labor market efficiency, and better child-rearing skills) toward individual benefits of increased incomes (Lyall & Sell, 2006).

What Are Universities Doing to Cope?

Some ways that public universities are coping with privatization are increasing tuition and fees, stepping up organized fundraising campaigns to boost endowments and support building needs and scholarships, and finding new partners in the corporate sector to support research and economic development initiatives. They are reducing costs, redesigning courses and programs to make better use of online technologies, and deferring the replacement of

classroom technology and capital maintenance. The primary contribution universities can make is through economic growth driven by educated citizens and new knowledge, and not through cutting these outcomes for short term savings (Lyall & Sell, 2006).

What Are States Doing to Cope?

States budget decisions have become short-term and one-time actions rather than well thought out long-term solutions. This is apparent in the states decisions to make across the board budget cuts and the elimination of arbitrary numbers of state employees. Some states have undertaken significant experiments to restructure the relationship between the state and its public institutions.

One example of what states are doing to cope is charter universities of various types. It gives public universities greater operating autonomy in exchange for meeting specified state performance goals. This relationship recognizes the state's minority stakeholder status and frees the university to realize management efficiencies outside the contractual constraints of state government. This will help to ensure that core public purposes are defined and achieved. Hybrid universities operate with a mix of publicly-supported and privately-endowed units within the same university structure. Hybrid structures enable the state to focus scarce funding on programs that are of critical public interest while leaving the operating and funding of the remaining units to the university operating as a private entity. Full cost pricing experiments entail setting tuition to cover the full costs of operation. Financial aid set aside from the tuition revenues are then used to ensure access for low-income students. Vouchers for higher education shifts whatever state funding is available for institutions to individuals. This system intensifies the competition for students. The impact of this strategy will depend on the size of the vouchers

in relation to the total cost of educating students and the reactions of citizens to changes in voucher amounts (Lyall & Sell, 2006).

Needs Assessment Measures

Needs assessment is a process for determining and addressing needs, or "gaps" between current conditions and desired conditions, often used for improvement in individuals, education/training, organizations, or communities. The idea of needs assessment, as part of the planning process, has been used under different names for a long time. In the past 50 years, it has been an essential element of educational planning. Over the past four decades, there has been a proliferation of models for needs assessment with dozens of models from which to choose.

Considered the "father of needs assessment," Roger Kaufman first developed a model for determining needs defined as a gap in results (Kaufman & English, 1979). This particular emphasis in results focuses on the outcomes (or ends) that result from an organization's products, processes, or inputs (the means to the ends). Kaufman and English (1979) argue that an actual need can only be identified independently of premature selection of a solution (wherein processes are defined as means to an end, not an end unto themselves). To conduct a quality needs assessment, according to Kaufman and English (1979), first determine the current results, articulate the desired results, and the distance between results is the actual need. Once a need is identified, then a solution can be selected that is targeted to closing the gap. Kaufman's model in particular, identifies gaps in needs at the societal level, what Kaufman calls "Mega" planning, along with gaps at the Macro (or organizational) and Micro level (Kaufman, 2006).

A needs assessment is the process of collecting information about an expressed or implied organizational need. The need can be a desire to improve current performance or to correct a deficiency. A deficiency is performance that does not meet the current standard. It

means there is a prescribed or best way of doing a task and that variance from it is creating a problem. Assessments can be formal (using survey and interview techniques) or informal (asking questions of those involved). Needs assessment often involves the use of more than one type of analysis (Barbazette, 2006).

Needs assessment can also be defined as a gap analysis. A gap analysis is a technique for determining the steps to be taken in moving from a current state to a desired future-state. It begins with (1) listing of characteristic factors (such as attributes, competencies, performance levels) of the present situation ("what is"), (2) cross-listing factors required to achieve the future objectives ("what should be"), and then (3) highlighting the 'gaps' that exist and need to be 'filled.' This process is also called need-gap analysis, needs analysis, and needs assessment (Barbazette, 2006).

The purpose of a needs assessment is to answer some familiar questions: why, who, how, what, and when. Why should the organization conduct a needs assessment? Who is involved in the needs assessment? How can the deficiency be fixed? What is the best way to conduct the needs assessment? When is the best time to conduct the needs assessment? Conducting a needs assessment protects the assets of an organization and assures that resources that are set aside for a specific purpose are conserved and used only for that purpose (Barbazette, 2006).

A needs assessment is a systematic exploration of the current state and the way it should be. The current state is usually associated with organizational and/or individual performance (Stout, 1995). According to Stout (1995), a needs assessment is conducted to find out what learning will be accomplished, what changes in behavior and performance are expected, what are the desired results and will they be achieved, and what are the expected economic costs and benefits of any projected solutions. The four steps to conducting a needs assessment are to

perform a “gap” analysis, identify priorities and importance, identify causes of performance problems and/or opportunities, and identify possible solutions and growth opportunities (Stout, 1995).

The first step is to check the actual performance of the organizations and the people against existing standards, or to set new standards. There are two parts to this: current situation and desired or necessary situation. Current situation is to determine the current state of skills, knowledge, and abilities of the current and/or future institution or employees. This analysis also should examine organizational goals, climate, and internal and external constraints. *Desired or necessary situation* means to identify the desired or necessary conditions for organizational and personal success. This analysis focuses on the necessary job tasks/standards, as well as the skills, knowledge, and abilities needed to accomplish these successfully. It is important to identify the critical tasks necessary, and not just observe current practices (Stout, 1995). The first step should produce a large list of needs for training and development, career development, organization development, and/or other interventions.

The second step is to identify priorities and importance. Next, examine these in view of their importance to organizational goals, realities, and constraints. Then, determine if the identified needs are real, if they are worth addressing, and specify their importance and urgency in view of organizational needs and requirements (Stout, 1995).

The third step is to identify causes of performance problems and/or opportunities. After prioritizing and focusing on critical organizational and personal needs, the next step is to identify specific problem areas and opportunities in the organization. If appropriate solutions are to be applied, performance requirements must be known (Stout, 1995).

The fourth step is to identify possible solutions and growth opportunities. If people and institutions are doing their jobs effectively, leave well enough alone. However, some training and/or other interventions might be called for if sufficient importance is attached to moving people and/or institutions and their performance in new directions (Stout, 1995).

According to the Delaware Study of Instructional Costs and Productivity, examples of needs assessment measures in higher education are One Time Funds, Continuing Funds, Number of Students, Budget per Student, Reserve Amount to the Base Amount (as a %), Reserve Amount per Student, Summer Budget Distribution, Summer Budget Distribution per Student, and Prior Two Year Budget Allocations (Middaugh, Graham, & Shahid, 2003). This study focuses on five needs assessment measures: One Time Funds, Continuing Funds, Reserve Amount to the Base Amount (as a %), Summer Budget Distribution, and Summer Budget Distribution per Student.

Productivity Measures

Productivity is a measure of output from a production process, per unit of input. For example, labor productivity is typically measured as a ratio of output per labor-hour, an input. Productivity may be conceived of as a metric of the technical or engineering efficiency of production. As such, the emphasis is on quantitative metrics of input, and sometimes output. Productivity is distinct from metrics of allocative efficiency, which take into account both the monetary value (price) of what is produced and the cost of inputs used, and also distinct from metrics of profitability, which address the difference between the revenues obtained from output and the expense associated with consumption of inputs (Kurosawa, 1975).

Throughout the research productivity literature, scholars have used a wide range of methods for determining productivity, have most often focused on assessing institutional as opposed to individual productivity, and have tended to limit the scope of productivity scores to

specific time periods and specific journal publications (Duffy, Martin, Bryan, & Raque-Bogdan, 2008). The importance of studying productivity can be considered on an institutional and an individual level. Institutional assessments of productivity within a field are typically computed by assessing the individual productivity of institution members, most often through journal publications, and summing these together for an overall score. Most frequently, these assessments have been used to develop productivity rankings of institutions within a subfield (Duffy et al., 2008).

Rhoades' (2001) aim is to affect institutions of higher educations' conceptualization of productivity in four areas. The first area is who is focused upon in efforts to increase productivity. The second area is which unit of analysis or organizational level is addressed. The third area is what functions or organizational roles are considered. The fourth area is whose interests are invoked and served in designing productivity initiatives.

In discussing the productivity of whom (first area) Rhoades (2001), starts with faculty and extends to non-faculty professionals and to their involvement in production activities. In discussing productivity for which unit of analysis (second area) Rhoades (2001), looks beyond individual faculty and standardized models of production. He points to the importance of looking laterally and vertically in the organization. Looking laterally, production takes place in departments and colleges which have different production functions. Looking vertically, production takes place at various institutional levels. In discussing productivity according to what functions are considered (third area), Rhoades (2001) begins with the functions most commonly identified with colleges and universities — teaching and research. In discussing productivity in whose interest (fourth area), Rhoades (2001) begins with two categories that are invoked in discussions of stakeholders — faculty and students. Rhoades (2001) offers general

principles to inform the perception of "the problem," leaving it to administrators to apply those principles to develop policies and practices appropriate to their context.

With students, parents, and government seeking proof of a return on their investment and efficient management of fiscal and human resources, it is essential to have access to appropriate and useful data when researching the operation of an institution and its faculty. Given the central role of the faculty and their involvement with students in and outside the classroom, it is critical to understand faculty work in order to assess institutional effectiveness. Institutional researchers need to use measurements that generate more particular and narrower results within the area of faculty workload and productivity if they are to meet the managerial needs of our institutional administrators and financial planners (Middaugh, Kelly, & Walters, 2008).

In 2003, the Office of Institutional Research and Planning at the University of Delaware received a contract from the National Center for Education Statistics to examine factors that contribute to increases in the cost of higher education at four year institutions in the United States. The University of Delaware was selected because the Office of Institutional Research and Planning has been the analytical center for the Delaware Study of Instructional Costs and Productivity since 1992. The Delaware Study annually collects detailed information on faculty teaching loads, instructional costs, and externally funded scholarship, all at the academic discipline level of analysis. Since its inception, more than five hundred institutions have participated in the Delaware Study (Middaugh, Graham, & Shahid, 2003).

According to the Delaware Study of Instructional Costs and Productivity, examples of productivity measures in higher education are Full Time Equivalent Student Units, Declared Majors, Number of Degrees Granted, Student Credit Hours, Full Time Equivalent Faculty Units, Fiscal Data, Research and Service Expenditures, Cost of Instruction and Revenue Measures

(Middaugh, Graham, & Shahid, 2003). This study focuses on five productivity measures: Full Time Equivalent Student Units, Number of Degrees Granted, Student Credit Hours, Full Time Equivalent Faculty Units, and Cost of Instruction.

The field of counseling psychology has an established history of examining research productivity as a means of engaging in self reflection, quality assessment, correction, and growth (Kahn, 2005; Spengler, Neville, & Hoffman, 2005). Periodic review of research, recognized as one of counseling psychology's greatest strengths, has allowed the field to assess quality within and between programs and has offered counseling psychology programs the opportunity to examine their research agendas (Spengler et al., 2005). Throughout the research literature, scholars have used a wide range of methods for determining productivity, have most often focused on assessing institutional as opposed to individual productivity, and have tended to limit the scope of productivity scores to specific time periods and/or specific journal publications (Duffy, Martin, Bryan, & Raque-Bogdan, 2008). Research productivity, as one aspect of scholarly work, is defined differently across academic fields but generally relates to publications in books and journals, publication citations, research grants, awards, and professional service (Print & Hattie, 1997). The importance of studying productivity can be considered on an institutional and an individual level (Duffy et al., 2008).

Institutional assessments of productivity within a field are typically computed by assessing the individual productivity of institution members, most often through journal publications, and summing these together for an overall score. These measurements of research productivity allow specific institutions within a field to compare their productivity to one another. Most frequently, these assessments have been used to develop productivity rankings of

institutions within a subfield, and they have a rich history in the field of counseling psychology (Duffy et al., 2008).

In contrast to this body of research, relatively fewer studies have addressed productivity at the individual level. Researchers have investigated such questions as where authors received their graduate degree, who typically gains fellowship in Division 17 of the American Psychological Association, who has been cited in textbooks and *Annual Review of Psychology* chapters, who has published the most psychotherapy process articles with the *Journal of Counseling Psychology* or the *Journal of Consulting and Clinical Psychology*, who are the top 20 individual contributors to *Journal of Counseling Psychology* on the basis of author-weighted scores from 1973–1998, and who has published the most research on ethnic and minority populations (Duffy et al., 2008).

Budget Allocation Models

> A new strategic plan, an additional one hundred faculty members, a new financial model, an incentive compensation plan, a new $200 million research building, closing one professional school and repositioning assets to help another, redirecting net revenues from two parking garages, and a building renewal and replacement plan — are all outcomes of a strategic planning and budgeting process. (Haberaecker, 2004, p. 71)

George Keller (1999–2000) suggested that strategic planning is increasingly about organizational learning and creativity, and that there is a need to change existing structures and processes.

The topic of cost of instruction is sometimes overlooked in the broader context of discussions about affordability, cost, price, and the economics and finance of higher education. There is, however, a distinct though relatively small knowledge base of literature and research about cost of instruction. The language of cost is "used constantly in higher education and has

many different meanings. Cost information abounds, yet … it is seldom what it appears to be" (Jenny, 1996, p. xv). Jenny (1996) explains that:

> … higher education accounting is not organized to answer questions concerning the full costs of teaching a conventional course, conducting a seminar, admitting a freshman class, or managing the institution's heating and cooling system.… Sometimes the normal accounting system is so far removed from what is needed that elaborate new stand-alone costing models must be constructed. (p. 93)

Any state involvement in the financing of higher education necessitates a method to channel support to higher education institutions. Public funding, through resource allocation models, influences the functioning of higher education institutions according to how funding reaches them and therefore resource allocation models are a mechanism to stimulate desirable behavior (Orr, Jaeger, & Schwarzenberger, 2007). However, under any allocation system, funders (whether they are state, private, contract/grant, etc.) of higher education institutions must be accountable for their actions and their spending. Thus, resource allocation and accountability are intertwined (Nkrumah-Young, 2005). There are two dominant perspectives on resource allocation models — one takes a governance and accountability perspective, and the other takes a management and accountability perspective (Nkrumah-Young & Powell, 2008).

"A major challenge in the formulation of optimization models for large-scale, complex operational problems is that some data are impossible or uneconomical to collect, producing a cost model that suffers from incomplete information" (Marar, Powell, & Kulkarni, 2006, p. 159). This is true when formulating a budget allocation model for large-scale, complex institutions of higher education. Budget allocation model frameworks are designed to solve resource allocation problems with incomplete information. This situation is characterized by the inability of the

modeler to express all operational behavior in terms of cost functions due to missing elements of data (strategic plan, needs assessment measures, productivity measures, etc.).

Budget allocation models are mechanisms for linking strategic plans with operational plans. Designing a budget allocation model requires integrated planning and collaborative thinking. The elements that factor into integrated planning vary with the domain. However, in principle, the impetus for integrated planning is consistent: to explicitly relate strategic organizational decisions that affect one another but that might otherwise be dealt with through separate processes (Sandmeyer, Dooris, & Barlock, 2004).

Integrated planning is emerging in higher education. The National Association of College and University Business Officers (NACUBO) has begun offering a continuing professional education course entitled "Integrated Planning and Budgeting". Integrated planning is becoming an explicit part of some university strategic plans. In higher education, integrated planning draws together strategic planning, capital and operating budgeting, enrollment management, and human resource planning. Integrated planning usually means enhancing collaboration of operating units — academic schools and colleges — with support functions such as the budget office and physical plant. It may push planning across multiple levels of the institution, including central university and unit-specific decision making. Integrated planning also extends over a multiyear time frame of about three to five years (Sandmeyer et al., 2004).

Many of the challenges with integrated planning involve data definitions and discrepancies. The integrated planning process shows that not all campuses use the same working definitions and conventions, even for measures that are frequently used (for example, the calculation for an FTE faculty member or FTE student). Although having stated this, campus executives have noted that integrated planning promotes critical and collaborative thinking, and

it reinforces the university's expectation that strategic planning will be firmly rooted in data and data driven decisions. Integrated planning can be a mechanism for linking strategic plans with operational plans, and it can serve as a vehicle for testing assumptions and projecting scenarios (Sandmeyer et al., 2004).

A strategic planning process typically takes one of two forms. The process can redirect or recast the institution in fundamental ways, or it can focus on the things it is doing especially well and organize the future around them. Both of these require a budget allocation model that responds to changes in activity levels (for instance enrollments) within colleges, reward revenue generation and cost containment, move accountability and authority to those closest to the programs, support long range planning consistent with priorities, and free institutional leaders to focus on wider issues associated with resource generation and allocation (Leitzel, Corvey, & Hiley, 2004).

According to Leitzel, Corvey, and Hiley (2004), there are several elements critical to success in strategic planning and developing a budget allocation model to support that plan. These elements are leadership, consensus about need for change, process design, patience and flexibility, values and vision, and communications strategy.

Strategic planning and resource allocation requires a highly collaborative team of senior administrative leaders who believe that change is both needed and possible. In the academic area, college deans, school and center directors, and program heads have to be open to developing an institutional framework that can provide a context for unit planning without negating the unit's plans. The process design should be as inclusive as possible in order to guarantee the buy-in of key constituencies and to bring in the expertise needed for effective decision making. The challenge in process design is to take full advantage of every piece of

good luck, to be open to possibilities that are not in the original blueprints, to be nimble and creative in responding to possibilities, and to try to create a culture where enlightened opportunistic behavior is embraced. It is important to be patient and flexible in accommodating the deep reservations many individuals have about change. A consensus of values and vision provides a foundation for setting goals and priorities. A good communications strategy should inform constituencies at every phase of the process (Leitzel et al., 2004).

Performance based funding is sometimes used as an instrument of competition. Basing funding allocations on comparative performance is one way of setting an incentive for competitive practice within and among universities. Reforms in funding at both the state and university levels have concentrated on indicator-based models. Indicator-based models' structure suggests a 'tool box' of indicators. Performance based funding only determines a marginal part of total budget allocations. Discretionary, incremental funding continues to dominate (Orr, Jaeger, & Schwarzenberger, 2007).

Summary

Public colleges and universities are responsible, in part, for educating their citizens and improving the local and state economies. Increased state-funding needs for Medicaid, elementary and secondary education, and the criminal justice system have put increasing pressure on state tax revenue (Ehrenberg, 2006; Hovey, 1999; Kane, Orszag, & Gunter, 2003). With shrinking budgets, competing priorities, public resistance to increasing state taxes, and prohibitions on deficit spending, state legislators find themselves in the position of debating how essential each state service is, including postsecondary education. Due to these economic and political factors, the relationship between states and public higher education is changing across the country. Several university presidents are calling the decline in state support and the increase

in tuition a de facto privatization of the institutions that played a crucial role in the creation of the American middle class.

Decreases in state appropriations can substantially alter the distribution of resources across institutions of higher education. In recent years, changing financial and political conditions have prompted many colleges and universities to revise their internal management processes. The top priority for college and university administrators should be to ensure that their instructional programs and their entire institutions are managed in the most efficient and effective manner possible (Zumeta, 2007). According to Engle (2010), annual budgets are invaluable because they provide administrators with a tool to allocate resources, communicate the institution's strategy, and monitor the strategy's results. Typically, an institution's strategic plan is a three to five year plan for achieving the organization's long-term goals and objectives. The key challenge to academic leadership is to restructure the allocation of academic assets (Rich, 2006). These factors are restructuring the underlying political environment of higher education. Because the environment presses for a greater focus on market competitiveness, university administrators are needed who can keep focused on core academic priorities while still responding effectively to the new political environment of higher education.

According to Shapiro and Stefkocvich (2005), there are four paradigms of ethical leadership: the ethic of justice, the ethic of critique, the ethic of care, and the ethic of the profession. Rather than accepting the ethic of those in power, these scholars challenge the status quo by seeking an ethic that will deal with inconsistencies, formulate the hard questions, and debate and challenge the issues. According to Gini (2004), perhaps the best method suited to the general needs of the ethical enterprise is a modified version of the scientific method. Tax payers and legislators' call for accountability in higher education has become more frequent in the last

several decades (Achtemeier & Simpson, 2005). In an effort to become more transparent and accountable, institutions of higher education must change from a system based on reputation to one based on performance.

There are several historical budget processes at public institutions: incremental budgeting, zero based budgeting, line item budgeting, program budgeting, static budgeting, flexible budgeting, and capital budgeting. Incremental budgeting is used most often in historical budget processes at public institutions (Massy, 1996b). Zero based budgeting requires the budget request be justified in complete detail by each division manager starting from the zero base (Massy, 1996b). Line item budgeting is a budget that lists the individual costs of all budgeted items such as personnel participating in the project, fringe benefits, travel, equipment, and supplies. Program budgeting is budgeting for the delivery of a particular program. Static budgeting is a budget based in a fixed set of assumptions. Capital budgeting is budgeting for long term assets (e.g., land, buildings, etc.) and has to account for the time value of money. Under capital budgeting it is difficult to compare total costs to total benefits.

Privatization occurs when state support of public higher education institutions declines forcing public institutions to seek support from the private sector. Some private sector supporters are parents, alumni, donors (private and public), cities, and other institutions of higher education (Lyall & Sell, 2006). According to Tooley and Dixon (2006), there are three types of privatization: demand-side financing, reforms to the educational supply side, and de facto privatization. According to Lyall and Sell (2005), the proposed solution is a deliberate effort to form a new kind of public purpose institution. These new quasi-public institutions would have better business practices and planning, more collaboration with other institutions, and more responsibility to broaden their boards to represent a wide range of public interests. The public

purpose university would not give up its mission to research but would shift to more applied research that would better benefit the state.

Needs assessment is a process for determining and addressing needs, or "gaps" between current conditions and desired conditions, often used for improvement in individuals, education/training, organizations, or communities. To conduct a quality needs assessment, according to Kaufman and English (1979), first determine the current results, articulate the desired results, and the distance between results is the actual need. Once a need is identified, then a solution can be selected that is targeted to closing the gap. The need can be a desire to improve current performance or to correct a deficiency. Assessments can be formal (using survey and interview techniques) or informal (asking questions of those involved). Needs assessment often involves the use of more than one type of analysis (Barbazette, 2006). The four steps to conducting a needs assessment are to perform a "gap" analysis, identify priorities and importance, identify causes of performance problems and/or opportunities, and identify possible solutions and growth opportunities (Stout, 1995). This study focuses on five needs assessment measures: One Time Funds, Continuing Funds, Reserve Amount to the Base Amount (as a %), Summer Budget Distribution, and Summer Budget Distribution per Student.

Productivity is a measure of output from a production process, per unit of input. Throughout the research productivity literature, scholars have used a wide range of methods for determining productivity, have most often focused on assessing institutional as opposed to individual productivity, and have tended to limit the scope of productivity scores to specific time periods and specific journal publications (Duffy, Martin, Bryan, & Raque-Bogdan, 2008). Rhoades' (2001) aim is to affect institutions of higher educations' conceptualization of productivity in four areas. The first area is who is focused upon in efforts to increase

productivity. The second area is which unit of analysis or organizational level is addressed. The third area is what functions or organizational roles are considered. The fourth area is whose interests are invoked and served in designing productivity initiatives.

With students, parents, and government seeking proof of a return on their investment and efficient management of fiscal and human resources, it is essential to have access to appropriate and useful data when researching the operation of an institution and its faculty. This study focuses on five productivity measures: Full Time Equivalent Student Units, Number of Degrees Granted, Student Credit Hours, Full Time Equivalent Faculty Units, and Cost of Instruction.

The field of counseling psychology has an established history of examining research productivity as a means of engaging in self reflection, quality assessment, correction, and growth (Kahn, 2005; Spengler, Neville, & Hoffman, 2005). Periodic review of research, recognized as one of counseling psychology's greatest strengths, has allowed the field to assess quality within and between programs and has offered counseling psychology programs the opportunity to examine their research agendas (Spengler et al., 2005). Institutional assessments of productivity within a field are typically computed by assessing the individual productivity of institution members, most often through journal publications, and adding these together for an overall score. In contrast to this body of research, relatively fewer studies have addressed productivity at the individual level.

Any state involvement in the financing of higher education necessitates a method to channel support to higher education institutions. Budget allocation models are mechanisms for linking strategic plans with operational plans. In higher education, integrated planning draws together strategic planning, capital and operating budgeting, enrollment management, and human resource planning.

Many of the challenges with integrated planning involve data definitions and discrepancies. Integrated planning requires a budget allocation model that responds to changes in activity levels (for instance enrollments) within colleges, rewards revenue generation and cost containment, moves accountability and authority to those closest to the programs, supports long range planning consistent with priorities, and frees institutional leaders to focus on wider issues associated with resource generation and allocation (Leitzel, Corvey, & Hiley, 2004). According to Leitzel, Corvey, and Hiley (2004), there are several elements critical to success in strategic planning and developing a budget allocation model to support that plan. These elements are leadership, consensus about need for change, process design, patience and flexibility, values and vision, and communications strategy.

CHAPTER III. METHODS

Introduction

Fundamentals to consider in state financing of public higher education are general factors, operating budget process, and capital budget process. In general, there is no perfect system or process in state financing of public higher education, and institutional character dictates the financing or budgeting approach. Institutional character is defined, in part, by its culture, climate, history, size, and mission. Whether or not the institution has centralized or decentralized governance and administration, is public or private, and is affiliated or independent also defines institutional charter.

The processes and decisions of leaders, especially those in public institutions entrusted with public funds, should be very transparent to their stakeholders. To maintain their credibility, leaders entrusted with public funds need to ensure their decisions regarding those funds are ethical and moral. A steward of public funds cannot afford to have his or her credibility damaged or even appear to be damaged. Efficiency was the key word of the 1980s, quality was the touchstone of the 1990s, and quality control with accountability has become the leadership philosophy of the new millennium (Milliken & Colohan, 2004). The leaders, top administrators at public universities, are stewards of taxpayers' dollars. According to Peter Senge et al. (2000), one of the three primary tasks of leadership includes: leader as steward.

Professors at business schools know how to train people in accounting, finance, management, and marketing. However, with regard to educating students in ethical and moral

decision making, faculty at colleges and universities have failed (Boyer, 1986). This failure is evident in the frequent media reports concerning corruption in business, government, and colleges and universities.

Purpose and Design of the Study

To maintain credibility, leaders entrusted with public funds need to make sure their decisions regarding those funds are ethical and moral. The research investigating the relationships between needs assessment measures, productivity measures, and ethics in developing budget allocation models is lacking in academic institutions. The purpose of this study was to assess the importance of needs assessment measures, productivity measures, and ethics in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. This study focused on developing a budget allocation model to assist administrators in being able to make ethical and moral funding decisions at state colleges and universities. The items included in the survey for this study were developed using four categories: budget allocation preference items, needs assessment measures, productivity measures, and demographic items.

Research Questions

The following research questions guided this study:

1. What is the relationship between needs assessment measures in a budget allocation model?

2. What is the relationship between productivity measures in a budget allocation model?

3. What is the difference in the level of agreement between needs assessment measures and productivity measures in a budget allocation model?

Population and Sample

The population was chief financial officers who are responsible for budget allocations at four-year, public institutions in the Southern Regional Education Board (SREB). The Southern Regional Education Board was chosen as the population because it is a nonprofit, nonpartisan organization that works with 16 member states to improve public pre-K–12 and higher education. Founded by the region's governors and legislators in 1948, the SREB was America's first interstate compact for education. Today it is the only regional education compact that works directly with state leaders, schools, and educators to improve teaching, learning, and student achievement at every level of education. From Texas to Delaware, these efforts are paying off. When the SREB began, statewide prekindergarten was nonexistent. Few adults in the region had college degrees. Today, SREB's member states lead the nation in public prekindergarten enrollment. High school graduation rates have gone up in most SREB states over the last decade. About one in four adults in the region has a bachelor's degree, and the momentum continues to grow (SREB Fact Book on Higher Education, 2009).

Half of the nation's population growth from 2008 to 2018 is expected to be in the 16 SREB states — an increase of 13.1 million. More than ever, education pays. Adults with high school diplomas or GED credentials in 2007 earned 48 percent more than those with no high school attendance and 35 percent more than those who attended high school but did not earn diplomas or GED credentials. In 2008, the cost of one year of attendance at a four-year public college or university (tuition, required fees, room, and board) was 30 percent of annual income for middle-income households — 12 percentage points more than in 1988. For students in the lowest fifth of incomes, one year's costs were a staggering 131 percent of income — 56 percentage points greater than in 1988 (SREB Fact Book on Higher Education, 2009). Now

more than ever a budget allocation model that addresses needs assessment measures, productivity measures, and ethics is needed in the SREB states with the expected population growth, the expected increase in the cost of a four-year public education, and the expected decrease in funding.

The 16 member states of the Southern Regional Education Board are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. An initial request (email dated March 22, 2010) was sent asking permission from the provosts at the 16 SREB schools to administer a survey to their deans, directors, and department heads. The email, dated March 22, 2010, is in Appendix A. From the initial request: three provosts responded yes, five provosts responded no, and eight provosts did not respond. A follow up request (email dated April 1, 2010) was sent to the eight provosts that did not respond to the first request stating: "This is a follow up request to my email sent on March 22, 2010. Your positive consideration would be greatly appreciated." The follow up email (dated April 1, 2010) is in Appendix B. From the second request three provosts responded yes, one provost responded no, and four provosts did not respond. Four participating institutions are needed to validate the study; permission was received from six. Of these 16 member states, six universities agreed to participate: University of Virginia, University of Maryland, University of Mississippi, University of North Carolina, University of Oklahoma, and University of South Carolina.

Instrumentation

Overview

The purpose of the survey was to assess the importance of needs assessment measures and productivity measures in developing a comprehensive, objective budget allocation model.

The comprehensive, objective budget allocation model addressed budget allocation preference items, needs assessment measures, productivity measures, and demographic items. The statements and questions on the survey were developed using those four categories: budget allocation preference items, needs assessment items, productivity items, and demographic items.

Sections two and three on the survey addressed the three research questions. Sections one and four addressed descriptive statistics and demographic variables respectively.

The first section addressed to what extent chief financial officers disagree or agree with budget allocation preference items in a budget allocation model. The objective is to identify the top design based on their responses. Traditional procedures are conservative and inefficient (Chen, He, Fu, & Lee, 2008). The literature on budgeting within organizations is relatively limited (Pondy, 1970). "One of the central issues in budgeting research is the extent to which a political model accounts for observed outcomes in contrast to a rational or bureaucratic model, and the conditions under which the political model is more or less likely to hold" (Pfeffer & Moore, 1980, p. 637). Pfeffer and Salancik (1974) argued that organizational budgeting was a political process.

The second section addressed to what extent chief financial officers disagree or agree with needs assessment measures in a budget allocation model. Needs assessments can be useful for obtaining information about current conditions in a defined population, including problems or service needs and the resources and approaches being used to address them (de Palomo & Luna, 2000). To conduct a quality needs assessment, according to Kaufman and English (1979), first determine the current results, articulate the desired results, and the distance between results is the actual need. Once a need is identified, then a solution can be selected that is targeted to closing the gap.

The third section addressed to what extent chief financial officers disagree or agree with productivity measures in a budget allocation model. With students, parents, and government seeking proof of a return on their investment and efficient management of fiscal and human resources, it is essential to have access to appropriate and useful data when researching the operation of an institution and its faculty. To indicate the importance of productivity measures Congress required the National Center for Education Statistics (NCES) conduct a study of expenditures in higher education (Middaugh, Graham, & Shahid, 2003). In addition to the NCES study, the Delaware Study annually collects detailed information on faculty teaching loads, instructional costs, and externally funded scholarships, all at the academic discipline level of analysis.

The fourth section addressed demographic items designed to determine how certain demographic items affect the budget allocation model. The demographic questions were asked to determine what variables are important to each group of chief budget officers: provost, chief financial officer, dean, director, or department head. The demographic items addressed enrollment, state appropriations, tuition, contracts and grants, and the chief financial officer's roll at their universities.

The budget allocation preference items were developed to discover the chief budget officers' allocation preferences. They were asked to what extent they disagreed or agreed with each item related to budget allocation preferences. The needs assessment items were developed to determine how the needs assessment items affect the budget allocation model. The chief budget officers were asked to what extent they disagreed or agreed each variable to be important. The productivity items were developed to determine how productivity affects the budget allocation model. The budget officers were asked to what extent they disagreed or agreed each

variable to be important. The demographic questions were asked to determine their effect on developing a budget allocation model.

Survey Development and Survey Testing

The survey instrument was developed and tested with a test group and further tested by a four member q-sort panel. The survey development test group is in Appendix C. The four member q-sort panel is in Appendix D. The test group consisted of the following Auburn University employees: a Humana-Germany-Sherman Distinguished Professor in the Department of Educational Foundations, Leadership, and Technology, the Provost and Vice President of Academic Affairs, the Executive Vice President of Business and Finance, and the Budget Advisory Committee (BAC). The BAC consists of 26 members and is charged with developing recommendations for the President of Auburn University regarding the preparation of the annual budget for the University. The Humana-Germany-Sherman Distinguished Professor in the Department of Educational Foundations, Leadership, and Technology is an expert in survey instrument design. The Provost and Vice President of Academic Affairs, the Executive Vice President of Business and Finance, and the BAC are content experts on budget allocation decisions. The Provost and Vice President of Academic Affairs and the Executive Vice President of Business and Finance are the ultimate decision makers for budget allocations at Auburn University.

Survey development. The survey was developed with input from the test group at Auburn University. The test group considered 10 statements related to budget allocation preference items. The 10 preference items were reviewed/rewritten and shortened to five statements which are included in the survey. These five statements are in section I on the survey. The test group considered 10 statements related to needs assessment items. The 10 needs

assessment items were reviewed/rewritten and shortened to five statements which are included in the survey. These five statements are in section II on the survey. The test group considered 10 statements related to productivity measure items. The 10 productivity measure items were reviewed/rewritten and shortened to five statements which are included in the survey. These five statements are in section III on the survey. The test group considered 10 questions related to demographics. The ten demographics items were reviewed/rewritten and shortened to five questions that are included in the survey. These five statements are in section IV on the survey.

Survey testing. A q-sort technique was used as a further test of the 40 original proposed questions on the survey instrument. When using the technique: "An individual is given a set of items or statements, usually on cards, and asked to place them into specified categories so that each category contains some minimum of cards" (Gay, 1980, p. 121).

The four q-sort panel members identified in Appendix D were given an instruction sheet, a set of three specified categories, and a set of corresponding statements. The instruction sheet is in Appendix E. The three specified categories and set of corresponding statements are in Appendix F. The three specified categories were: items related to budget allocation preferences, items related to need in a budget allocation model, and items related to productivity in a budget allocation model. The panel members were then asked to place the statements within the appropriate specified category. Upon completion, they were asked to array the corresponding statements from highest to lowest. The resulting specified categories and the corresponding statements were reviewed for agreement. Revisions were made, as required, and the process repeated until 90% or higher agreement was reached among the panel members.

The final survey design was developed using SurveyMonkey, an online survey development tool. The final survey the budget officers were asked to complete was made

available via a link on the Budget Allocation Model Survey email. The survey instrument is in Appendix G. Data was collected and stored in SurveyMonkey. According to SurveyMonkey's privacy policy, the data collected was kept private and confidential. The data collected in SurveyMonkey was copied into SPSS, "the most powerful and easiest-to-use data analysis package available (Green & Salkind, 2005).

Validity

Survey instrument validity was a key issue in this study. According to Borg and Gall (1989), content validity is defined as "the degree to which the sample of test items represents the content that the test is designed to measure" (p. 250). Validity can be defined as the extent to which the research instrument measures what it is supposed to measure. The instrument should appear valid to the respondents and yield information that reflects the attribute, trait, attitude, or opinion that is being measured. The survey instrument in this study has content validity because the items on it reflect the content being measured: budget allocation preferences, needs assessment measures, and productivity measures in a budget allocation model. This instrument has face validity because all items were reviewed by a test group who are content experts in budget allocation decisions and q-sort panel members. The test group and panel members generally felt that the survey measured what it was supposed to measure. The consensus acceptance of the survey instrument constituted the degree of validity.

Data Collection and Analysis Procedures

Data Collection

Once the Institutional Review Board at Auburn University approved this research protocol, an email was sent on September 20, 2010 to 673 email addresses of the provosts, chief financial officers, deans, directors, and department heads at the six participating SREB

institutions. The email, dated September 20, 2010 is in Appendix H. A follow-up email reminder was sent on September 23, 2010. This email, dated September 23, 2010, is in Appendix I. The email addresses were obtained directly from the institutions' web sites. Since the email addresses were taken directly from the web sites of the participating institutions, the email addresses were assumed to be valid. The email contained a cover letter and information letter inviting the recipients to participate in the study by completing a survey. There was a link in the email on the cover letter directing the participants to the survey.

Thirty-six of the 673 email requests were answered completely. The response rate from the survey instrument was 5%. Due to this response rate, the results of the analysis are for descriptive purposes only.

Analysis Procedures

The 15 statements and five questions on the survey instrument were analyzed using descriptive statistics. The purpose of descriptive statistics is to describe a variable or variables (Ross & Shannon, 2008). Descriptive statistics is used only to identify studies describing existing characteristics that are not case studies, developmental studies, or observational studies (Hsu, 2005). The first section on the survey addressing to what extent chief financial officers disagree or agree with budget allocation preference items in a budget allocation model was analyzed using descriptive statistics. The second section on the survey addressing to what extent chief financial officers disagree or agree with needs assessment measures in a budget allocation model was analyzed using descriptive statistics. The third section on the survey addressing to what extent chief financial officers disagree or agree with productivity measures in a budget allocation model was analyzed using descriptive statistics. The fourth section on the survey

addressing demographic items designed to determine how certain demographic items affect the budget allocation model was analyzed using descriptive statistics.

The first research question was: What is the relationship between needs assessment measures in a budget allocation model? The second section on the survey addressed this research question by determining to what extent chief financial officers disagree or agree with needs assessment measures in a budget allocation model. The answers to these statements were analyzed using repeated measures with five levels. The five levels were: Funds Requested are for One Time Funds, Funds Requested are for Continuing Funds, Reserve Amount to the Base Amount (as a percent), Summer Budget Distribution, and Summer Budget Distribution per Student. The independent variable was needs assessment measures. The dependent variable was the level of agreement between the independent variables.

The second research question was: What is the relationship between productivity measures in a budget allocation model? The third section on the survey addressed this research question by determining to what extent chief financial officers disagree or agree with productivity measures in a budget allocation model. The answers to these statements were analyzed using repeated measures with five levels. The five levels were: Full Time Equivalent Student Units, Number of Degrees Granted, Student Credit Hours, Full Time Equivalent Faculty Units, and Cost of Instruction. The independent variable was productivity measures. The dependent variable was the level of agreement between the independent variables.

The third research question was: What is the difference in the level of agreement between needs assessment measures and productivity measures in a budget allocation model? This research question was analyzed using repeated measures with two levels. The two levels were needs assessment measures and productivity measures. The independent variables were needs

assessment measures and productivity measures. The dependent variable was the level of agreement between the independent variables.

Summary

The survey instrument, validated by a test group and panel members, produced a means to gather data, which when analyzed, provided insight related to the importance of needs assessment measures, productivity measures, and ethics in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. This study focused on developing a budget allocation model to assist administrators in being able to make ethical and moral funding decisions at state colleges and universities. Further, differences in demographics rendered additional clarification of how these demographics affect the development of a budget allocation model. The results of this study established a basis for expanded application of the survey instrument and provided a basis for further research and study.

CHAPTER IV. FINDINGS

Purpose and Design of the Study

To maintain credibility, leaders entrusted with public funds need to make sure their decisions regarding those funds are ethical and moral. The research investigating the relationships between needs assessment measures, productivity measures, and ethics in developing budget allocation models is lacking in academic institutions. The purpose of this study was to assess the importance of needs assessment measures, productivity measures, and ethics in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. This study focused on developing a budget allocation model to assist administrators in being able to make ethical and moral funding decisions at state colleges and universities. The items included in the survey for this study were developed using four categories: budget allocation preference items, needs assessment measures, productivity measures, and demographic items.

Research Questions

The following research questions guided this study:

1. What is the relationship between needs assessment measures in a budget allocation model?

2. What is the relationship between productivity measures in a budget allocation model?

3. What is the difference in the level of agreement between needs assessment measures and productivity measures in a budget allocation model?

The findings of this study representing the three major study components are reported in the following sequence:

1. Demographic Characteristics
2. Frequency Distributions of the Data
3. Results:
    a. Research Question 1 — Needs Assessment Measures
    b. Research Question 2 — Productivity Measures
    c. Research Question 3 — Needs Assessment Measures and Productivity Measures

Demographic Characteristics

The Southern Regional Education Board was chosen as the population because it is a nonprofit, nonpartisan organization that works with 16 member states to improve public pre-K–12 and higher education. Founded by the region's governors and legislators in 1948, the SREB was America's first interstate compact for education. Today it is the only regional education compact that works directly with state leaders, schools, and educators to improve teaching, learning, and student achievement at every level of education. From Texas to Delaware, these efforts are paying off. When the SREB began, statewide prekindergarten was nonexistent. Few adults in the region had college degrees. Today, SREB's member states lead the nation in public prekindergarten enrollment. High school graduation rates have gone up in most SREB states over the last decade. About one in four adults in the region has a bachelor's degree, and the momentum continues to grow (SREB Fact Book on Higher Education, 2009).

The population was chief financial officers who are responsible for budget allocations at four year, public institutions in the Southern Regional Education Board (SREB). For this study, a chief financial officer is defined as a provost, vice president of business and finance, dean, director, or department head or chair. The sample was the chief financial officers at the six SREB institutions that choose to participate in the study. Thirty six of the 673 email requests were answered, n = 36. The response rate from the survey instrument was 5%. Due to this response rate, the results of the analysis are for descriptive purposes only.

The fourth section on the survey posed questions to the survey participants asking for some demographic information. The demographic information questions were: what is the enrollment in your academic unit, what percent of your academic unit's budget is from state appropriations, what percent of your academic unit's budget is from tuition, what percent of your academic unit's budget is from contracts/grants, and what is your role at your university. These items were analyzed using descriptive statistics. The frequency distribution of this data is shown in Table 1.

Table 1

Frequency Distribution of Demographic Questions

	Less than 500	500–999	1,000–1,499	1,500–1,999	2,000 or More	Missing Data
What is the enrollment in your academic unit?	12 (33.3%)	5 (13.9%)	2 (5.6%)	2 (5.6%)	11 (30.6%)	4 (11.1%)
		Less than 25%	25%–49%	50%–74%	75% or More	Missing Data
What percent of your academic unit's budget is from state appropriations?		24 (66.7%)	5 (13.9%)	1 (2.8%)	2 (5.6%)	4 (11.1%)
What percent of your academic unit's budget is from tuition?		10 (27.8%)	12 (33.3%)	4 (11.1%)	6 (16.7%)	4 (11.1%)
What percent of your academic unit's budget is from contracts/grants?		16 (44.4%)	7 (19.4%)	4 (11.1%)	5 (13.9%)	4 (11.1%)
	Chief Financial Officer	Provost	Dean	Department Head/Chair	Director	Missing Data
What is your role at your university?	0 (0%)	1 (2.8%)	4 (11.1%)	19 (52.8%)	8 (22.2%)	4 (11.1%)

Frequency Distributions of the Data

The first section on the survey addressed to what extent chief financial officers disagreed or agreed with items related to budget allocation preferences in a budget allocation model. The budget allocation preference items were: ethics, needs assessment, productivity, objectivity, and subjectivity. These items were analyzed using descriptive statistics. The frequency distribution of this data is shown in Table 2.

Table 2

Frequency Distribution of Budget Allocation Preference Items

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Ethics	0 (0%)	0 (0%)	3 (8.3%)	11 (30.6%)	22 (61.1%)
Needs Assessment	0 (0%)	0 (0%)	1 (2.8%)	17 (47.2%)	18 (50.0%)
Productivity	0 (0%)	1 (2.8%)	2 (5.6%)	16 (44.4%)	17 (47.2%)
Objectivity	0 (0%)	0 (0%)	2 (5.6%)	17 (47.2%)	17 (47.2%)
Subjectivity	0 (0%)	8 (22.2%)	12 (33.3%)	13 (36.1%)	3 (8.3%)

The second section on the survey addressed to what extent chief financial officers disagreed or agreed with items related to needs assessment in a budget allocation model. The needs assessment items were: Funds Requested are for One Time Funds, Funds Requested are for Continuing Funds, Reserve Amount to the Base Amount (as a percent), Summer Budget Distribution, and Summer Budget Distribution per Student. These items were analyzed using descriptive statistics. The frequency distribution of this data is shown in Table 3.

Table 3

Frequency Distribution of Need Assessment Items

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Funds Requested are for One Time Funds	1 (2.8%)	2 (5.6%)	12 (33.3%)	14 (38.9%)	7 (19.4%)
Funds Requested are for Continuing Funds	0 (0%)	1 (2.8%)	8 (22.2%)	12 (33.3%)	15 (41.7%)
Reserve Amount to the Base Amount (as a percent)	0 (0%)	4 (11.1%)	9 (25.0%)	15 (41.7%)	8 (22.2%)
Summer Budget Distribution	1 (2.8%)	1 (2.8%)	16 (44.4%)	11 (30.6%)	7 (19.4%)
Summer Budget Distribution per Student	1 (2.8%)	5 (13.9%)	20 (55.6%)	7 (19.4%)	3 (8.3%)

The third section on the survey addressed to what extent chief financial officers disagreed or agreed with items related to productivity in a budget allocation model. The productivity items were: Full Time Equivalent Student Units, Number of Degrees Granted, Student Credit Hours, Full Time Equivalent Faculty Units, and Cost of Instruction. These items were analyzed using descriptive statistics. The frequency distribution of this data is shown in Table 4.

Table 4

Frequency Distribution of Productivity Items

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Full Time Equivalent Student Units	0 (0%)	1 (2.8%)	5 (13.9%)	15 (41.7%)	14 (38.9%)
Number of Degrees Granted	0 (0%)	3 (8.3%)	6 (16.7%)	16 (44.4%)	10 (27.8%)
Student Credit Hours	0 (0%)	1 (2.8%)	4 (11.1%)	15 (41.7%)	15 (41.7%)
Full Time Equivalent Faculty Units	0 (0%)	1 (2.8%)	5 (13.9%)	13 (36.1%)	16 (44.4%)
Cost of Instruction	0 (0%)	1 (2.8%)	2 (5.6%)	21 (58.3%)	11 (30.6%)

Results

Research Question 1 — Needs Assessment Measures

Question 1: What is the relationship between needs assessment measures in a budget allocation model? The results for research question 1 are presented in this section. The means and standard deviations for needs assessment measures are displayed in Table 5.

Table 5

Means and Standard Deviations for Need Assessment Measures

	Means	Standard Deviations
Funds Requested are for One Time Funds	3.67	.956
Funds Requested are for Continuing Funds	4.14	.867
Reserve Amount to the Base Amount (as a percent)	3.75	.937
Summer Budget Distribution	3.61	.934
Summer Budget Distribution per Student	3.17	.878

Data were analyzed using one-way, repeated measures analysis of variance (ANOVA) and eta-squared effect size. Mauchly's test of sphericity was significant (Mauchly's $W = 0.471$, $df = 9$, $p < 0.01$) thus the more conservative Greenhouse-Geisser test was used for the analyses. The repeated measure results yielded a statistical significance ($F(2.897, 101.384) = 6.049$, $p = .001$), indicating that the agreement level toward the needs assessment measures in a budget allocation model were different. This effect size is large (partial eta-squared = 0.147).

Post-hoc comparisons were conducted as needed in the form of pair-wise contrasts between the degree to which chief financial officers disagreed or agreed with items related to needs assessment items in a budget allocation model. The Summer Budget Distribution is not as important as all the other needs assessment items ($p = .006$). Funds Requested are for Continuing Funds is more important than Funds Requested are for One Time Funds and Summer Budget Distribution ($p = .005$). The pairwise comparisons are presented in Table 6 and Figure 1.

Table 6

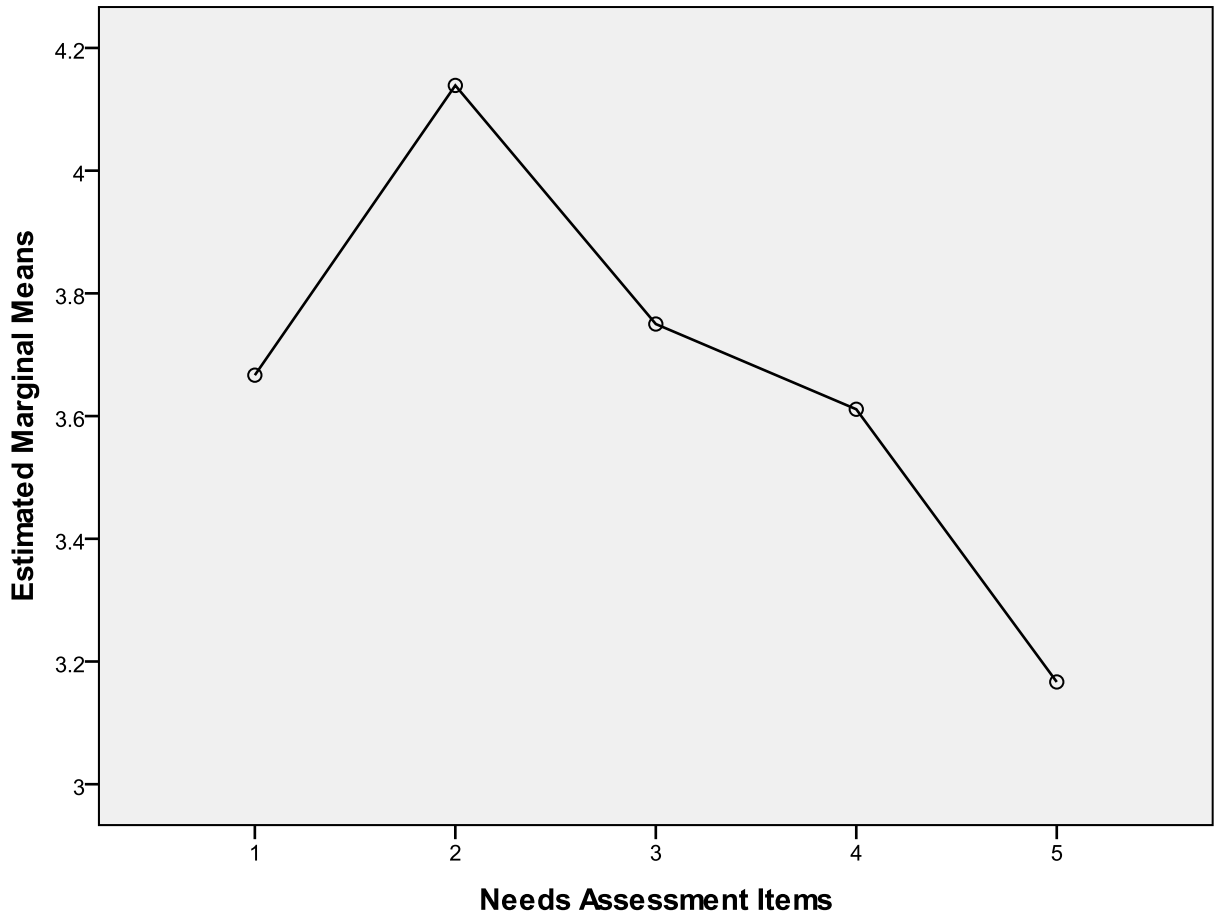
Pairwise Comparisons of Needs Assessment Measures

		Mean Difference	*p*-value
Funds Requested are for One Time Funds	Funds Requested are for Continuing Funds	-.472	.005**
	Reserve Amount to the Base Amount (Percent)	-.083	.731
	Summer Budget Distribution	.056	.797
	Summer Budget Distribution per Student	.500	.045*
Funds Requested are for Continuing Funds	Reserve Amount to the Base Amount (Percent)	.389	.104
	Summer Budget Distribution	.528	.004**
	Summer Budget Distribution per Student	.972	.000***
Reserve Amount to the Base Amount (Percent)	Summer Budget Distribution	.139	.483
	Summer Budget Distribution per Student	.583	.002**
Summer Budget Distribution	Summer Budget Distribution per Student	.444	.006**

$p < 0.05$*

$p < 0.01$**

$p < 0.001$***



Needs Assessment Item 1 – Funds Requested are for One Time Funds

Needs Assessment Item 2 – Funds Requested are for Continuing Funds

Needs Assessment Item 3 – Reserve Amount to the Base Amount (as a percent)

Needs Assessment Item 4 – Summer Budget Distribution

Needs Assessment Item 5 – Summer Budget Distribution per Student

Figure 1. Estimated Marginal Means for the Five Needs Assessment Items

Research Question 2 — Productivity Measures

Question 2: What is the relationship between productivity measures in a budget allocation model? The results for research question 2 are presented in this section. The means and standard deviations for needs assessment measures are displayed in Table 7.

Table 7

Means and Standard Deviations for Productivity Measures

	Means	Standard Deviations
Full Time Equivalent Student Units	4.20	.797
Number of Degrees Granted	3.94	.906
Student Credit Hours	4.26	.780
Full Time Equivalent Faculty Units	4.26	.817
Cost of Instruction	4.20	.677

Data were analyzed using one-way, repeated measures analysis of variance (ANOVA) and eta-squared effect size. Mauchly's test of sphericity was significant (Mauchly's $W = 0.269$, $df = 9$, $p < 0.01$) thus the more conservative Greenhouse-Geisser test was used for the analyses. The repeated measure results yielded a statistical significance ($F(2.502, 85.067) = 1.714$, $p = .001$), indicating that the agreement level toward the productivity measures in a budget allocation model were different. This effect size is medium (partial eta-squared = 0.048).

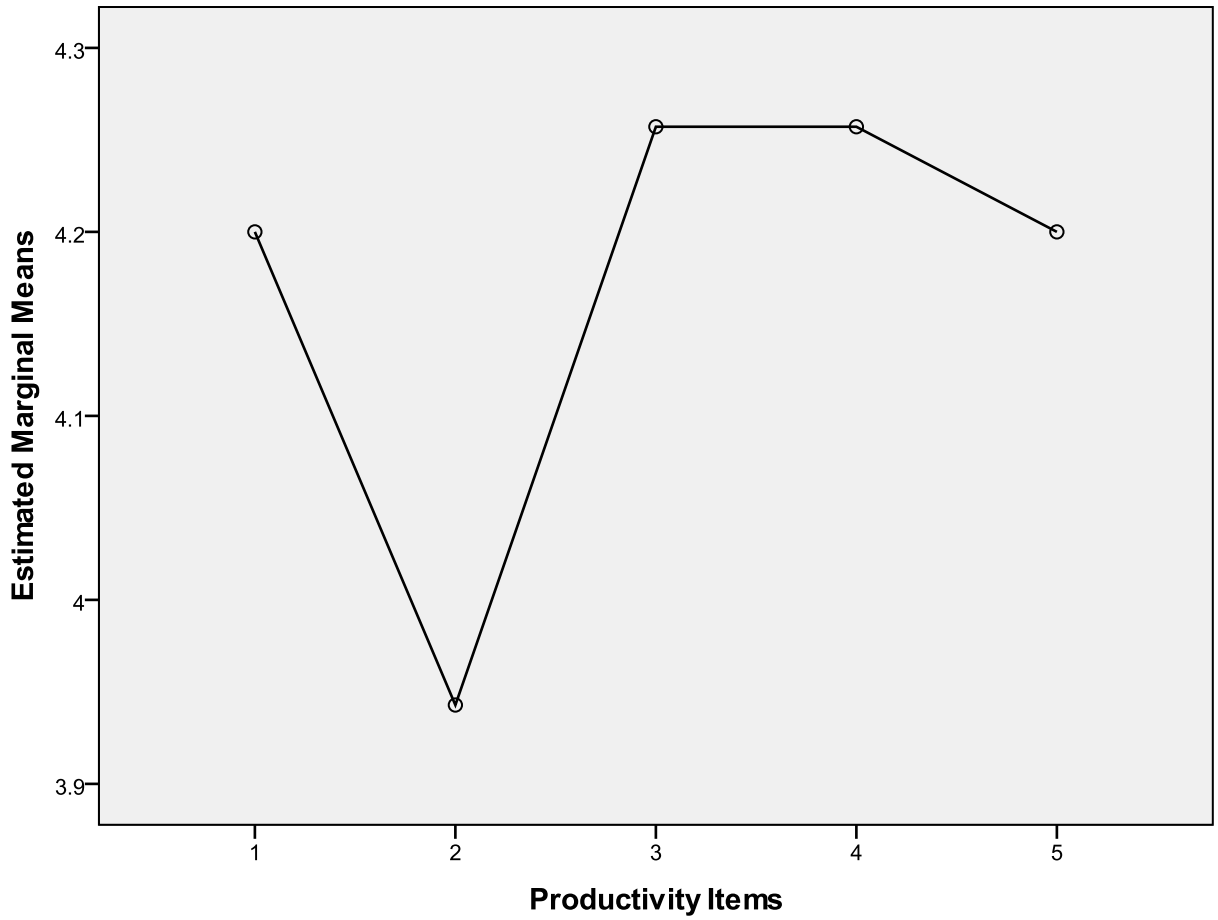
Post-hoc comparisons were conducted as needed in the form of pair-wise contrasts between the degree to which chief financial officers disagreed or agreed with items related to productivity items in a budget allocation model. The results indicated that Number of Degrees Granted is not as important as Full Time Equivalent Student Units (p = 0.048), or Student Credit Hours (p = 0.014). The pairwise comparisons are presented in Table 8 and Figure 2.

Table 8

Pairwise Comparisons of Productivity Measures

		Mean Difference	*p*-value
Full Time Equivalent student units	Number of Degrees Granted	.257	.048*
	Student Credit Hours	-.057	.422
	Full Time Equivalent Faculty units	-.057	.757
	Cost of Instruction	.000	1.000
Number of Degrees Granted	Student Credit Hours	-.314	.014*
	Full Time Equivalent Faculty units	-.314	.086
	Cost of Instruction	-.257	.059
Student Credit Hours	Full Time Equivalent Faculty units	.000	1.000
	Cost of Instruction	.057	.661
Full Time Equivalent faculty units	Cost of Instruction	.057	.644

$p < 0.05$*



Productivity Item 1 – Full Time Equivalent Student Units

Productivity Item 2 – Number of Degrees Granted

Productivity Item 3 – Student Credit Hours

Productivity Item 4 – Full Time Equivalent Faculty Units

Productivity Item 5 – Cost of Instruction

Figure 2. Estimated Marginal Means for the Five Productivity Items

Research Question 3 — Needs Assessment Measures and Productivity Measures

Question 3: What is the difference in the level of agreement between needs assessment measures and productivity measures in a budget allocation model? The results for research

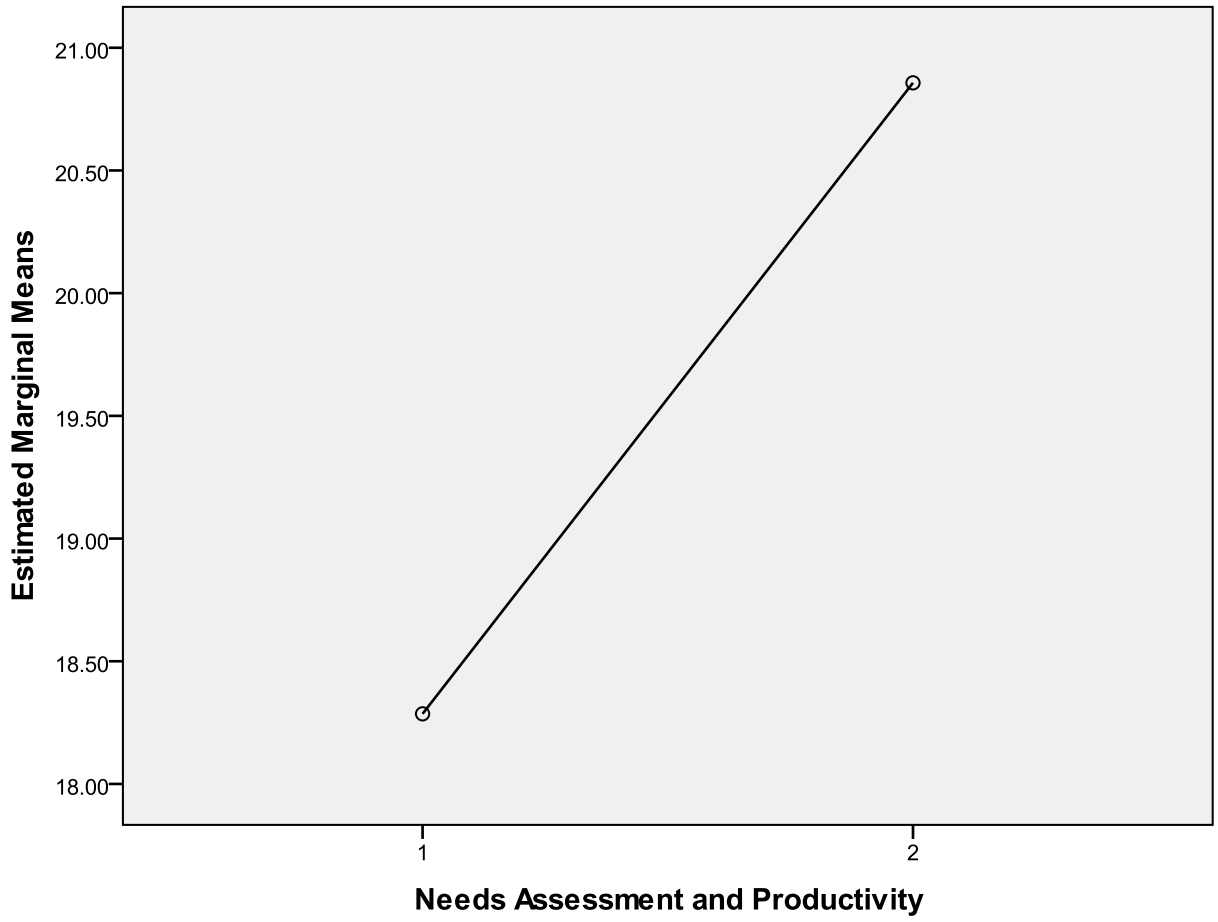
question 3 are presented in this section. The means and standard deviations for needs assessment measures and productivity measures are displayed in Table 9.

Table 9

Means and Standard Deviations for Needs Assessment Measures and Productivity Measures

	Means	Standard Deviations
Needs assessment measures	18.2857	2.58470
Productivity measures	20.8571	2.99158

Data were analyzed using one-way, repeated measures analysis of variance (ANOVA) and eta-squared effect size. The repeated measure results yielded a statistical significance ($F(1, 34) = 115.174$, $p < 0.001$), indicating that the agreement level toward the needs assessment measures and productivity measures in a budget allocation model were different. This effect size is large (partial eta-squared = 0.309). The estimated marginal means for needs assessment measures and productivity measures are presented in Figure 3.



Item 1 – Needs Assessment Measures

Item 2 – Productivity Measures

Figure 3. Estimated Marginal Means for Needs Assessment Measures and Productivity Measures

Summary

This study was specifically designed to find the difference in the level of agreement in needs assessment measures, productivity measures, and between needs assessment measures and productivity measures in a budget allocation model. The repeated measure results yielded a statistical significance, indicating that the agreement level toward the needs assessment measures in a budget allocation model were different. This effect size is large. The Summer Budget

Distribution is not as important as all the other needs assessment items. Funds Requested are for Continuing Funds is more important than Funds Requested are for One Time Funds and Summer Budget Distribution.

The repeated measure results yielded a statistical significance, indicating that the agreement level toward the productivity measures in a budget allocation model were different. This effect size is medium. The results indicated that Number of Degrees Granted is not as important as Full Time Equivalent Student Units or Student Credit Hours.

The repeated measure results yielded a statistical significance, indicating that the agreement level toward the needs assessment measures and productivity measures in a budget allocation model were different. This effect size is large. No other main effects or interaction effects were found.

CHAPTER V. SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Purpose and Design of the Study

To maintain credibility, leaders entrusted with public funds need to make sure their decisions regarding those funds are ethical and moral. The research investigating the relationships between needs assessment measures, productivity measures, and ethics in developing budget allocation models is lacking in academic institutions. The purpose of this study was to assess the importance of needs assessment measures, productivity measures, and ethics in developing a budget allocation model for Southern Regional Education Board (SREB) institutions. This study focused on developing a budget allocation model to assist administrators in being able to make ethical and moral funding decisions at state colleges and universities. The items included in the survey for this study were developed using four categories: budget allocation preference items, needs assessment measures, productivity measures, and demographic items. This chapter includes a summary, conclusions, implications, and recommendations.

Research Questions

The following research questions guided this study:

1. What is the relationship between needs assessment measures in a budget allocation model?

2. What is the relationship between productivity measures in a budget allocation model?

3. What is the difference in the level of agreement between needs assessment measures and productivity measures in a budget allocation model?

Summary

This study was specifically designed to find the difference in the level of agreement in needs assessment measures, productivity measures, and between needs assessment measures and productivity measures in a budget allocation model. The first major component of this study was to find the difference in the level of agreement in needs assessment measures in a budget allocation model. The repeated measure results yielded a statistical significance, indicating that the agreement level toward the needs assessment measures in a budget allocation model were different. This effect size is large. The Summer Budget Distribution is not as important as all the other needs assessment items. Funds Requested are for Continuing Funds is more important than Funds Requested are for One Time Funds and Summer Budget Distribution.

The second major component of this study was to find the difference in the level of agreement in productivity measures in a budget allocation model. The repeated measure results yielded a statistical significance, indicating that the agreement level toward the productivity measures in a budget allocation model were different. This effect size is medium. The results indicated that Number of Degrees Granted is not as important as Full Time Equivalent Student Units or Student Credit Hours.

The third major component of this study was to find the difference between needs assessment measures and productivity measures in a budget allocation model. The repeated measure results yielded a statistical significance, indicating that the agreement level toward the

needs assessment measures and productivity measures in a budget allocation model were different. This effect size is large. The results indicated that needs assessment measures are not as important as productivity measures. No other main effects or interaction effects were found.

Conclusions

In general, there is no perfect system or process in state financing of public higher education and institutional character dictates the financing or budgeting approach. Institutional character is defined, in part, by its culture, climate, history, size, and mission. Whether or not the institution has centralized or decentralized governance and administration, is public or private, and is affiliated or independent also defines institutional character.

The process of decision making a leader chooses, especially those in public institutions entrusted with public funds, should be very transparent to their stakeholders. Leaders entrusted with public funds need to ensure their decisions regarding those funds are ethical and moral. A steward of public funds cannot afford to have his or her credibility damaged or even appear to be damaged. Accountability has become the leadership philosophy of the new millennium. The leaders, top administrators at public universities, are stewards of taxpayers' dollars. A comprehensive, objective budget allocation model addressing needs assessment measures, productivity measures, and ethics may be a method by which to ethically and morally allocate public resources in a public institution.

The first major component of this study was to find the difference in the level of agreement in needs assessment measures in a budget allocation model. The repeated measure results yielded that the agreement level toward the needs assessment measures in a budget allocation model were different. Adding the percents for Agree and Strongly Agree for each needs assessment measure from frequency distribution Table 3 resulted in ranking the five needs

assessment measures in the following order (five being the most important and one being the least important): 5 = Funds Requested are for Continuing Funds (75%), 4 = Reserve Amount to the Base Amount (as a percent) (63.9%), 3 = Funds Requested are for One Time Funds (58.3%), 2 = Summer Budget Distribution (50%), and 1 = Summer Budget Distribution per Student (27.7%). An example of a budget allocation model containing needs assessment measures shown with the rankings from this study is in Table 10.

Table 10

Budget Allocation Model with Needs Assessment Measures

Academic Unit	(3rd Priority) One Time Amount Requested	(1st Priority) Continuing Amount Requested	Current Year Base Budget	Current Year # of U & G Students	Budget/ Students	Low to High Budget/ Student Rank
AG			8,944,686	1,103	8,109	10
BUS	500,000	750,000	14,162,862	4,081	3,470	2
CADC			6,067,512	1,382	4,390	4
COSAM	1,000,000	2,000,000	22,089,652	2,772	7,969	9
ED	750,000	1,500,000	10,422,012	2,354	4,427	5
ENG			25,534,623	3,466	7,367	7
FOR	100,000	500,000	2,846,312	373	7,631	8
HUMSCI	750,000	500,000	4,930,309	1,197	4,119	3
LA			27,676,283	4,961	5,579	6
NURS	232,307	1,433,981	1,448,320	540	2,682	1
PHARM			5,216,518	518	10,070	11
VETMED			18,586,121	427	43,527	12
	3,332,307	6,683,981				

Table 10 (continued)

Academic Unit	Unrestricted Prior Year Reserves	Unrestricted Current Year Reserves	Current Year Reserves/Base Budget	(3rd Priority) Current Year Reserves/ Students	Low to High Reserves/ Student Rank
AG	3,268,466	3,830,692	0.43	3,473	9
BUS	2,821,601	2,766,910	0.20	678	2
CADC	1,252,145	955,677	0.16	692	3
COSAM	5,113,084	4,160,053	0.19	1,501	8
ED	2,286,798	2,555,550	0.25	1,086	5
ENG	4,060,762	4,623,095	0.18	1,334	6
FOR	1,905,229	1,875,446	0.66	5,028	10
HUMSCI	1,417,056	1,275,990	0.26	1,066	4
LA	3,465,159	3,234,579	0.12	652	1
NURS	766,236	731,178	0.50	1,354	7
PHARM	3,384,852	5,424,209	1.04	10,471	12
VETMED	1,081,782	3,090,366	0.17	7,237	11

Table 10 (continued)

Academic Unit	(4th Priority) Summer Budget Distribution	(5th Priority) Summer Budget Distribution Per Student	Low to High Summer $/ Student Rank	Composite Rank of 3 Scores	Overall Need Ranking	One Time Funded Requests	Continuing Funded Requests
AG	401,237	364	5	8	7		
BUS	722,065	177	2	2	1	158,681	85,794
CADC	576,342	417	9	5	4		
COSAM	1,144,179	413	8	8	7	1,110,769	600,560
ED	830,956	353	4	5	4	634,725	343,177
ENG	1,412,301	407	7	7	6		
FOR	0	0		6	5	793,406	428,972
HUMSCI	351,020	293	3	3	2	317,363	171,589
LA	1,874,559	378	6	4	3		
NURS	24,621	46	1	3	2	317,363	171,589
PHARM	270,858	523	10	11	8		
VETMED	0	0		8	7		
					21*	3,332,307	1,801,681

* Overall Need Ranking of those academic units requesting funds

Budget Requests:

One Time	$ 3,332,307
Continuing – Permanent	6,683,981
	$ 10,016,288

Dollars Available in the Provost Office to Fund Requests:

One Time – Budget Reserve	$ 4,883,919
Continuing – Permanent	1,801,681
	$ 6,685,600

The second major component of this study was to find the difference in the level of agreement in productivity measures in a budget allocation model. The repeated measure results yielded that the agreement level toward the productivity measures in a budget allocation model were different. Adding the percents for Agree and Strongly Agree for each productivity measure from frequency distribution Table 4 resulted in ranking the five productivity measures in the following order (five being the most important and one being the least important): 5 = Cost of Instruction (88.9%), 4 = Student Credit Hours (83.4%), 3 = Full Time Equivalent Student Units (80.6%), 2 = Full Time Equivalent Faculty Units (80.5%), and 1 = Number of Degrees Granted (72.2%). Four of the five productivity measures from this study are shown in Table 11 and Table 12. Tables 11 and 12 compare productivity measures from XYZ University with national norms from a Delaware National Study. This comparison, along with the rankings above, can be combined to produce a budget allocation model.

Table 11

Budget Allocation Model with Productivity Measures—Instructional Unit Costs, Research and Public Service Expenditures, 2007–08

Discipline	XYZ Code(s)	CIP	Direct Instructional Expenditures					
			Per SCH ($)			Per FTE Student ($)		
			XYZ	Norm	XYZ/Norm	XYZ	Norm	XYZ/Norm
College of Education								
Educational Administration and Supervision	EFLT	13.04	**$ 260**	$ 409	64%	**$ 5,769**	$ 7,687	75%
Special Education and Teaching	RSED	13.10	**$ 545**	$ 335	163%	**$ 12,143**	$ 7,999	152%
Student Counseling and Personnel Services	COUN	13.11	**$ 235**	$ 349	67%	**$ 5,231**	$ 7,372	71%
Teacher Education and Professional Development, Specific Level	CTCH	13.12	**$ 258**	$ 324	80%	**$ 6,535**	$ 8,266	79%
Teacher Education and Professional Development, Specific Subject	KINE	13.13	**$ 92**	$ 235	39%	**$ 2,628**	$ 6,128	43%

Table 11 (continued)

Discipline	XYZ Code(s)	CIP	Expenditures per FTE Tenured & Tenure-Track Faculty Member ($)								
			Research			Public Service			Research + Public Service		
			XYZ	Norm	XYZ/Norm	XYZ	Norm	XYZ/Norm	XYZ	Norm	XYZ/Norm
College of Education											
Educational Administration and Supervision	EFLT	13.04	**$ 628**	$ 6,197	10%	**$ 29,977**	$ 7,360	407%	**$ 30,606**	$ 16,339	187%
Special Education and Teaching	RSED	13.10	**$ 734**	$ 30,223	2%	**$ 21,145**	$ 6,967	304%	**$ 21,878**	$ 27,844	79%
Student Counseling and Personnel Services	COUN	13.11	**$ 2,361**	$ 4,231	56%	**$ 7,070**	$ 2,124	333%	**$ 9,431**	$ 4,514	209%
Teacher Education and Professional Development, Specific Level	CTCH	13.12	**$ 2,335**	$10,293	23%	**$166,036**	$ 7,918	2097%	**$ 168,371**	$ 23,653	712%
Teacher Education and Professional Development, Specific Subject	KINE	13.13	**$ 9,141**	$11,615	79%	**$ 11,708**	$ 11,261	104%	**$ 20,850**	$ 26,993	77%

Table 12

Budget Allocation Model with Productivity Measures—Credit Hours, Course Sections, and FTE Students Taught by All Faculty Types, Fall 2007

Unit Identification			***Student Credit-Hours and Organized Course Sections (excluding labs) per FTE Faculty Member (all types of faculty included)***							
			UNDERGRADUATE				***GRADUATE***			
Discipline	**XYZ Code(s)**	**CIP**	**Credit Hrs/ FTE Faculty**		**Course Sections/ FTE Faculty**		**Credit Hrs/ FTE Faculty**		**Course Sections/ FTE Faculty**	
			XYZ	**Norm**	**XYZ**	**Norm**	**XYZ**	**Norm**	**XYZ**	**Norm**
College of Education										
Educational Administration and Supervision	EFLT	13.04	**63**	32	**0.9**	0.4	**46**	91	**1.0**	1.8
Special Education and Teaching	RSED	13.10	**69**	91	**1.0**	1.0	**51**	51	**1.0**	1.2
Student Counseling and Personnel Services	COUN	13.11	**73**	67	**1.4**	1.0	**37**	74	**1.1**	1.7
Teacher Education and Professional Development, Specific Level	CTCH	13.12	**96**	120	**1.3**	1.6	**19**	30	**0.6**	0.8
Teacher Education and Professional Development, Specific Subject	KINE	13.13	**215**	161	**3.2**	2.4	**15**	28	**0.4**	0.6

Table 12 (continued)

Unit Identification			*Student Credit-Hours and Organized Course Sections (excluding labs) per FTE Faculty Member (all types of faculty included)* *TOTAL*								
Discipline	**XYZ Code(s)**	**CIP**	**Credit Hrs/FTE Faculty**		**Course Sections/FTE Faculty**				**FTE Students per FTE Faculty**		
					(excluding labs)		**(including labs)**				
			XYZ	**Norm**	**XYZ**	**Norm**	**XYZ**	**Norm**	**XYZ**	**Norm**	**XYZ/Norm**
College of Education											
Educational Administration and Supervision	EFLT	13.04	**108**	120	**1.9**	2.2	**1.9**	2.2	**9.2**	12.2	75%
Special Education and Teaching	RSED	13.10	**120**	137	**2.0**	2.3	**2.0**	2.4	**10.3**	11.7	88%
Student Counseling and Personnel Services	COUN	13.11	**109**	131	**2.5**	2.9	**2.5**	3.0	**8.9**	12.0	74%
Teacher Education and Professional Development, Specific Level	CTCH	13.12	**115**	154	**1.9**	2.3	**1.9**	2.5	**8.5**	11.7	73%
Teacher Education and Professional Development, Specific Subject	KINE	13.13	**230**	192	**3.6**	3.3	**3.6**	3.8	**16.0**	14.2	113%

The third major component of this study was to find the difference between needs assessment measures and productivity measures in a budget allocation model. The repeated measure results yielded that the agreement level toward the needs assessment measures and productivity measures in a budget allocation model were different. The results indicated that needs assessment measures are not as important as productivity measures.

Implications

The major implications from this study were that there are differences in the level of agreement in needs assessment measures, productivity measures, and between needs assessment measures and productivity measures. Under needs assessment measures, Summer Budget Distribution is not as important as all the other needs assessment items. Funds Requested are for Continuing Funds is more important than Funds Requested are for One Time Funds and Summer Budget Distribution. Under productivity measures, Number of Degrees Granted is not as important as Full Time Equivalent Student Units or Student Credit Hours. Between needs assessment measures and productivity measures, needs assessment measures are not as important as productivity measures.

This study assessed the differences among five needs assessment measures and five productivity measures. There are other needs assessment measures that could be evaluated based on an institution's character, politics, and priorities. Some examples of other needs assessment measures are Number of Students, Budget per Student, Reserve Amount per Student, and Prior Two Year Budget Allocations. There are other productivity measures that could be evaluated based on an institution's character, politics, and priorities. Some examples of other productivity measures are Declared Majors, Fiscal Data, Research and Service Expenditures, and Revenue Measures.

The first section on the survey in this study began by asking the chief financial officers how important they believed budget allocation preference items to be. The survey is shown in Appendix G. The budget allocation preference items were: ethics is important in budget allocation decisions, needs assessment is important in budget allocation decisions, productivity is important in budget allocation decisions, objectivity is important in budget allocation decisions, and subjectivity is important in budget allocation decisions. The responses from this section are shown in Table 2, Frequency Distribution Table of Budget Allocation Preference Items. A topic of additional research in developing budget allocation models may be to determine how the different attitudes toward these budget allocation preference items relate to the answers on the rest of the survey instrument.

The last section on the survey in this study asked the chief financial officers for demographic information. The survey is shown in Appendix G. The demographic information requested was "What is the enrollment in your academic unit?", "What percent of your academic unit's budget is from state appropriations?", "What percent of your academic unit's budget is from contracts/grants?", and "What's your role at your institution?" A topic of additional research in developing budget allocation models may be to determine how the different answers to these demographic questions relate to the answers on the rest of the survey instrument.

Recommendations

Currently, state legislatures seem unwilling to address the basic structural budget problems faced by state public higher education. Increasing demand will pressure public colleges and universities to expand enrollment over the next five years without adequate funding to meet the needs of the additional students. Without a new model of public-purpose institution some public universities will decline in quality, smaller ones will eventually close, and the nation

will drop farther down the list of countries with college-educated populations. Flagship institutions will rebalance their roles between research and instruction to focus on those portions of their mission that can be self-sustaining. Two- and four-year comprehensive state universities that have fewer, less affluent alumni will experience intensified enrollment pressures and quality erosion. This survival of the fittest approach may save the institutions best adapted to the market, but it will weaken the affordable, high-quality post secondary institutions and reduce the number of Americans with college opportunities (Lyall & Sell, 2006).

What is urgently needed, according to Lyall and Sell (2006), is a bi-partisan public policy dialogue about what states and their colleges and universities want from each other. States need to understand what benefits public dollars are buying and what benefits are foregone when such funding is reduced. Institutions need to collaborate to share responsibility for sustaining the most important purposes of public higher education. This discussion must start assuming that states will not restore funds lost to higher education over the past decade or pretending that universities can make up these amounts from tuition increases alone. One question that must be asked is: What is a sustainable level of public support? Another question is: What is a reasonable sharing of costs by students? Public colleges and universities must realize they cannot expand access without the resources to serve students effectively. Learning outcomes and student success matter as much as access (Lyall & Sell, 2006).

Basic elements of any new policy must include the agreed upon public purposes for higher education, a strategy for a sustainable level of public support per student, an alignment of tuition with financial aid policy, the necessary management flexibilities to compete in the market, accountability measures for both the state and the institution, and agreement on how productivity savings are to be shared. This is an opportunity to move beyond partisan politics,

outdated instructional methods, and finger pointing to employ the best talents in public universities and public servants to redesign higher education for the future. The future of our country depends on this being done well (Lyall & Sell, 2006).

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Appendix A

Permission to Administer a Survey for IRB Protocol Form

March 22, 2010

Dear Provost (Name),

My name is Jenny Barton and I am a doctoral candidate in the College of Education (Administration of Higher Education) at Auburn University. I am writing to ask your permission to administer a survey to your department heads and chairs entitled, "Surveying the Importance of Needs Assessment and Productivity Measures in a Budget Allocation Model." This research will be approved in advance by the Auburn University Institutional Review Board for research involving human subjects.

Department heads and chairs were selected to participate in this survey because they are the chief financial officers for their units. Their responses will provide valuable feedback that will add to the body of knowledge on this topic and possibly help shape future budget allocation models.

Please be assured their identity and any information they provide will be kept confidential. The survey results will only be presented in a group format and will never be reported in a way that would allow identification of any individual.

It would also be very beneficial if your office would provide me with an email list of your department heads and chairs. Please feel free to contact me with any questions related to this survey.

Thank you,
Jenny Barton

Mary J. (Jenny) Barton
Executive Assistant to the Provost, Budget
Doctoral Candidate, Administration of Higher Education
Office of the Provost & V.P. for Academic Affairs
208 Samford Hall
Auburn University, AL 36849-5108
(334) 844-0280 Phone
patemar@auburn.edu

Appendix B

Follow Up Request – Permission to Administer a Survey

April 1, 2010

Dear Provost (Name),

This is a follow up request to my email sent on 3/22/10. Your positive consideration would be greatly appreciated.

My name is Jenny Barton and I am a doctoral candidate in the College of Education (Administration of Higher Education) at Auburn University under the supervision of Dr. James Witte. I am writing to ask your permission to administer a survey to your department heads and chairs entitled, "Surveying the Importance of Needs Assessment and Productivity Measures in a Budget Allocation Model." This research will be approved in advance by the Auburn University Institutional Review Board for research involving human subjects.

The survey contains 20 questions. It will only take your department heads/chairs about 15 minutes to complete this survey. The consent form and survey will be administered via email and the internet.

Department heads and chairs were selected to participate in this survey because they are the chief financial officers for their units. Their responses will provide valuable feedback that will add to the body of knowledge on this topic and possibly help shape future budget allocation models.

Please be assured their identity and any information they provide will be kept confidential. The survey results will only be presented in a group format and will never be reported in a way that would allow identification of any individual.

It would also be very beneficial if your office would provide me with an email list of your department heads and chairs. Please feel free to contact me or Dr. James Witte, dissertation committee chair, with any questions related to this survey.

Thank you,
Jenny Barton

Mary J. (Jenny) Barton
Executive Assistant to the Provost, Budget
Doctoral Candidate, Administration of Higher Education
Office of the Provost & V.P. for Academic Affairs
208 Samford Hall
Auburn University, AL 36849-5108
(334) 844-0280 Phone
patemar@auburn.edu

James Witte, Ph.D.
witteje@auburn.edu
334-844-3054

Appendix C

Survey Development Test Group

Humana-Germany-Sherman Distinguished Professor
David Shannon**,** Ph.D.
Educational Foundations, Leadership, and Technology
4028 Haley Center
Auburn University, Alabama 36849

Provost and Vice President of Academic Affairs, Retired
John G. Heilman, Ph.D.
Office of the Provost
208 Samford Hall
Auburn University, Alabama 36849

Executive Vice President of Business and Finance
Don L. Large, Ed.D.
Office of the Executive Vice President
107 Samford Hall
Auburn University, Alabama 36849

2008–2009 Auburn University Budget Advisory Committee (BAC)
Don Large (Executive Vice President) – Chair
John Heilman (Provost)
John Mason (Associate Provost and Vice President for Research)
Jeffrey Sibley (Graduate School)
Jim Hansen (Honors College)
Lee Evans (Pharmacy)
Anne-Katrin Gramberg (Liberal Arts)
Stewart Schneller (Science and Mathematics)
Glenn Anderson (Library)
Chris Roberts (Engineering)
Greg Somers (Forestry and Wildlife Sciences)
Joe Touchton (Agriculture)
John Hathcock (Clinical Sciences)
Constance Hendricks (Nursing)
David Hinson (Architecture)
Jennifer Mueller (Accounting)

Tom Smith (Human Development and Family Studies)
Paula Sullenger (Library)
Kim Walls (Education)
Bob Locy (Biological Sciences)
David King (Geology and Geography) – Senate Faculty Salaries Committee Chair
Todd Storey (Auburn University Aviation) – A&P Assembly Chair
April Staton (Pharmacy Practice) – A&P Assembly Chair-elect
Valerie Morns-Riggins (Contracts Admin. Asst. – Space Res.) – Staff Council Chair
Judy Woodrow (Clinical Sciences) – Staff Council Chair-elect
Lindsay Stevenson (GSC President)
Lauren Hayes (hayesla@auburn.edu– SGA President) – 2009

Appendix D

Four Member Q-Sort Panel

James E. Witte, Ph.D.
Department of Educational Foundations, Leadership, and Technology
4036 Haley Center
Auburn University, Alabama 36849

Ellen H. Reames, Ed.D.
Department of Educational Foundations, Leadership, and Technology
4036 Haley Center
Auburn University, Alabama 36849

William I. Sauser, Ph.D.
Department of Management
408 Lowder Business Building
Auburn University, Alabama 36849

Kerry A. Ransel, M.S.
Office of the Provost
208 Samford Hall
Auburn University, Alabama 36849

Appendix E

Q-Sort Instruction Sheet

Thank you for agreeing to perform a Q-Sort test with proposed category names and survey items from a survey instrument I developed. I plan to use this instrument in gathering data for my dissertation. As content experts your input in invaluable to my research efforts.

Below please see a definition of a Q-Sort test:

In a Q-Sort test participants are provided with a predetermined set of category names. They then assign the survey items to these fixed categories. This helps reveal the degree to which the participants agree on which items belong under each category.

A Q-Sort test is evaluative; it is typically used to judge whether a given set of category names provides an effective way to organize a given collection of content.

In the large envelop you will find three legal size envelopes and 15 strips of paper. A category name is written on the front of each of the three envelopes. The 15 strips of paper contain the 15 survey items. Based on the category name on each envelope, please place the 15 survey items in the envelope to which you believe they belong. Once you have completed the Q-Sort test, please call me or email me to pick up the envelope.

Thank you,

Jenny Pate Barton
334-319-2025
patemar@auburn.edu

Appendix F

Three Specified Categories with Corresponding Statements

Three specified categories:

Items Related to Budget Allocation Preferences
Items Related to Need in a Budget Allocation Model
Items Related to Productivity in a Budget Allocation Model

Corresponding statements:

Ethics is important in budget allocation decisions.
Need is important in budget allocation decisions.
Productivity is important in budget allocation decisions.
Objectivity is important in budget allocation decisions.
Subjectivity is important in budget allocation decisions.
It is important if the funds requested are for one time funds.
It is important if the funds requested are for continuing funds.
The reserve amount to the base amount (as a %) is important.
The summer budget distribution is important.
The summer budget distribution per student is important.
Full time equivalent student units are important.
The number of degrees granted is important.
Student credit hours are important.
Full time equivalent faculty units are important.
Cost of instruction is important.

Appendix G

Survey Instrument

SECTION I (Items Related To Budget Allocation Preferences)

The Importance of Needs Assessment and Productivity Measures in Developing a Budget Allocation Model

Exit this survey

Items related to budget allocation preferences:

1. Ethics is important in budget allocation decisions.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Ethics is important in budget allocation decisions.	◉	○	○	○	○

2. Needs assessment is important in budget allocation decisions.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Needs assessment is important in budget allocation decisions.	○	○	○	○	○

3. Productivity is important in budget allocation decisions.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Productivity is important in budget allocation decisions.	○	○	○	○	○

4. Objectivity is important in budget allocation decisions.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Objectivity is important in budget allocation decisions.	○	○	○	○	○

5. Subjectivity is important in budget allocation decisions.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Subjectivity is important in budget allocation decisions.	○	○	○	○	○

25%

Next

SECTION II (Items Related to Needs Assessment in a Budget Allocation Model)

The Importance of Needs Assessment and Productivity Measures in Developing a Budget Allocation Model

Exit this survey

Items related to needs assessment in a budget allocation model:

6. It is important if the funds requested are for one time funds.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
It is important if the funds requested are for one time funds.	○	○	○	○	○

7. It is important if the funds requested are for continuing funds.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
It is important if the funds requested are for continuing funds.	○	○	○	○	○

8. The reserve amount to the base amount (as a %) is important.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
The reserve amount to the base amount (as a %) is important.	○	○	○	○	○

9. The summer budget distribution is important.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
The summer budget distribution is important.	○	○	○	○	○

10. The summer budget distribution per student is important.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
The summer budget distribution per student is important.	○	○	○	○	○

50%

Prev Next

SECTION III (Items Related to Productivity in a Budget Allocation Model)

The Importance of Needs Assessment and Productivity Measures in Developing a Budget Allocation Model

Exit this survey

Items related to productivity in a budget allocation model:

11. Full time equivalent student units are important.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Full time equivalent student units are important.	○	○	○	○	○

12. The number of degrees granted is important.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
The number of degrees granted is important.	○	○	○	○	○

13. Student credit hours are important.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Student credit hours are important.	○	○	○	○	○

14. Full time equivalent faculty units are important.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Full time equivalent faculty units are important.	○	○	○	○	○

15. Cost of instruction is important.

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Cost of instruction is important.	○	○	○	○	○

75%

Prev Next

SECTION IV (Items Related To Demographic Information)

The Importance of Needs Assessment and Productivity Measures in Developing a Budget Allocation Model

Exit this survey

Items related to demographic information:

16. What is the enrollment in your academic unit?

- What is the enrollment in your academic unit?
- Less than 500
- 500 – 999
- 1,000 – 1,499
- 1,500 – 1,999
- 2,000 or more

17. What percent of your academic unit's budget is from state appropriations?

- What percent of your academic unit's budget is from state appropriations?
- Less than 25%
- 25% – 49%
- 50% – 74%
- 75% or more

18. What percent of your academic unit's budget is from tuition?

- What percent of your academic unit's budget is from tuition?
- Less than 25%
- 25% – 49%
- 50% – 74%
- 75% or more

19. What percent of your academic unit's budget is from contracts/grants?

- What percent of your academic unit's budget is from contracts/grants?
- Less than 25%
- 25% – 49%
- 50% – 74%
- 75% or more

20. What is your role at your university?

- What is your role at your university?
- Chief Financial Officer
- Provost
- Dean
- Department Head/Chair
- Director

Thank you for completing this survey!

	100%

Prev Done

Appendix H

Participant Email and Information Letter

From: "Mary Pate Barton" <patemar@auburn.edu>
To: Survey Email List
Date: 9/20/2010 10:20 AM
Subject: Budget Allocation Model Survey

Surveying the Importance of Needs Assessment Measures and Productivity Measures in Developing a Budget Allocation Model

Dear Provost, Chief Financial Officer, Dean, or Department Head/Chair,

As a budget officer at your institution, your opinion is important to this study. I would like to invite you to take part in a study by completing a survey.

I encourage you to complete this survey and tell me how important a budget allocation model based on traditional, subjective measures compares to a budget allocation model based on comprehensive, objective measures. You were selected to participate in this study because you are the chief financial officer for your unit. Your response will provide valuable feedback to this study and help shape future budget allocation models.

Please read the Information Letter below containing more information regarding participation in this study. The link to the survey is at the bottom of the Information Letter.

Thank you in advance for taking part in this important and timely study.

Sincerely,
Mary Pate Barton

Auburn University
College of Education
Department of Educational Foundations, Leadership, and Technology

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

INFORMATION LETTER
for a Research Study entitled
"The Relationships between Needs Assessment Measures, Productivity Measures, and Ethics in Developing a Budget Allocation Model for Higher Education"

You are invited to participate in a research study to assess the importance of needs assessment measures and productivity measures in developing a budget allocation model for institutions of higher education. The objectives are to find out what are the relationships between needs assessment measures, productivity measures, and needs assessment and productivity measures in a budget allocation model. The study is being conducted by Mary Pate Barton, doctoral candidate (education), under the direction of Dr. James E. Witte, Associate Professor, in the Auburn University Department of Educational Foundations, Leadership, and Technology. You were selected as a possible participant because you are the chief financial officer for your academic unit and are age 19 or older.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete a survey containing 20 questions. Your total time commitment will be approximately 20 minutes.

Are there any risks or discomforts? There are no risks or discomforts associated with this study.

Are there any benefits to yourself or others? If you participate in this study, you can expect to receive no direct benefits. Your responses will provide valuable data. This data will contribute to the general body of knowledge related to needs assessment measures, productivity measures, and ethics. This knowledge may be used in developing future budget allocation models for higher education.

Will you receive compensation for participating? No compensation or incentives will be given for participating.

If you change your mind about participating, you can withdraw at any time by closing your browser window. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you've submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Educational Foundations, Leadership, and Technology or Dr. James E. Witte.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by using SurveyMonkey. As stated in SurveyMonkey's privacy policy, they will not use your data for their own purposes. The data collected is kept private and confidential. SurveyMonkey will be set so as not to collect email or IP addresses. I will be the owner of data collected or uploaded in the survey. SurveyMonkey does offer SSL encryption for the survey link and survey pages during transmission. SurveyMonkey is located in the U.S. and all surveys and data are stored on their servers. Information collected through your participation may be used to fulfill the educational requirement of research and writing my dissertation, published in a professional journal, and/or presented at a professional meeting.

If you have questions about this study, please contact Mary Pate Barton at patemar@auburn.edu or (334) 844-0280 or Dr. James E. Witte at witteje@auburn.edu or (334) 844-3054.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE CLICK ON THE LINK BELOW. YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.

The Auburn University Institutional Review Board has approved this document for use from July 14, 2010 to July 13, 2011. Protocol #10-165 EX 1007.

http://www.surveymonkey.com/s/GWDS9VY

Appendix I

Participant Follow-up Email Reminder and Information Letter

From: "Mary Pate Barton" <patemar@auburn.edu>
To: Survey Email List
Date: 9/23/2010 10:20 AM
Subject: Budget Allocation Model Survey--Reminder

Surveying the Importance of Needs Assessment Measures and Productivity Measures in Developing a Budget Allocation Model

Dear Provost, Chief Financial Officer, Dean, or Department Head/Chair,

I do understand that fall semester is the busiest time of the year. While you have great demands on your time, I hope you will make time to participate in this very important and timely study by completing this survey. You will find the link to the survey at the bottom of the Information Letter.

As a budget officer at your institution, your opinion is important to this study. I would like to invite you to take part in a study by completing a survey.

I encourage you to complete this survey and tell me how important a budget allocation model based on traditional, subjective measures compares to a budget allocation model based on comprehensive, objective measures. You were selected to participate in this study because you are the chief financial officer for your unit. Your response will provide valuable feedback to this study and help shape future budget allocation models.

Please read the Information Letter below containing more information regarding participation in this study. The link to the survey is at the bottom of the Information Letter.

Thank you in advance for taking part in this important and timely study.

Sincerely,
Mary Pate Barton

Auburn University
College of Education
Department of Educational Foundations, Leadership, and Technology

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

INFORMATION LETTER
for a Research Study entitled
"*The Relationships between Needs Assessment Measures, Productivity Measures, and Ethics in Developing a Budget Allocation Model for Higher Education*"

You are invited to participate in a research study to assess the importance of needs assessment measures and productivity measures in developing a budget allocation model for institutions of higher education. The objectives are to find out what are the relationships between needs assessment measures, productivity measures, and needs assessment and productivity measures in a budget allocation model. The study is being conducted by Mary Pate Barton, doctoral candidate (education), under the direction of Dr. James E. Witte, Associate Professor, in the Auburn University Department of Educational Foundations, Leadership, and Technology. You were selected as a possible participant because you are the chief financial officer for your academic unit and are age 19 or older.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete a survey containing 20 questions. Your total time commitment will be approximately 20 minutes.

Are there any risks or discomforts? There are no risks or discomforts associated with this study.

Are there any benefits to yourself or others? If you participate in this study, you can expect to receive no direct benefits. Your responses will provide valuable data. This data will contribute to the general body of knowledge related to needs assessment measures, productivity measures, and ethics. This knowledge may be used in developing future budget allocation models for higher education.

Will you receive compensation for participating? No compensation or incentives will be given for participating.

If you change your mind about participating, you can withdraw at any time by closing your browser window. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you've submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Educational Foundations, Leadership, and Technology or Dr. James E. Witte.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by using SurveyMonkey. As stated in SurveyMonkey's privacy policy, they will not use your data for their own purposes. The data collected is kept private and confidential. SurveyMonkey will be set so as not to collect email or IP addresses. I will be the owner of data collected or uploaded in the survey. SurveyMonkey does offer SSL encryption for the survey link and survey pages during transmission. SurveyMonkey is located in the U.S. and all surveys and data are stored on their servers. Information collected through your participation may be used to fulfill the educational requirement of research and writing my dissertation, published in a professional journal, and/or presented at a professional meeting.

If you have questions about this study, please contact Mary Pate Barton at patemar@auburn.edu or (334) 844-0280 or Dr. James E. Witte at witteje@auburn.edu or (334) 844-3054.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE CLICK ON THE LINK BELOW. YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.

The Auburn University Institutional Review Board has approved this document for use from July 14, 2010 to July 13, 2011. Protocol #10-165 EX 1007.

http://www.surveymonkey.com/s/GWDS9VY