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FINANCIAL INDICATORS IN STRATEGIC DECISION MAKING: RECOMMENDED PRACTICES FOR FINANCIAL OFFICERS AT SMALL PRIVATE COLLEGES AND UNIVERSITIES IN THE MIDWESTERN UNITED STATES

by

Beth Reissenweber

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FINANCIAL INDICATORS IN STRATEGIC DECISION MAKING: RECOMMENDED PRACTICES FOR FINANCIAL OFFICERS AT SMALL PRIVATE COLLEGES AND UNIVERSITIES IN THE MIDWESTERN UNITED STATES

Beth Reissenweber, Ph.D.

University of Nebraska, 2012

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This study explored whether financial leaders and institutional governing boards use financial indicators as a tool to inform decision making, solely as a compliance measurement tool, or not at all. The purpose of this qualitative study was two-fold to: (a) identify the use of financial indicators in strategic decision making, and (b) investigate how institutions use financial indicators to support governing boards in making strategic decisions. The data were obtained from a survey of 214 financial officers to identify the use of financial indicators, and in-depth interviews with leaders from six institutions who indicated strategic use of financial indicators to inform governing boards.

The findings indicated that most financial officers compute financial ratios which measure tuition dependency, enrollment trends, and institutional discount rates. The majority of financial officers, however, do not use financial indicators to inform decision making with their governing boards. A number of barriers confront financial officers including: lack of time, understanding and interest of the president and governing board, "traditional think," and a culture that is slow to change.

Financial officers must obtain approval from the institution's president as the gatekeeper in order to focus on a specific financial indicator with the governing board. The financial indicator must be presented to the board in a consistent, clear, and

transparent manner. The financial officer must be an excellent communicator in his/her delivery of financial data. The study supported findings from the literature that financial indicators must be linked to planning to promote strategy and create meaning in order to inform decision making.

These findings should be of interest to institutional leaders who seek ways to improve the use of financial indicators to inform strategic decision making. Additionally, the study contributed to identifying best practices to share with financial officers who persevere in advocating the use of financial indicators to create meaning and promote institutional financial health.

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How grateful I am for Dr. Brent Cejda, who was willing to take up the torch from Dr. Stick, when Dr. Stick retired, and to guide me through the rest of my doctoral program. I extend deep appreciation to my committee members, Drs. Miles Bryant, David Brooks, and Donald Uerling, who offered their expertise and wisdom in my research study and aided me in achieving this dream.

On a personal note, I offer a deep and enduring embrace to my family: To my husband, who gave me the courage and support to dedicate myself to this incredible and time-consuming journey, and to my children, who cheered me on at the end. Finally, this dissertation is dedicated to the memory of my parents, who instilled in me the desire to pursue excellence, and who remain in my heart and mind — always.

TABLE OF CONTENTS

Chapter I—Introduction 1

Context and Financial Indicators 3

Problem Statement 6

Purpose of the Study 7

Research Questions 10

Grand Tour Question 10

Research Sub-questions 10

Assumptions 10

Delimitations 11

Limitations 11

Definitions and Terms 12

Significance of the Study 15

Summary 16

Chapter II—Review of Literature 19

Overview 19

Selection Process 19

Context of the Problem 19

Inflation in Higher Education 22

Student Expectations in Higher Education 26

Decline in Governmental Support 27

Increasing Tuition Rates 30

The Private Institution 32

Managing Tuition Increases through Cost Control 34

Financial Indicators as a Tool in Strategic Decision Making 36

Major Works 39
Summary 62
Chapter III—Methodology 64
Overview 64
Research Design 64
Site and Sample Selection 67
Role of the Researcher 76
Data Collection 76
Managing and Recording Data 80
Ethical Considerations 81
Data Analysis 82
Credibility 83
Verification 84
Summary 85
Chapter IV—Data Results 86
Overview 86
Phase I Online Survey 86
Phase II Interviews 93
Coded Qualitative Data 93
Shaping the Use of Financial Data 97
The Financial Environment 97
The Financial Officer's Background 99
The Financial Officer's Perspective 99
The Board Perspective 109
The President's Perspective 117

Summary 123

Chapter V—Conclusions and Discussion 126

Overview 126

Research Study Synopsis 126

Conclusions and Discussions 128

The Use of Financial Indicators in Strategic Decision Making 140

Research Questions Answered 141

Grand Tour Question: Do Small Private Colleges and Universities in the Midwestern United States Gather Data, Including Financial and Key Performance Indicators? 141

Research Sub-question #1: What Financial and Key Performance Indicators do Institutions Gather and How do Institutional Leaders Use this Data to inform Strategic Decision-making? 143

Research Sub-question #2: How do Small Private Universities and Colleges Create Awareness and Understanding from Financial and Key Performance Indicators? 146

Recommendations for Best Practice 148

Focus on a Specific Financial Indicator to Measure Financial Health 149

Ensure Governing Boards are Educated and Understand the Financial Indicator 149

Communicate Effectively with the Governing Board 150

Share Financial Indicators as Part of a Story Tied to Planning 150

Recommendations for Future Research 152

Motivators to President to Promote Financial Indicator use 152

Time as an Ongoing Barrier 153

Competency of Staff 153

Technology to Support Financial Indicator Use 154

Limitations 154

Conclusions 155

References 157

Appendices 167

LIST OF TABLES

Table 2-1 Financial Ratios in Buddy (1999) Research 47

Table 2-2 Financial Ratios Used in Not-for-Profit Service Industry (Buddy, 1999) 48

Table 2-3 CFI Core Financial Ratios and Weighting Factors Example 51

Table 2-4 Ratios Used in Talboys' Study (1995) 61

Table 4-1 Online Survey- Ratio Use in Rank Order 87

Table 4-2 Categories of Coded Qualitative Data 94

LIST OF FIGURES

Figure 2-1 Inflation of Tuition and Fees, Medical Costs, and Cost of Living, 1978-2008 21

Figure 2-2 Cumulative Education Debt at Graduation, 1992-2011 21

Figure 2-3 Growth Rates for Professional Staff 1976, 1993 and 2003 25

Figure 2-4 Average Public and Private 4-year College Tuition Rates, 1993-2004 31

Figure 2-5 Consolidated Financial Index (CFI) Graphical Presentation 50

Figure 3-1 Map of Study Population 74

Figure 4-1 Distribution of CFI Scores Compared to Overall Average Score 89

Figure 4-2 Distribution of Health Index Scores Compared to Overall Average Score 90

LIST OF APPENDICES

Appendix A Visual Model for Explanatory Design 167

Appendix B Online Survey Participation by State 169

Appendix C Sample Recruitment Email for Online Survey 171

Appendix D Sample Electronic Invitation for Online Survey 173

Appendix E Follow-up Email Reminder for Online Survey 175

Appendix F Initial Recruitment Letter 177

Appendix G Informed Consent Letter 179

Appendix H Unobtrusive Data Request 182

Appendix I Online Survey Questionnaire 184

Appendix J Interview Guide 189

Appendix K Transcription Agreement Template 191

Appendix L Institutional Review Board Approval 193

Chapter I

Introduction

Institutional leaders face threatening headwinds in managing the financial resources at small, private colleges and universities in the United States. Although managing during times of economic stress is not a new phenomenon for leaders in higher education, institutional financial health becomes increasingly difficult to maintain over the long-term. This is especially true for institutions that rely heavily on tuition revenue and do not have substantial endowments to mitigate sudden shifts in enrollment (Martin & Samels, 2009).

Such institutions also find themselves in competition with community colleges that can charge substantially lower tuition due to local tax support that provides the majority of community college revenue (CollegeBoard, 2008). To make college tuition more affordable for students and their families, small private institutions rely on enrollment pricing strategies such as discounting tuition through unfunded institutional aid (Bonham, 1997; McPherson & Schapiro, 1999).

With a heavy reliance on tuition revenue — and competition from low-cost alternatives — these small private institutions must allocate expenditures strategically to those activities that promote mission. The reality is that certain expenditures are driven by escalating factors frequently outside of the control of institutional leaders. Three examples of escalating cost factors include: (a) employee health-care costs, which have increased at double-digit rates; (b) the cost of governmental compliance with increasing disclosure and reporting requirements; and (c) expanded student needs and expectations, especially as technology has become the norm of communication and learning (Kaiser

Family Foundation, 2011; Springer, 2010; U.S. Department of Labor, 2011; Wellman, 2008).

Competition, tuition dependency, and escalating cost factors threaten the ability of institutional leaders to readily navigate financial challenges, but there are specific tools available to help them achieve financial health. Financial indicators can provide useful information to management for strategic decision making. Two examples are student discount rate and debt burden ratio.

The student discount rate measures the amount of institutional aid, or discount, that an institution awards to attract student enrollment. The discount rate is computed by dividing institutional aid awarded to full-time undergraduate students by total full-time undergraduate tuition. A rate of 42% would indicate that for every dollar of undergraduate tuition charged, 42 cents is being reduced from the "sticker price" by the institution. Comparing that rate internally over time, and against other institutions, would provide management with an understanding of growth in student need, market pressure from competition, and price elasticity.

The debt burden ratio measures the institution's dependence on debt as well as cost of borrowing to over-all expenditures. The ratio is computed by dividing total interest expense and principal payments by total expenses. A ratio of 7% would indicate that an institution uses 7 cents of every dollar towards debt related expense. The greater the percent paid to service debt, the less budget the institution has for other initiatives and mission-driven activities. This ratio can be readily applied to the public's increasing concern of the Federal government's debt burden, which has been growing at an alarming rate of almost $4 billion per day since September 2007 (U.S. National Debt Clock, 2011).

Besides the two financial indicators described above, there are many other ratios and financial indicators that institutional leaders can use to guide strategic decision making and inform governing boards. The focus of this study is how financial leaders and their governing boards use financial indicators effectively for strategic decision making.

Context and Financial Indicators

Initially in the 1970s, financial indicators for higher education were developed to provide an early warning notice to institutional leaders charged with managing the financial health of a college or university (Chabotar, 1989). Financial indicators evolved over the past 30 years in both number and use. With hundreds of financial indicators to choose from, financial leaders can be overwhelmed by the sheer number and breadth of variety (Brubacker, 1979; Lee, 2008; Taylor & Massy, 1996). Identifying a select group of financial indicators and monitoring the results based on historic data can be time-consuming. Institutional leaders and their governing boards can capture the meaning and value that historical reporting overlooks simply by expanding the use of financial indicators to facilitate strategic decision making (Chabotar, 2006).

Barriers to understanding financial data have caused financial indicators not to be used for strategic purposes. Wellman explained that "The nature of cost analysis invites presentation of information at a level of detail that is confounding to all but a few researchers and academic economists" (2008, p. 14). Wellman supported her assessment in a survey conducted in 2006-07 by the National Association of College and University Business Officers (NACUBO). Instead of financial officers providing data that may

"confound," Wellman noted the lack of data being presented to governing boards and the resulting lack of capacity for "strategic financial oversight" (Wellman, 2008, p. 5).

Today, financial indicators enable decision makers to make an honest assessment of an institution's strategic position. These are derived from audited financial data using a standardized methodology referred to as Generally Accepted Accounting Principles (GAAP) (Kieso, Weygandt, & Warfield, 2008). In the early use of financial indicators, accounting methodology was less proscribed and subject to the preference of institutional financial management that could distort the comparability of financial indicator outcomes between institutions (Chabotar, 1989). Since the mid-1990s however, GAAP standards were introduced that systematized not-for-profit financial reporting and the way certain financial transactions were to be recorded. With GAAP standards in place, financial indicators now offer a tool that is methodically based on relevant and comparable data.

MacTaggart (2007) defined financial indicators as "empirical tools such as ratio, trend, and marginal analysis . . . for discovering financial weaknesses and strengths" (pp. 66-67). An advantage to using financial indicators is that their results focus decision-makers on areas most likely to affect an institution's success and long-term viability (Buddy, 1999). In order for decision-makers to understand and draw meaning from financial indicators, results "must be deconstructed to define the problems and to guide development of a strategic plan to deal with problems" (MacTaggart, 2007, p. 67).

Chabotar (2006) confirms MacTaggart's assessment and notes the need to "link" the use of indicators to a strategic plan in order to "promote the use of data for decision-making" (p. 45). Without the link or connection between data and planning, financial indicators simply present trend data without further understanding and analysis to inform

and support decision-making. If financial indicators are to be employed to guide institutional leaders in strategic decision-making, the financial indicators need to inform unequivocally while presenting a story of an institution's performance, condition, and aspiration.

The objective of employing financial indicators is because indicators serve as a vehicle to improve effectiveness and enhance an institution's financial health (Chabotar, 1989). Presenting financial data in a manner that discloses an institution's "evolving position in the world" does not always materialize because "data that institutions collect are not presented in ways that are strategically useful" (Morrill, 2007, p. 95). More often, financial indicators are used to describe the institution's financial story from a historical basis instead of promoting decision-making through future planning and analysis (Wellman, 2008).

A strategic approach incorporates financial indicators in the planning process to determine whether proposed programs and activities will improve the institution's financial health over time (Wellman, 2008). Based on financial indicator results, institutional leaders should be able to answer simple questions about the financial standing of the institution (Talboys, 1995). To develop a great awareness however, institutional leaders must understand the factors that improve financial indicator results, as well as educate governing boards on those factors to enhance strategic decision making.

This study explored whether financial leaders and institutional governing boards use financial indicators as a tool to inform decision-making, solely as a compliance measurement tool, or not at all. The researcher sought to identify three things: (a) the

perceptions financial officers hold in using financial indicators, (b) barriers to the strategic use of such indicators, and (c) factors that influence decision-makers in implementing financial indicators. The study also assessed the *context* in which financial indicators are presented to create a meaningful story for effective decision-making by institutional governing boards through compelling examples of actual use. The intent of the study included development of a set of recommended practices in using financial indicators to guide financial leaders at small private institutions in the United States in managing financial health and navigating through the financial headwinds that threaten their financial future.

Problem Statement

Managing limited financial resources to maximize mission is an ongoing challenge for financial leaders at small private institutions that lack substantial endowments. While institutional leaders can use tools such as financial indicators to assess and manage the financial health of a college or university, the rate at which such information is shared with governing boards is surprisingly low. According to Wellman, less than 25% of financial leaders present "strategic spending data to their governing boards" (2008, p. 1). At private institutions that are heavily reliant on tuition revenue with small endowments, maximizing the effective use of available financial indicators becomes even more important to achieve financial sustainability. Accordingly, linking financial indicators to decision-making creates awareness and understanding and supports strategy. As part of the study, the researcher sought to understand and define how financial leaders can increase use of financial tools to educate governing boards to make informed decisions and support strategy in long-term planning.

Financial indicators were developed primarily as early warning devices — triggers to alert institutional leaders of financial distress. Today, financial indicators are still used in large part that way. The United States Department of Education requires institutions that receive Title IV financial grant and aid funding to achieve a certain ratio level in computing its annual financial health score (Blumenstyk & Richards, 2010). For institutions with low scores, the U.S. Department of Education can readily identify struggling institutions and pursue possible intervention efforts, policy initiatives, and in more serious situations, cease Title IV funding of the particular institution, which would effectively terminate an institution's operation.

Using financial indicators solely as an early warning device, however, does not support strategy and long-term decision-making. And while the focus for financial indicators is frequently left for compliance and historic reporting purposes, such limited use of financial tools falls short of supporting financial leaders and governing boards during economic stress. Instead, financial management can use ratios, trends, and marginal analysis tools for a "workable financial turnaround strategy" to improve financial health (Chabotar, 1989; MacTaggart, 2007, p. 67).

Purpose of Study

The purpose of this study was twofold. First, the study identified the use of financial indicators in strategic decision making by institutional leaders entrusted with guiding the fiscal health of small private four-year institutions with long-term investments less than $100 million and accredited in the United States (Creswell, 2007). Second, the study investigated how six institutions used financial indicators to support strategic decision making with their governing boards. The maximum long-term

investment amount for institutions in the study was based on two factors: (a) Ranges as applied in the annual NACUBO endowment survey conducted by the Commonfund, and (b) the effective, maximum budget support of approximately $5.0 million that would be generated by a $100 million endowment using an average 5% spending rate. Endowment spending of $5 million, while helpful, would not significantly reduce the institution's dependence on tuition as the main source of revenue.

To accomplish the first purpose of the study, an on-line survey was sent to all financial officers of the 214 institutions that comprise the population of institutions in the North Central Association region of the Higher Learning Commission, which covers 19 Midwestern states. The on-line survey used the University of Nebraska's on-line survey tool "Qualtrics." The survey instrument questions were based on the literature and included open-ended questions. The draft survey was reviewed by two experts to confirm clarity of questions and ease of format and presentation. The researcher used the on-line survey as a means to identify participants for the second purpose of this study, to share compelling stories from institutions that had used financial indicators in strategic decision making.

From the list of respondents that agreed to share their stories, the researcher used purposeful sampling to select six institutions that appeared "intrinsically interesting" in order to obtain a full understanding of the phenomenon under study (Merriam, 1998, p. 28; Patton, 1990). Each institution represented a case within the multiple case-study approach.

A panel of experts assisted the researcher in refining the Interview Guide (Appendix J) of in-depth semi-structured interview questions that addressed the use of

financial indicators in decision-making. The panel also reviewed and critiqued the researcher's proposed interview questions related to the use of financial indicators in strategic decision-making in higher education. From their review, the panel offered additional relevant approaches in capturing the phenomenon that the researcher had not considered (DeVellis, 2003). After the interview questions were developed, the researcher interviewed each member of the panel to determine whether respondents would comprehend the proposed interview questions as intended and whether the questions could be answered accurately (Dillman, Smythe, & Christian, 2009).

Based on the questions developed, the researcher conducted semi-structured interviews with three key decision makers at each of the selected institutions including the president, financial officer, governing board member, and in one instance the chief academic officer who had been directly involved in the development and use of the financial indicator under exploration.

The researcher identified six institutions that offered compelling stories to share. Each key decision maker or financial leader represented a subcase of the case, or institution, being studied. Telephone interviews allowed the researcher to collect a rich, "thick" description of the use of financial indicators in decision-making (Hatch, 2002; Merriam, 1998). Semi-structured interviews provided standard data across respondents and allowed the researcher to probe more deeply and obtain additional information.

Besides conducting semi-structured interviews, the researcher reviewed other available document from the institution's website, directly from research participants, and from other online resources. These documents constituted a form of unobtrusive data from the six selected institutions to expand data collection and triangulate findings. The

findings from this investigation are intended to benefit financial officers and their respective presidents, governing boards, and other institutional stakeholders interested in and entrusted with assessing and maintaining the financial health and viability of small, private institutions in the Midwestern United States.

Research Questions

Grand tour question. Do small private colleges and universities in the Midwestern United States gather data, including financial and key performance indicators?

Research sub-questions.

- What financial and key performance indicators do institutions gather and how do institutional leaders use this data to inform strategic decision-making?
- How do small private colleges and universities create awareness and understanding from financial and key performance indicators?

Assumptions

The researcher held the following assumptions in implementing the study:

1. The researcher assumed financial indicators can support strategic decision-making.
2. The researcher assumed that there is a shared language within the community of financial officers in higher education. A financial nomenclature is important for respondents to correctly interpret and respond to interview questions in the study.
3. The researcher assumed that size of institution student enrollment and total of long-term investments is relatively static from year-to-year.

Delimitations

The following delimitations applied to this study:

1. The study was delimited to six private institutions in the Midwestern United States.
2. The study excluded public institutions.
3. This study was confined to accredited small private not-for-profit institutions located in the United States that had long-term investments less than $100 million. Small institutions are defined as having total full-time equivalent (FTE) enrollments of 4,000 or fewer students inclusive of both undergraduate and graduate levels.
4. Data were collected in the spring of 2012 from presidents, financial officers, governing board members, and other related decision makers at small private four-year institutions. What with the long-running economic turbulence and market instability that began in late 2008, it is clear that perceptions of presidents and financial officers might be different if this information were to be collected during a more stable economic time.
5. The researcher acted as the primary instrument in data collection for the proposed qualitative study. The researcher sought to minimize any potential bias that may result from her particular understanding and experience working in financial management in higher education in conducting the research (Merriam, 1998).

Limitations

The following limitations applied to this study:

1. The study included interviews with a limited number of decision makers from the six institutions such as the president, financial officer, governing board member, and other related institutional decision maker.
2. The study population was based on IPEDs data from fiscal year 2010.
3. The researcher recognized potential response bias as participants might hold positions that encourage or discourage certain perspectives at their institutions.
4. The study was subject to the respondents' answering interview questions based upon how they think questions should be answered, and not based on actual experience. Respondents were instructed to answer questions honestly and candidly. The researcher reminded respondents during the interviews that all responses would be kept completely confidential to promote openness.

Definitions and Terms

Specific terms defined below introduce and explain the concepts, terms, and variables used in this study.

Balanced Scorecard. Performance measurement framework that includes non-financial performance measures with traditional, financial metrics to provide management with more "balanced" view of organizational performance (Balanced Scorecard Institute, 2012).

Composite Financial Index. Combines four financial ratios into a single number or score to measure an institution's health.

Financial health. Ability of an institution to perform its mission by raising and maintaining the resources to fund and develop quality programs that attract students, thus

leading to a positive public perception that the institution is worthy of support (Talboys, 1995).

Financial indicators. Represent measures of financial performance and assess the level of financial reserves available to fund ongoing operations, meet payment of debt requirements, and monitor fiscal trends. Financial indicators can be compared against other institutions and benchmarks to assess financial health of the institution. "Financial indicators" is a term used interchangeably with "financial ratios" defined below.

Financial leaders. Financial leaders traditionally include the following titles: Chief financial officer, vice president for finance, treasurer, and/or controller. At a college or university, these positions provide vision and leadership for the over-all strategic direction related to budget and planning, accounting, investments, human resources, business and auxiliary services, facilities, public safety and parking, and information technology.

Financial ratios. The purpose of financial ratios is to provide insight and direction for performance improvement. Financial ratios help assess whether an institution has sufficient reserves to meet current and future operational and capital spending requirements and sufficient flexibility in its resources to meet changing demands and increased pressures on those resources.

Financial ratios first were used in the early 20th century by Moody's Investor Service to analyze the finances of colleges and universities to determine whether or not the financial condition of a college was adequate to support its mission and its long-term debt obligations. Financial ratios and trend analysis can be combined to see if the college is maintaining, building, or depleting financial resources.

Financial sustainability. The ability of an entity to operate at a level where revenues equal or exceed expenses on an on-going, long-term basis.

Full-time equivalent (FTE). FTE refers to the number of students enrolled at an institution as defined by the National Center for Education Statistics (NCES). One FTE is equivalent to a single full-time student or three part-time students (NCES, 2009).

Institutional viability. A college or university's ability to operate and fulfill its mission.

Institutions of higher education. Includes any institution classified by the Carnegie Foundation as: an associate's college, a master's college, university, baccalaureate college, doctorate-granting university, or special focus institution (Carnegie Foundation, 2009).

Ratio analysis. Ratio analysis is an attempt to express the relationship between two or more accounts or variables in a simpler, more comprehensive way. Ratios usually are derived from financial statements as a basis of comparison, evaluation, and prediction.

Small private institutions. Colleges and universities chartered or licensed in the United States that are not governmental entities and that have 4,000 or fewer full-time equivalent students as defined by the National Association of College and University Business Officers (NACUBO) (NACUBO, 2009).

Strategic decision-making. The practice of making high-quality decisions as a means of enhancing organizational performance. Effectiveness in decision-making depends in part on financial management's cooperativeness in providing information and

in fully airing differences of assumptions and interpretations (Korsgaard, Schweiger, & Sapienza, 1995).

Significance of the Study

Identifying characteristics and themes that guide institutional leaders at small, private four-year institutions to manage effectively and strategically their financial data during trying economic times is pivotal to their sustainability, and concomitantly to the well-being of the United States. The United States is one of many nations competing in a global arena. Ensuring that its human capital is competitive is paramount to continue and enhance its citizen's quality of life, while contributing to the well-being of persons in other countries.

To explore how institutional leaders use financial indicators to educate their governing boards in support of strategic decision-making — and ensure long-term sustainability — elevates financial indicators from historic reporting devices to strategic financial tools. For example, institutional leaders who use financial indicators in strategic decision-making have a greater capacity for awareness of factors influencing financial health and can quantify the factors within an informed approach to their governing boards (Chabotar, 2006). Institutional leaders also gain from the knowledge of a more expanded use of financial indicators to support future planning. Such knowledge creates a foundation of understanding to guide institutional leaders to enhance strategic decision-making with their governing boards.

The researcher conducted an in-depth examination of six institutions that have demonstrated use of financial indicators in decision-making. From the data collected, the

researcher developed a set of recommended practices institutions can use to navigate the financial headwinds that threaten long-term viability and support institutional health.

As part of the study, the researcher explored how these institutions have overcome any barriers to using financial indicators as a decision-making tool (Redenbaugh, 2005). This knowledge can be used to address limitations in the literature of how institutional leaders use financial indicators to support decision-making with their governing boards. Additionally, this knowledge also enables financial leaders to increase their understanding and use of financial indicators and an opportunity to improve decision-making for senior management and the governing board. Improved use will connect financial indicators to strategic thinking, seeking long-term solutions to current financial threats (Chabotar, 2006).

Summary

Institutions of higher education are under increasing public scrutiny to manage costs and provide students an affordable, high-quality education. Doing so has become increasingly difficult as the regulatory and compliance requirements intensify, expenses escalate, and available resources change decrementally. Today's long-running national economic recession has created a number of stressors on managing financial health in higher education. Three stresses include: (a) diminished state funding to post-secondary institutions on a per student basis; (b) increased pressure from other areas of society (i.e., law enforcement, penal institutions, health and welfare, K−12 education); and (c) the highest rate of unemployment in decades, with 9% unemployment in 2011 (Moody's Investors Service, 2010; U.S. Bureau of Labor Statistics, 2011).

With the existence of economic hardship on a national level, students and their families, especially those from the less privileged classes of society, tend to be more cautious about assuming debt obligations in order to go to college (Stimpert, 2004; Williams, 2006). Furthermore, even among those who complete a degree program, the prospects for gainful employment in the area of study are less assured during economic recessions and times of high unemployment, which impact a graduate's ability to repay their debt obligations.

Alternatively, recessions tend to bring students back to college campuses, especially low-cost community colleges, for retooling skills, obtaining advanced degrees, or completing long-desired degrees or certificate programs. Demand for higher education can be high during economic recessions. With the beginning of the most recent economic downturn, for example, the percent of 18 – 24 year olds attending post-secondary education reached an all-time high in October 2008 at 39.6% or just under 11.5 million students (Fry, 2009).

To attract and retain students at small private institutions that charge premium tuition rates, financial leaders must effectively manage the value proposition while keeping a measure of affordability. In order to compete with lower-cost alternatives, private institutions must manage costs carefully. Financial leaders, in tandem with their governing boards, need to use all available tools for the institution to be financially viable. For institutional leaders at small private institutions, using tools such as financial indicators to maximize financial resources is tantamount to long-term financial health for the institution.

The importance of understanding an institution's financial health requires an assiduous approach to the task of making calculated long-term determinations that impact financial sustainability. This study explored how financial leaders and their governing boards best use selected barometers of economic viability such as financial indicators to manage an institution's financial health successfully.

The remainder of this dissertation is organized into four additional chapters. Chapter II reviews the literature relevant to the study. Chapter III presents a detailed description of the methodology used in the study. Chapter IV presents the results, and Chapter V includes a discussion of the findings and implications for further research and practice.

Chapter II

Review of Literature

Overview

The sequence of information presented in this chapter begins with the resources used to obtain relevant literature in support of the study; discussion of the problem; published research to form the context of the development and current understanding of the use of financial indicators; and a summary discussion of the need for further research to aid institutional leaders in managing small private institutions through difficult economic times.

Selection Process

The primary database used in the literature review for this study is the Education Resources Information Center (ERIC) database. ERIC (2010) is sponsored by the Institute of Education Sciences through the United States Department of Education and offers an online digital library of education research and documents. Additionally, the study used the online repository of dissertations available from the University of Nebraska-Lincoln library system. Secondary data sources in the literature review included books, articles, and research presentations written on the subject of financial ratios and indicators, ratio analysis, strategic planning, educational finance, planning and policy, higher education, institutional performance, and budget and analysis.

Context of the Problem

Two overarching financial trends in higher education make attendance at a small private college and university increasingly difficult to afford for students and their families: (a) escalating costs, driven by a higher inflationary rate in higher education,

along with costs associated with meeting the increasing expectations and needs of students, and (b) declining governmental support to both students in the form of grant and aid, and to institutions in direct appropriations. Escalating costs have increased the sticker price of tuition dramatically, while the decline in governmental student aid and institutional support has placed a greater share of financing a college education on students and their families. These two overarching financial trends threaten access and affordability for students who seek a college education. Given the institution's high level of reliance on tuition revenue, maintaining student access and affordability is essential to ensure institutional viability.

To balance the budget, financial officers have relied increasingly upon raising tuition rates to cover escalating costs. The following graph (Fig. 2-1) notes the dramatic yearly rise in tuition and fees charged at private four-year colleges, as compared with medical cost increases and over-all cost-of-living increases over the past 40 years.

With the dramatic rise in tuition rates, students and their parents have had to assume increasing debt to finance a college education. The percentage of students financing their college educations has increased from 45.5% in 1992-93 to 66.0% in 2010-2011 (Kantrowitz, 2011). The more significant change has been in the size of loans students are taking: The average of $27,204 in 2010-11 represents an increase of $17,884 or 192% from $9,320 in 1992-93. Student loans include both federal and private loans. The graph below (Fig. 2-2) demonstrates the increasing debt burden for students and parents during the 18-year period from 1992-93 to 2010-2011.

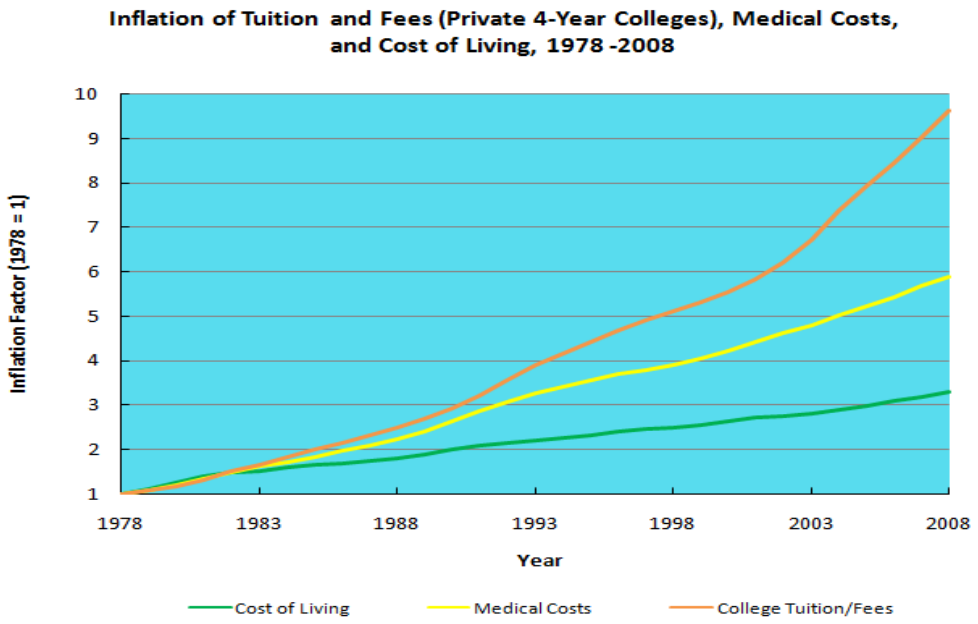

Figure 2-1. Inflation of tuition and fees, medical costs, and cost of living, 1978-2008.

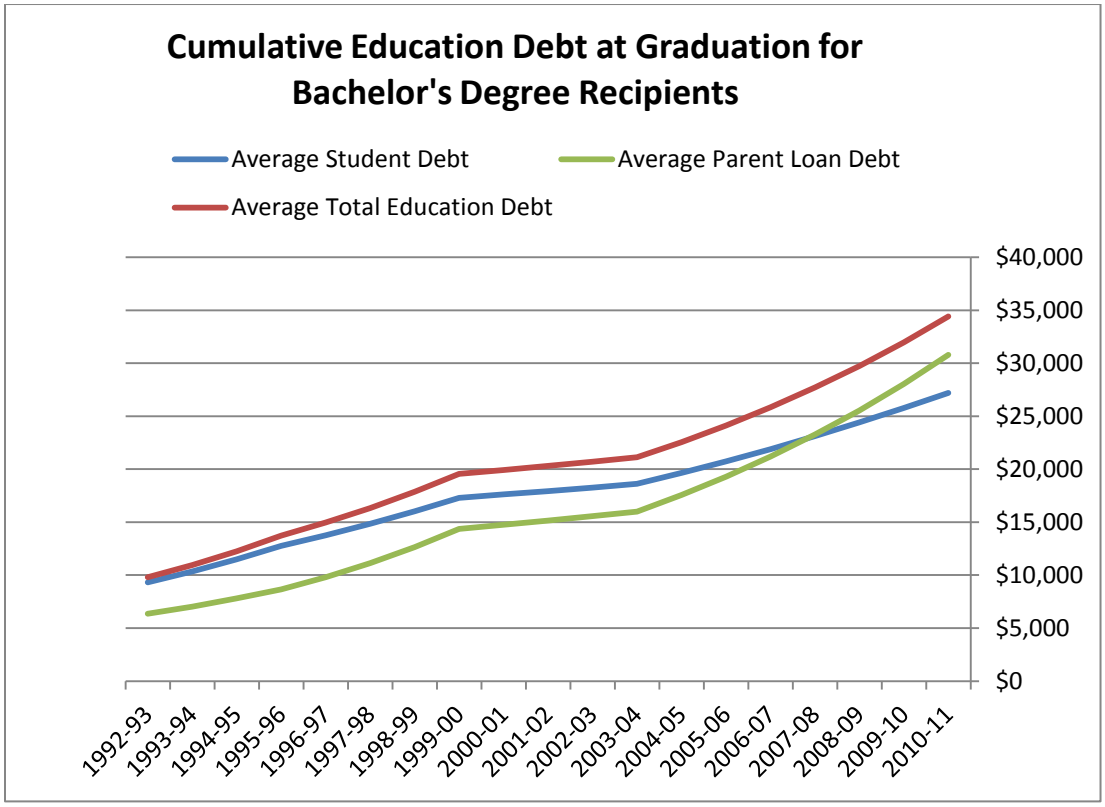

Figure 2-2. Cumulative education debt at graduation, 1992 – 2011.

Besides loan levels assumed directly by students, the amount parents are taking to finance a child's tuition has also increased. For the same period, parent loans increased from $6,351 on average in 1992-93 to $30,784 in 2010-2011 (Kantrowitz, 2011). This change represents an increase of $24,432 or 478%. Escalating loan levels have caused students and their parents to view college attendance as a commodity, an educational experience purchased using substantial student loans. The result places a long-term financial burden on the new graduate and their parent. The long-term solution of raising tuition rates to cover increasing costs cannot continue to be borne by students and their families as a responsible and sustainable institutional practice.

Inflation in higher education. Escalating costs in colleges and universities are driven in part by an accelerated inflationary rate as measured by the Higher Education Price Index (HEPI), which historically has exceeded the inflation rate measured by the Consumer Price Index (CPI) (Commonfund, 2008). Between 1980 and 2010, for example, HEPI increased 263.6% while the CPI rose 179.1% (Commonfund, 2010). Reportedly the HEPI increase was due to the labor-intensive nature of higher education. It was also the result of a concerted effort to increase faculty salaries.

During a time of double-digit inflation in the 1970s, faculty salaries fell by 17% in real terms, from their peak in 1972 to their low in 1980 (McPherson & Schapiro, 1999). This occurred after a program led by the Ford Foundation to increase faculty salaries. The Ford Foundation created its "Fund for the Advancement of Education" in the 1950s. In 1955 the Foundation awarded $210 million to private liberal arts colleges who could not otherwise afford to increase faculty salaries (Thelin, Sanoff, & Suggs, 2006).

After reaching a low point in 1980, faculty salaries for all types of institutions rebounded between 1980 and 2009. Much of the growth occurred during the 1980s, with an increase of 14%, adjusted for inflation (NCES, 2010c). During the 1990s the pace slowed to an average of 5% per year, and through 2009, 4% adjusted for inflation. At private four-year colleges, salaries increased only 9% over the past decade, evidencing the continued difficulty of small private colleges to compensate their faculties at market levels.

Aside from the costs related to salary increases, the shift towards specialization and scholarship of faculty also caused salary costs on campus to rise. The cost of salaries over all increased as faculty moved towards greater specialization and scholarly activity, and away from classroom instruction and other institutional responsibilities. Professional administrative positions were added to fill the gap left by faculty in areas such as advising, tutoring, and student development.

This phenomenon can be seen in the shift from faculty to nonfaculty and non-professional to professional staff during the period from 1976 to 2009. In 1976 at four-year institutions, while 60.8% of staff were faculty, with 39.2% nonfaculty, over-all professional employees constituted 56.7% of total employees and 43.3% for non-professional (NCES, 1998, 2011). By 2009, faculty and nonfaculty ratios had shifted with 53.2% faculty and 46.7% nonfaculty. Professional employees had grown to 76.0% of total employees, with only 24.0% classified as nonprofessional. Today's campus is staffed with a greater percent of professional employees, and of the professional employees, a greater percent represented by non-faculty, compared with 1976.

The historical development of this phenomenon is worth considering further given the substantial costs involved in personnel in higher education. There was a time when private institutions were able to recruit faculty from nearby graduate institutions at relatively modest salaries (McPherson & Schapiro, 1999). The faculty members spent much of their time with students either in the classroom or on campus advising, coaching, or tutoring.

Today, while new faculty members expect a certain level of teaching responsibility, they also want to pursue scholarly research and publication. And as institutions seek to improve their academic reputations, faculty members are expected to be actively engaged in scholarship and other research activities as a condition of tenure and promotion (Stimpert, 2004). Given the specialization of the faculty and dual focus of teaching and scholarship, faculty members have left much of the day-to-day administrative and governance tasks to an expanding cadre of professional administrators. Indirectly and directly this has raised the total cost of salaries on campus.

Directly, the specialization of faculty has increased faculty salary rates in technical areas where there is an undersupply of faculty and an expectation of reduced course loads to support research activities. Indirectly, as faculty shifted their focus to research and publication and away from instructional, advising, and other duties, the resulting professionalization of administration has had a dramatic impact on salary expense. New staff positions have been added on campus, including counselors in wellness centers, professional advisors to assist students in monitoring academic progress, and professional tutors in learning centers.

According to data from the National Center for Education Statistics (1998), since 1976 employee growth rate in degree-granting institutions has been greatest for nonfaculty professional staff. The rate of growth in executive staff has also exceeded the growth in faculty, however, on a smaller base. The trend in growth rates for executive, faculty, and nonfaculty professional staff is noted on the following graph (Fig. 2-3):

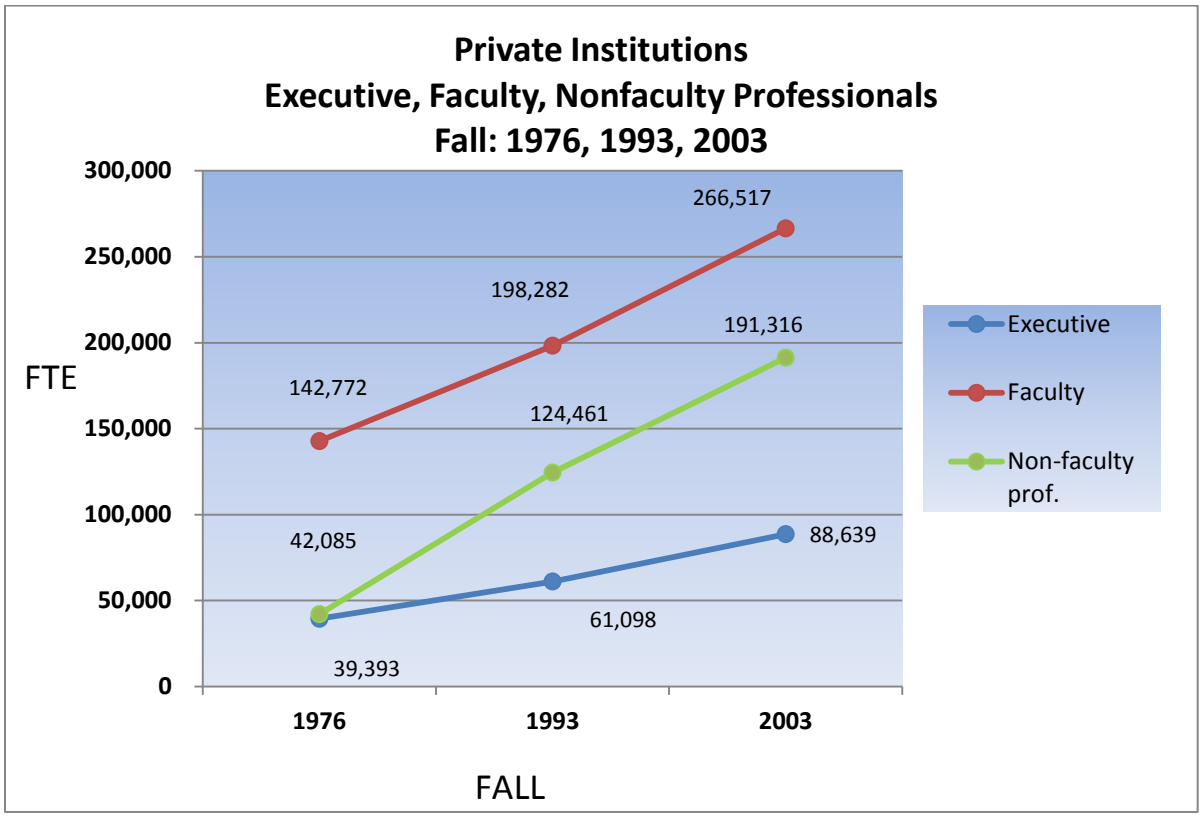

Figure 2-3. Growth rates for professional staff 1976, 1993 and 2003.

Besides salary expense, fringe benefits have been another major cost driver to rising personnel costs in higher education. Health insurance premiums have grown, and employee expectation of health care has expanded. For ten years from 1996 – 2005, employer health plan premiums increased an average of 8% per year, whereas the CPI increased only 2.4% per year (Kaiser Family Foundation, 2011; U.S. Department of

Labor, 2011). Given health insurance premium amounts of $4,024 for single coverage and $10,880 for family coverage in 2005, medical insurance can comprise a substantial expense to an institution depending on the level of employer-funded benefit.

For higher education in particular, faculty benefits have grown substantially faster than salary increases. For faculty fringe benefit costs, the average increase adjusted for inflation from 1979 – 80 to 2008 – 09 was 78%. This compares with the average salary increase during the same time period of 24% (NCES, 2010c). Salary and benefit costs represent a large, fixed component of a small college operating budget. Given the rate of increase and growth in both salary and benefit costs, and the substantial portion of costs associated with salary and benefits, institutional costs in higher education have increased at a significant rate with no apparent end in sight.

Student expectations in higher education. Besides salary and benefit costs, escalating costs are also driven by student expectations and needs. Over the past 40 years, there are a number of identifiable factors that have increased institutional costs as colleges and universities have sought to meet growing student expectations and needs.

Technology in particular has made a dramatic impact on college and university campuses, with $48 billion spent on information technology in education in 2009 and $56 million projected in 2012 (Springer, 2010). In the span of time from 1998 to 2009, student demand for an enhanced living experience including fitness centers and amenities similar to high-end apartment buildings, increased the cost structure for providing residence halls by 200% (Hershey, 2009).

Adding to the increased cost factors driven by student demands are expectations and requirements related to campus safety (at the institutional level and nationwide,

through the implementation of mass-notification systems), as well as compliance demands in high levels of regulatory reporting required by governmental and investment rating agencies such as Moody's Investor Services. Such escalating costs, if not provided for by other sources, are passed on to the student in the form of increased tuition rates.

Decline in governmental support. Government support to higher education has been a major factor in students' ability to attend college and for institutions to focus on research and public service activities. With the establishment of the Guaranteed Student Loan program in 1965, President Lyndon B. Johnson's "Great Society" provided supplemental aid to students who could not otherwise afford to attend college. This program has had dramatic effects, with total funds loaned from 1965 – 1978 at $12 billion, while in 2002 – 2003 over $34.4 billion was loaned in a single year (NCES, 2010d; Williams, 2006).

Over-all government support at the federal level went from virtually non-existent in the early 1960s to $769.5 billion by FY2003, with state support increasing from $.02 billion to $2.1 billion (NCES, 2004). With the growth in support, higher education institutions have come to rely on government support for their operating budgets. Even private institutions rely on the support from federal and state grant and aid programs that provide students with the means to pay for tuition, as well as from state appropriations to fund general campus operations.

The general trend today however is a decline in state appropriations, especially for public universities that rely heavily on state support. While in the academic year 1981 – 1982, public four-year institutions received 44% of their funding from the state, by 2007 – 08 the percentage had dropped to 32.7 (Moody's Investors Services, 2010,

p. 7; Trow, 1989). State appropriations continue to decline in general, with a reduction of 1% in 2008 – 2009 and an estimated 5% in 2009 – 2010, with the continuance of an economic recession nationwide (Moody's Investors Services, 2010, p. 7).

As governmental support declines, especially at the state level, institutions are forced to increase tuition, given no other offsetting funding source. From 1980 to 1998, tuition and fees at public institutions increased 107% in constant dollars, compared with an increase in appropriations of 13% from state governments (National Center for Public Policy and Higher Education, 2002). Owing to the dramatic increase in enrollment during this time, from 12,097,000 to 15,312,000 or 26.6%, institutions receiving less government support have had to raise tuition to cover costs (NCES, 2010a). For public institutions, affordability and access are directly related to the decline in governmental support, which becomes exacerbated by significant enrollment growth. For private institutions, a decline in government support has less impact but still results in rising tuition rates.

At the federal level, the American Recovery and Reinvestment Act of 2009 (ARRA) provided 2.2 billion dollars of stimulus funds for the academic year 2008 – 09 and $3.2 billion in 2009 – 2010 (Moody's Investors Services, 2010). Such Federal financial support however is an artificial short-term solution to offset the decline in state funding. Because ARRA provides one-time funding, it presumes that states will be able to find solutions to fill the gap after ARRA funds are fully expended. Going forward, it is clear that the federal government's ability to support higher education at the same level is overstrained, owing to increasing costs in health services, social security, and interest

expense on debt, never mind the fact that such educational costs are not within the express authority of the United States Constitution (Dennis, 2000).

Unlike state governments, the Federal government's authority to financially support higher education is obtained indirectly. It uses its powers to encourage States to become conduits for national policy, rather than depend upon the Federal government to implement programs directly. For example, the Tenth Amendment of the United States Constitution empowers the Federal government's indirect impact on education through taxation, commerce, as well as civil rights enforcement. "Whenever an education activity falls within the scope of one of these federal powers, the federal government has authority over it" (Kaplin & Lee, 2007, p. 613). So while the federal government contributes substantial financial support to higher education, it does so not through direct constitutional authority, but through indirect avenues that support the national educational agenda.

The federal budget is comprised of 35% discretionary and 65% obligatory spending. The President and Congress appropriate discretionary funds through 13 bills while obligatory spending is mandated by law (U. S. Department of Education, 2011). For the U.S. Department of Education, 88% of its budget comes from discretionary funds, with the balance coming from obligatory funding that provides direct student loan programs. By law the Federal government is mandated to cover the cost of guaranteeing and making direct student loans.

The federal government greatly expanded its student loan programs through the Middle Income Student Assistance Act of 1978, which made all students eligible for subsidies regardless of need (NCES, 2010d). Besides student assistance, the federal

government provides substantial funding for research at educational institutions through such agencies as the National Science Foundation and Health and Human Resources. From 1965 to 2003, federal funding in constant dollars rose from $7 billion to $28 billion for postsecondary education, and $10 billion to $28 billion for research (NCES, 2010d).

The problem, however, has been the shift from student grants and direct appropriations to student aid and either a reduction or an elimination of state appropriations. This shift has directly resulted in increasing tuition rates, as well as student loan levels, over the past forty years.

Increasing tuition rates. In order to balance the budget with escalating costs and declining government support, institutions have had to raise tuition. The graph on the next page (Fig. 2-4) compares average undergraduate tuition and fees charged by about 600 public and 1,350 private, non-profit four-year colleges in the U.S. during years from 1993 through 2004, both unadjusted and adjusted to the year 2004 by using the CPI. Data were not available for years 1994, 1995 and 1999 (Wikipedia, 2011).

For small private institutions that are heavily tuition dependent, increasing tuition is the most direct method to increase revenue and cover rising costs. According to Taylor and Massy, "Student charges have risen faster than either wages or the rate of inflation . . . This rise in charges has produced both a 'crisis of affordability' and the perception in some quarters that higher education is greedy and wasteful" (1996, p. 5). The CollegeBoard (2008) reported that between academic years 1994–1995 and 2008–2009, the average private four-year tuition and fee costs, excluding room and board, books, and related materials, had increased an average of $14,646; from $10,497 to $25,143. That translated into a 10% per year average increase for 15 years.

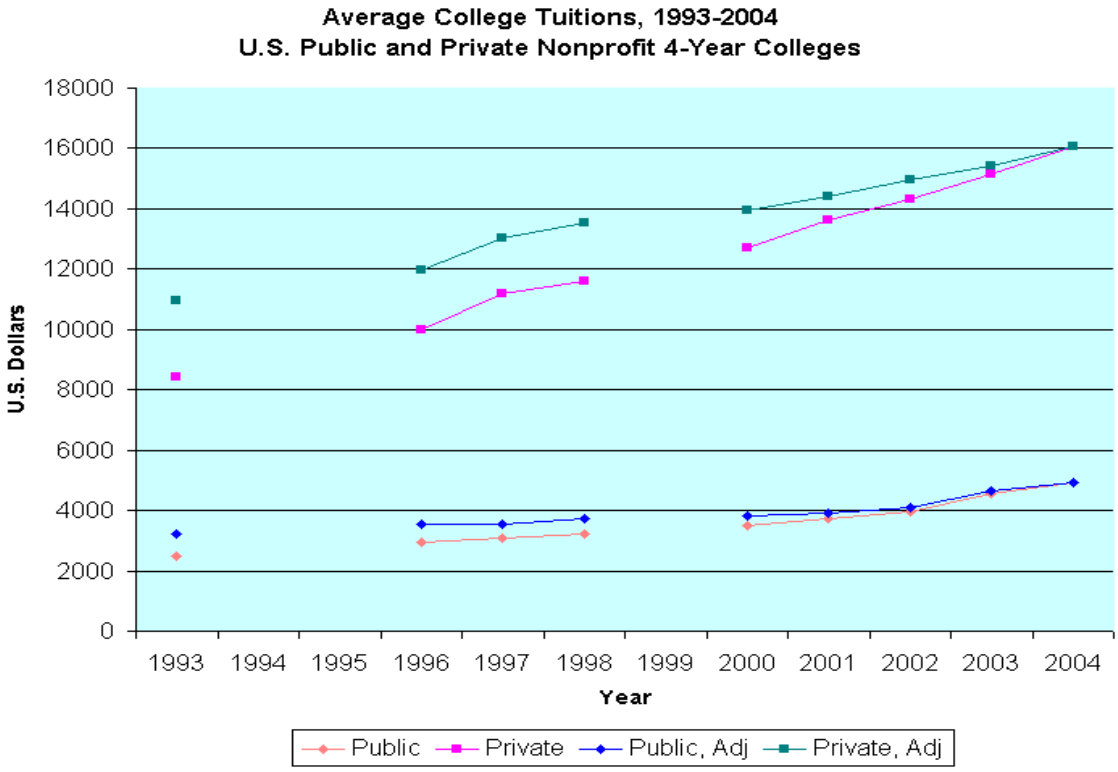

Figure 2-4. Average public and private 4-year college tuition rates, 1993-2004.

Many undergraduate students at private four-year institutions must bear the cost of room and board in addition to tuition and fees. For private institutions, the average all-in rate of tuition, fees, and room and board increased $24,799, from $5,594 in 1980–81 to $30,393 in 2007–08. That represented an average rate increase of 15.8% annually for 28 years (NCES, 2010b). The rate of inflation during that same time frame averaged 5.1% leaving double-digit tuition increases of 10.7% annually for 28 years (U.S. Department of Labor, 2011).

To counter the high "sticker price" of tuition and make private college more widely affordable, private institutions have implemented strategic enrollment pricing and

discount policies. This strategy began in the 1980s in an effort to maximize revenues and fill class seats. It also allowed private institutions the ability to compete with public institutions that have the advantage of lower tuition pricing due to state funding support. As part of the enrollment pricing and discount strategy, complex financial matrices were used to identify merit aid levels to attract high-income students, and aid for middle-income students in order to keep tuition somewhat affordable.

Using financial aid matrices to fill seats in class is referred to as "strategic maximization" (McPherson & Schapiro, 1999, p. 55). The typical student aid package now includes financial grant-in-aid, loans, and work-study jobs for qualified students. For those full-paying students who do not receive grants, their tuition dollars essentially offset students receiving discounts, also referred to as "unfunded aid." According to Bonham (1997), there are "perils inherent in so-called unfunded aid" (p. 12). That peril for private institutions is that much of the tuition discounting is unfunded, and not supported by real dollars such as endowment earnings, but go essentially from the full-paying student to the student with discounted tuition.

The private institution. Private institutions struggle financially to maintain a presence in the higher education market. With public institutions being supported by more substantial governmental appropriations, private institutions are at a distinct disadvantage. For-profit institutions also have an advantage over private institutions in that their business model relies heavily on adjunct faculty, who are paid substantially less than full-time faculty at private institutions. As of Fall 2009, full-time faculty at a private four-year for-profit institutions constituted only 14.7% of total faculty, while at not-for-profit institutions full-time faculty constituted 55.6% of total faculty. While an average

pay rate for adjunct faculty is $2,500 to $3,000 per course, an average salary for a full-time full professor in education is $82,919; the difference in instructional cost between adjunct faculty and full-time faculty is substantial (Chronicle, 2010). Furthermore, adjunct faculty salaries do not include the fringe-benefit packages and corresponding costs that full-time faculty members receive.

While the private four-year institution represents a large percentage of institutions of higher education in the United States, they do not have a large percentage of the total enrollments. As of 2006, there were 4,301 degree-granting institutions of higher education in the United States, including two-year institutions that confer associate degrees only (NCES, 2010a). Small private four-year institutions represented 2,164 of the total (50.3%). In terms of enrollment, there were 17,758,870 students enrolled in degree-granting institutions in 2006. The small private four-year institutions enrolled 1,286,613, or 7.2% of the total enrollment.

The small private institutions do appear to succeed in the basic mission of higher education: graduating students. Between 1981 and 2001, private colleges enrolled 21% of first-year students in the United States, but conferred 37% of the nation's bachelor's degrees (Thelin et al., 2006). Additionally, more than 70% of students at independent colleges graduate in four years and this success applies to students of all racial and ethnic backgrounds. A major part of the success for private not-for-profit institutions is attributed to the close interaction between students and faculty (Thelin et al., 2006). The small size of private institutions promotes the close interaction that proponents claim leads to academic success.

So while successful in graduating students, small private institutions cannot continue to increase tuition rates at an unsustainable pace without the risk of losing enrollment. Solutions need to be considered. One major focus in board governance and institutional leadership has been managing tuition increases through cost control.

Managing tuition increases through cost control. Organizations such as the Association of Governing Boards (AGB) provide institutional leaders with research on efforts to combat the trends of escalating higher education costs. The Cost Project (Wellman, 2008), sponsored by the AGB and funded by the Robert W. Woodruff Foundation, sought to shed light on the dynamics of rising higher education expenditures. Additionally, the study sought to show how institutional leaders and associated boards of trustees might better manage accelerating expenditures by enhanced and strategically focused activities.

The Costs Project's agenda aimed to improve both the interest in and qualifications of boards of trustees on curbing expenditures. To assist boards of trustees and associated institutional administrators successfully navigating the turbulent waters of higher education finances was deemed to be of paramount importance. Historical profiles on all aspects of higher education showed continuously incremental variations, and there was no indication of braking being inherent in the escalating costs. The direct result of escalating costs for small private institutions has been to increase tuition rates at an unsustainable pace.

The focus in managing the steep increase in tuition rates has been to examine institutional expenses through cost management. In 2006–07, the Cost Project conducted a stratified survey of 2,131 AGB member institutions. That survey was made in

collaboration with the National Association of College and University Business Officers (NACUBO) and sampled 733 institutions. There were 151 respondents who claimed that cost management was a very high priority, while another 272 affirmed cost management to be a priority. Twenty-five percent of the responding institutions (N = 183) reported they had provided strategic spending data to their governing boards (Wellman, 2008), and that such data were important to decision-making. Interestingly, only 10 institutions said that cost management was not a priority.

The study findings (Wellman, 2008) did not provide guidance on factors that might increase the usage of data, but disclosed the following four reasons as impediments: (a) insufficient time allocated at board meetings for cost management discussion, (b) other priorities preempted board attention, (c) board members were not prepared sufficiently for meetings, and (d) that the time and effort for institutional management to prepare cost information was deemed to be overly burdensome (Association of Governing Boards, n.d.). Absent the 25% of institutions claiming that they prepared and effectively utilized strategic spending data, the remaining 75% (N = 550) cited multiple reasons for not being engaged in such activities.

Despite acknowledgment that cost management was important, there existed an absence of attention and effort to deliver meaningful cost data to decision makers entrusted with ensuring the institution's financial solvency. Thus the posture adopted by those 550 institutions was tantamount to a rationalized negative attitude toward the process of providing strategic spending data to their boards to support strategic decision making. That finding evoked the metaphor of an ostrich hiding its head in the sand, ostensibly hiding entirely, as a means for ignoring real or potential problems and hoping

the dilemma would vanish. Just as this metaphor is a fanciful interpretation of reality, so is the ignoring the financial data's importance. Financial indicators can provide tools for making cost data more meaningful in strategic decision making.

Financial indicators as a tool in strategic decision making. The use of financial indicators began in earnest in the 1970s with studies conducted by Dickmeyer. By the 1990s, the use of financial indicators had been established formally in higher education with the U.S. Department of Education compliance requirements, as well as debt covenants within banking agreements for bond issues. Financial indicators were being used for compliance requirements and not necessarily for strategic decision making. To expand financial indicator use in strategic decision making would require further investigation and study.

In 1996, Taylor and Massy conducted a study to further the understanding of financial indicators in higher education. The study reported on the utilization of more than 100 strategic financial indicators customarily used during the early 1990s. At the time, higher education was under enormous financial stress due to public pressure to restructure and reform. Tuition rates had increased dramatically, and the tide had shifted from governmental grants for need-based aid to student loans. In order to pay for a college education, students began to take on increasing debt to finance their college experience.

In assuming greater debt to finance a college education, students and their families wanted assurance that superior outcomes justified the tuition rates charged, particularly at private institutions, and the debt students accumulated (Stimpert, 2004). Students and their families also wanted institutions to employ restructure and reform

measures, which would lighten the financial burden of college attendance from students and their families. The approach to regain prior levels of financial access and affordability without diminishing quality became a subject of debate, with tuition pricing driven by governmental support, student expectations, and rising costs at its center.

In response, higher education leaders identified the metaphor of an "Iron Triangle" to explain the quandary of managing cost, quality, and access, where each side of the triangle reacts to changes to another side of the triangle (Immerwahr, Johnson, & Gasbarra, 2008). For example, hiring specialized faculty in a specific discipline to raise a program's quality will increase salary costs. All things being equal, tuition rates will increase to offset the increased salaries. This has the negative impact of reducing access, as less affluent students find it more difficult to finance the higher tuition.

Students and their families, however, did not accept the metaphor of an Iron Triangle, but instead attributed rising costs to a wasteful and mismanaged higher education structure (Immerwahr et al., 2008). The public argued that with better fiscal oversight more students could participate in and benefit from postsecondary education with no decline in quality.

Higher education leaders recognized limitations of family income and turned to government and business leaders to increase their support as a means to offset increasing tuition rates. Like the public, government and business leaders also did not accept the Iron Triangle metaphor. Many believe there is too much bureaucracy in higher education and that institutions need to become more efficient. Efficiency, however relative, has different meanings in the for-profit and not-for-profit world. Business leaders especially identify with a for-profit model, which seeks to maximize economies of scale and

productivity. Achieving economies of scale and productivity in higher education has unique barriers.

For public institutions, economies of scale can be achieved more readily than at small private institutions owing to their size. Public institutions utilize large classrooms to reduce costs on a per-student basis while employing low-cost graduate assistants to instruct large classes. Students accept larger class sizes and the use of graduate or teaching assistants because they appreciate the lower tuition rates public institutions charge. And graduate or teaching assistants desire the valuable experience that actual teaching responsibilities provide to their educational programs.

Private institutions, however, are constrained by their promise of full-time faculty instruction, greater personal attention, and service. This promise is funded and made possible by the higher tuition rate charged at private institutions.

The smaller scale of the residential experience also does not lend itself to economies of scale. Finding large class spaces on campus to host larger class sizes can be difficult. And for the small liberal arts colleges that do not have substantial graduate programs, if any, graduate and teaching assistants are unavailable to instruct lower level classes.

How to address the issue, in part, is limited within the varying expectations of the small private institution and the large public institution. Private institutions promote small class size and greater interaction between full-time faculty and their students. Institutions argue that increasing class size to reduce costs would reduce quality, in part due to the increased faculty workload and resulting lesser opportunity for student-faculty interaction. Full-time faculty are often expected to pursue scholarly research. While

teaching is correlated to productivity in the classroom and revenue generation, scholarly research offers indirect benefits such as institutional reputation, faculty engagement, and opportunities for student research. This further limits opportunities to achieve economies of scale that could otherwise make instructional activities less expensive on a per-student basis.

Both public and private institutions struggle with maximizing the use of their physical plant. With faculty and students leaving the campus en masse for the summer, a large facility goes underutilized for a few months each year, even though a full-cost of overhead continues with costs such as utilities, landscaping, cleaning, and administrative staff salaries. This is also true for winter and spring breaks, when faculty and students leave campus and the campus becomes in large part an underutilized facility with a full composite of maintenance costs.

Despite the noted reasons for greater expense and overhead factors in higher education, the public, government, and business community continue to blame college and university leaders for the high cost of attending college today. To enhance transparency and tell an institution's financial story, university leaders can utilize financial indicators to promote a shared meaning and understanding with the public, government, and the business community as to the key financial issues in higher education.

Major Works

In the 1970s, Peat Marwick Mitchell & Co., a major national accounting firm, published the first edition of *Ratio Analysis in Higher Education* to assist institutional leaders in using financial ratio analysis to understand financial statements of colleges and

universities (KPMG Peat Marwick, 1995). Financial ratio analysis provides a tool for managers and institution stakeholders to measure financial health using available financial data. With each subsequent edition, KPMG provided more information to higher education administrators in order to form an in-depth understanding of ratio analysis that could be applied to their respective institutions.

The purpose of financial ratios was developed to measure the financial resources of an institution, to answer questions about the use such financial resources, and to focus on trends and benchmarks for comparative purposes. Ratio analysis was noted as a "yardstick to measure the use of financial resources to achieve the institution's mission" (KPMG Peat Marwick, 1995, p. VI).

External users, such as banks and investor rating agencies, use ratio analysis as a means to measure relative credit strength as well as an institution's financial health. Measuring credit strength is especially important to institutions that access credit markets for long-term debt financing of campus facility projects. The benefit of successfully managing financial ratios is that improved ratios result in lower interest expense on long-term debt. Credit markets will assess a lower interest rate for higher quality institutions as measured by financial ratios. The improved financial ratio indicates a lower perceived risk of default. This reduces the costs of debt expense to the institution and provides financial resources for other mission-centered purposes. Besides reducing the rate of interest on long-term debt, improved ratios also allow institutions to expand debt capacity and access additional debt financing to enhance campus and academic programs.

Dickmeyer and Farmer (1979) were early pioneers in ratio analysis. They created a model of institutional financial flows predicated on the subject of financial indicators in

higher education. The Federal Office of Education supported their study, which claimed the following three uses for financial indicators: (a) to compare and evaluate one institution with another, or against a group of peer institutions; (b) to understand trends within the industry of higher education by national postsecondary institutions; and (c) to forecast potential problems in order to mitigate them through timely political responses, as appropriate, within the constraints established by federal and state governments.

When exploring the use of financial indicators for predicting institutional health, Dickmeyer and Farmer (1979) noted the Gross National Product (GNP) as a single indicator of fiscal health on a national level. Dickmeyer and Farmer (1979) contended that higher education, however, did not have such a broad indicator of its fiscal health. Instead, Dickmeyer and Farmer (1979) suggested the use of a composite of financial indicators to form a basis for assessing respective fiscal health for colleges and universities. The authors commented that the production of graduates in higher education may be considered an equivalent to GNP. Unexplainably that research did not generate additional scholarship on the topic.

In 1984, Gilmartin found that financial ratios were invaluable for federal and state policy makers. That claim was made on the basis of a longitudinal study of colleges and universities in the United States. The author studied the efficacy of 61 selected indicators of financial viability to validate whether the indicators were correlated to institutional stress. The indicators were selected in coordination with Nathan Dickmeyer, director of the Financial Conditions Project of the American Council on Education at the time. Additionally, the selected indicators were being used in other major research studies to assess the financial position of colleges and universities.

Using discriminant analysis, Gilmartin (1984) developed a composite index of viability as a summary measure to identify financial stress. Using a two-step process, Gilmartin first validated indicators that identified financial distress. The composite used the validated indicators for each sector and weighted them to best identify institutional distress. The composite index was tested for reliability in identifying colleges known to be in distress. For the years 1977 and 1976 the index captured 58% and 83% of the colleges known to be in distress.

Gilmartin (1984) recommended that further research explore three issues as a result of the study: (a) actions colleges may take to become more viable in the future; (b) governmental policies that could be pursued to benefit colleges in distress; and (c) the quality of education students receive at colleges with low viability scores. Future research suggested that institutions need to understand the actionable steps that can be taken to improve institutional health and to understand whether quality is affected by viability. Essentially, financial indicators provide information, but do not necessarily develop sufficient understanding to support strategic decision making.

Chabotar (1989) was another early leader in applying financial ratios previously used by for-profit industry to not-for-profit organizations. The for-profit industry historically had used financial ratios to provide a better understanding of financial condition and institutional priorities. Return on investment and net earnings were two key ratios that corporate leaders used to monitor trends and assess financial performance. Other ratios included the debt-to-equity ratio to measure financial flexibility, as well as the analysis of receivables inventory and turnover to monitor cash flow from the sale of products and services.

Chabotar (1989) compared and contrasted the use of ratio analysis by for-profit business with not-for-profit organizations, especially colleges and universities. While both for-profit and not-for-profit entities need to monitor long-term financial stability and trends that indicate operating effectiveness and financial health, not-for-profit organizations do not share the objective of enhancing shareholder wealth. In this instance, not-for-profit organizations have no shareholders or owners who can buy or sell shares. Instead, not-for-profits are motivated by fulfilling a mission unrelated to shareholder wealth.

To fulfill mission, institutional leaders need to generate financial resources, funds remaining after total expenditures have been paid. The greater the available financial resources, the more the institution can support new and expanding activities aligned to the mission of the organization. At the same time, however, the converse is true. With limited financial resources, the institution is constrained in its pursuit of mission-centered activities.

Because of the varied focus of not-for-profits, Chabotar (1989) described several types of ratios that can be used to measure institutional financial health. The types focused on liquidity or institutional financial flexibility, debt or institution borrowing capacity, and net operating results to generate financial resources.

The first type, liquidity ratios, measure the institution's cash levels for meeting payroll and paying bills. Three frequently used liquidity ratios include: (a) Current Ratio, (b) Quick Ratio, and (c) Available Funds Ratio. The Current Ratio measures the level of ability the organization has to pay its bills on time without depleting cash reserves. It is computed by dividing unrestricted current assets by unrestricted current liabilities. While

a ratio of 1.0 to 1.0 is recommended, a higher ratio of 2.0 to 1.0 may indicate an overly cautious use of reserves could otherwise be diverted to further promote the institution's mission.

Debt was another important area Chabotar (1989) described for financial analysis use by not-for-profits. Two standard ratios include the Debt-Equity Ratio and the Debt-Service Ratio. The Debt Equity Ratio measures the level of debt to fixed assets and is computed by dividing Plant Debt from Net Investment in Plant. The Debt-Service Ratio is computed by dividing Debt Service (principal and interest payments) from Total Operating Revenue. The use of debt can help institutional leaders smooth the cyclical nature of cash flows and finance capital projects such as new residence halls and classroom buildings.

The third type, net operating results ratios, measures the ongoing financial health of an institution. The ratio is computed by dividing Net Total Revenues by Total Revenues. As discussed earlier, not-for-profits do not exist to increase shareholder wealth and maximize profits, but to generate financial resources within a balanced budget where revenues meet or exceed operating expenses over the long term. Net operating results provide an indication of the rate of operating performance; a positive rate results from revenues that exceed expense.

Chabotar (1989) found in not-for-profit institutions, including the majority of colleges and universities, that ratio analysis was invaluable to stewardship and accountability. Ratio analysis was used as a tool to guide management in strategic decision making. It was found more useful in a comparative basis with like organizations, or over time in observing trends for the same organization.

Chabotar (1989) noted that ratios by themselves however do not determine financial health or financial decline, but serve instead as an “early warning system” of institutional financial stress (p. 189). Early indications, however, do not answer or resolve financial issues. They only provide management with symptoms for further review and action.

Chabotar (1989) explored the use of financial ratios through use of a case study that featured an actual not-for-profit university. After significant financial stress in the 1970s due to excessive debt and unfunded pension liabilities, the institution’s president in the case study claimed that the university’s financial performance had improved. Through ratio analysis, Chabotar demonstrated how such claims could be verified using financial ratios based on university financial statements.

Chabotar (1989) cautioned that ratio analysis is limited for drawing conclusions on institutional financial condition and making comparisons with like institutions. When Chabotar wrote his article in 1989, not-for-profit organizations did not have a set of uniform accounting practices. The lack of uniform or standardized accounting practices resulted in difficulty when comparing ratios among institutions. In fact, ratio analysis could produce misleading results.

This disparity in accounting practices was mitigated with the adoption by the Financial Accounting Standards Board (FASB) of Financial Account Statement (FAS) 116 and 117 in 1993, and FAS 124 in 1997. FAS 116, 117 and 124 went a long way in improving the comparability of not-for-profit financial statements (FASB, 1993a, 1993b, 1995).

FAS 117 was a key driver for allowing financial statement comparability. FAS 117 established standards for general-purpose financial statements and adopted a proscribed set of statements. These include a statement of financial position, a statement of activities, and a statement of cash flows in order to enhance understandability and comparability (FASB, 1993b). Financial statements required net asset accounting instead of fund accounting for net worth presentation. Net assets were divided into three classes to disclose any donor-imposed restrictions. The three classes of net assets included: (a) permanently restricted, (b) temporarily restricted, and (c) unrestricted.

Although not so significant as FAS 117, FAS 116 established accounting standards for contributions, as well as pledges and gifts, promised to an institution (FASB, 1993a). FAS 124 required that non-profit institutions record unrealized gains as a source of revenue (FASB, 1995). This practice was previously done by choice. After the three FASB releases, institutions were required to adhere to a standardized financial reporting methodology that provided greater comparability for not-for-profit financial data.

Ten years after Chabotar's (1989) research, Buddy (1999) took the use of financial ratios one step further. Buddy grouped a set of financial indicators in order to summarize the financial condition of a higher education institution. Buddy selected six higher education institutions in Oklahoma to test a set of financial indicators in evaluating and comparing the financial condition of the institutions.

The following chart (see Table 2-1) lists the financial ratios Buddy (1999) used to evaluate the Oklahoma institutions.

Table 2-1

Financial Ratios Used in Buddy (1999) Research

Measures of Liquidity:		
Current Ratio	Unrestricted current assets / Unrestricted current liabilities	Indicates institution's ability to meet current obligations. Focuses on those items convertible to cash within one accounting cycle, benchmark of 2:00 to 1:00
Quick Ratio	Unrestricted current assets less inventories/ Unrestricted current liabilities	Focuses on more liquid assets, benchmark of 1:00 to 1:00
Available Funds Ratio	Cash + Short-term investments / Unrestricted current liabilities	More conservative, identifies true cash position, benchmark of 1:00 to 0.75.
Measures of Debt Structure:		
Debt to Equity	Plant debt/ Net investment in plant	Tests capacity to increase long-term debt financing, benchmark of 1.00 to 0.33.
Debt Service	Debt service/Operating revenue	Measures relationship of principal and interest payments to revenue generation, benchmark of 20 percent.
Contribution Ratio	Sources of revenues/Total expenditures	Indicates trends in revenue support and dependency
Expenditure Ratio	Expenditures by program or function/Total expenditures	Indicates institutional priorities with trends exposing shifts
Net Operating Results	Net total revenue/Total revenue	Positive ratio indicates surplus with negative results as deficit

In the study, Buddy (1999) claimed that selected ratios were more effective when used in trend analysis, comparative analysis with budget and national norms, and inter-institutional comparisons. By viewing the ratio outputs over time, Buddy suggested thatfinancial leaders may identify shifts or changes that need further review. Additionally, when assessing one institution's ratio outputs with like institutions or industry averages, a financial leader may identify whether results are unique to the

institution, are driven by external factors, or are experienced in general at a national level in higher education. Buddy concluded that the results from the study justified attempts "to bring the cause-and-effect ratio analysis from the business world into the higher education arena" (1999, p. 63). The cause and effect ratios included 15 key financial relationships where financial position would be the result of particular cause or causes. The study found that five of the nine effect ratios and three of the six cause ratios could be applied to the not-for-profit service industry for making policy decisions. The chart (see Table 2-2) on the next page lists the ratios applicable to not-for-profits:

Table 2-2

Financial Ratios Used in Not-for-Profit Service Industry

Effects Ratios (5)	
Current Ratio	Can measure margin of safety in meeting current obligations and ability to achieve institutional goals.
Current Liabilities to Net Worth	Can measure operating freedom while high ratios may indicate greater financial distress.
Total Liabilities to Net Worth	Measures level of claim creditors have on the institution.
Receivables to working capital	Represents dependence on receivables in working capital
Long-term Liabilities to Working Capital	Measures extent of borrowing for current operations.
Cause Ratios (3)	
Fixed assets to net worth	Measures level of institution value invested in non-liquid assets.
Revenues to net worth	Measures extent that current operating funds are supported by institution's value. High ratio may indicate stretching resources or being highly leveraged.
Miscellaneous assets to net worth	Indicates possible restriction on working capital or lost productivity if high ratio.

While Buddy's (1999) analysis discussed issues to consider in a cause and effect relationship, it did not examine how such analysis is used to make meaning of the ratios, or for strategic decision making by institutional leaders. Buddy explained that computing the financial ratios was only a first step in analyzing financial position. Besides quantitative ratio analysis, Buddy suggested adding nonfinancial performance data such as enrollment trends to enhance understanding of institutional financial condition.

From the study results, Buddy confirmed that 'no single measure captures the "financial health" of an institution' (1999, p. 13). Buddy did not address how such ratios could form a composite index or be grouped for further analysis and meaning. Nor did she indicate how such ratios could be presented to create greater meaning to further strategic decision making.

In a study conducted by Lee (2008), financial health was assessed using a blended ratio analysis. The survey queried 766 private colleges and universities to determine if financial ratios provided discriminating capabilities in relationship to using a blended group of ratios.

The study used the Composite Financial Index (CFI) developed by Prager, Sealy & Co. and KPMG (2005). In its third edition on ratio analysis, Peat Marwick, now KPMG, LLP, and Prager, Sealy & Co., LLC, (1995) focused on financial ratios for private institutions. This effort resulted from the issuance of FAS 116, 117, and 124. The new standards promulgated a shared meaning of accounting rules to be applied to not-for-profit entities. KPMG (1995) proposed that a select few ratios could be blended into a composite ratio to measure how well an institution was doing in achieving its goals and mission.

The Composite Financial Index was based on four core ratios that were weighted and combined into a simple calculation that could be presented graphically. The graph (Fig. 2-5) on the next page displays an example of the CFI ratio computation and graphical representation:

CFI Graphical Presentation Example

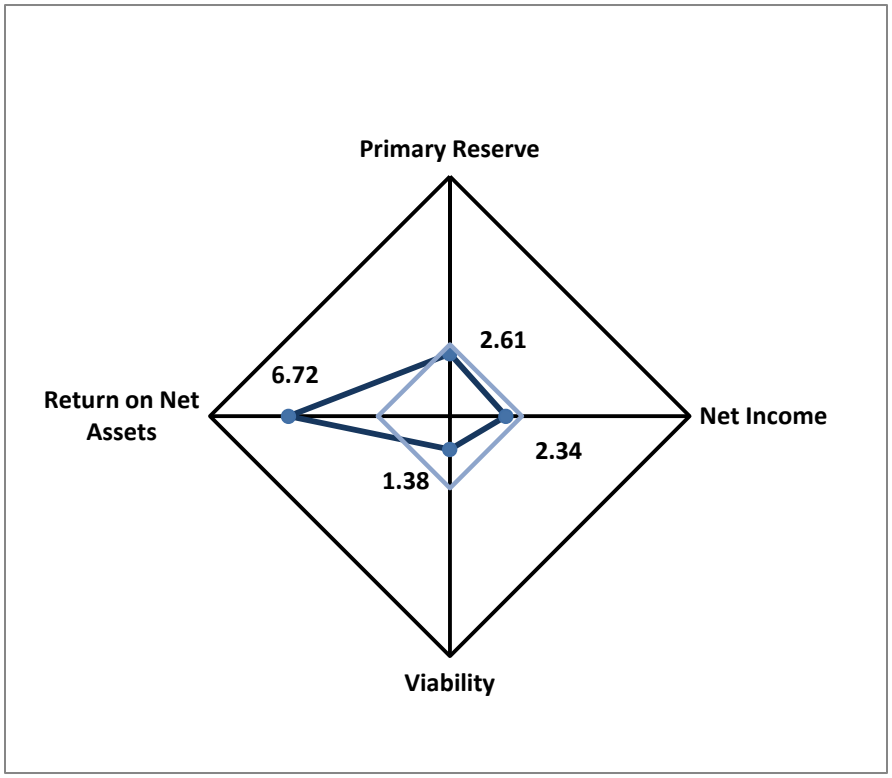

Figure 2-5. CFI graphical presentation example.

Table 2-3 shows the CFI core financial ratios and weighting factors are provided to support the graphical presentation above.

The four core ratios include the primary reserve ratio, net operating revenues ratio (net income), viability ratio, and return on net assets ratio. The objective of blending the

Table 2-3

CFI Core Financial Ratios and Weighting Factors Example

	FY 2010		
	Strength Factor	Weight Factor	Score
Primary Reserve	2.61	35%	0.91
Net Income	2.34	10%	0.23
Viability	1.38	35%	0.48
Return on net Assets	6.72	20%	1.34
Composite Financial Index			2.97

four ratios was to measure financial health into a single factor, where one ratio's strengths are allowed to offset a potential weakness in another core ratio. The maximum score obtainable was 10.0. A score of 3.0 indicated a minimum desired level of financial health and was captured in the internal box on the graph.

The advantage to the model KPMG and Prager Sealy (Prager et al., 2005) developed is its graphical presentation, which allows the reader to readily see where institutional strengths and weakness exist. In the example above, the return on net assets extends well beyond the inner square of 3.0 to 6.72. Alternatively, net income is slightly under the 3.0 at 2.34, indicating a need to improve the operating surplus of the institution.

Lee (2008) found that ratios such as capitalization rates, capital spending, endowments, tuition subsidies, and revenue contribution levels also provided discriminating capabilities and were correlated to the level of institutional strength. Institutional strength was assessed based on Composite Financial Index (CFI) scores as the determinant of financial viability.

Lee (2008) referred to Brubacker's (1979) daunting list of 300 usable ratios when he noted that selecting the most pertinent and meaningful group of ratios can be overwhelming for most college administrators. In his study, Lee (2008) identified specific ratios to target specific emerging trends in higher education, such as the growth in minority students, and to assess areas known to affect financial health such as usage of debt and capital spending levels.

Lee (2008) used capital ratios to predict financially viable and non-viable four-year not-for-profit colleges grouped by CFI results. Lee found that capitalization and capital spending rates were significant predictors of financial viability. The capital spending ratio measured the annual investment in capital facilities compared to the level of annual depreciation expense. The higher ratio indicated that the institution was investing and increasing the book value of property, plant, and equipment, compared with the level of depreciation expense.

Lee's (2008) realization in using the capitalization rate was the need to disaggregate capitalization between financial net assets and physical net assets. Although capitalization rates were found to be a significant indicator in predicting financial viability, institutions with higher financial net assets were more likely to be financially viable than institutions with higher physical assets to net assets. Without further analysis into the type of capitalization, however, a misleading result may have been obtained. This point of note demonstrates the complexity of ratio analysis in drawing accurate conclusions.

Besides disaggregating the capitalization rate to ensure accurate financial ratio outcomes and corresponding meaning, Lee (2008) suggested that different periods of

time may result in different findings due to the volatility of the investment markets, or the cyclical rate of capital spending. While Lee described the potential caveats of drawing conclusions from ratio analysis, he did not suggest how institutions may avoid any misinterpretation of results through improved understanding or how to achieve a greater understanding for strategic decision making.

While Lee used the CFI in his study to assess financial health, another similar composite measure had been developed in the 1990s for use by the U.S. Department of Education to assess institutional financial health. The U.S. Department of Education ratio is known as the "Composite Score" and uses three ratios to measure financial health: (a) the primary reserve ratio; (b) equity ratio; and (c) net income ratio. Based on a weighting of the three ratios, the resultant composite score measures financial health. A score of 1.5 or higher indicates financial responsibility. Scores less than 1.5 but 1.0 or higher, require oversight. Scores less than 1.0 indicate that the institution is not financially responsible and requires further action by the U. S. Department of Education (e.g., cash monitoring and provisional certification to participate in Title IV programs).

In a recent article in The Chronicle of Higher Education (Blumenstyk & Richards, 2010), there were 149 not-for-profit institutions whose Composite Scores were less than 1.0, as measured using FY2009 financial data. The entire list of institutional scores is available from the Federal Student Aid Gateway. Given the added financial stress on institutions beginning Fall 2008 with the liquidity crisis and economic downturn, it is not surprising that institutions that failed the test increased over the prior year, or 23 more than 126 in FY2008.

The U.S. Department of Education uses the Composite Index to monitor over-all financial health of higher education as an industry. The Higher Education Act of 1965 as amended requires all for-profit and not-for-profit institutions to submit audited financial statements to the U.S. Department of Education on an annual basis. The financial statements are used as a basis to demonstrate institutional financially responsibility in administering Title IV programs. From the audited financial statements, the U.S. Department of Education computes an institution's Composite Score. The U. S. Department of Education uses the Composite Scores as an alert mechanism to monitor actions it may need to pursue to ensure educational policy objectives are managed at a national or state level.

Redenbaugh's study (2005) explored the use of management accounting tools for planning and cost control. Management accounting tools differ from financial indicators because they function as an expanded multi-tiered financial ratio. An example is break-even analysis or variance analysis, which leads more directly to strategic decision making. In a break-even analysis, the potential revenues and expenses are charted on an annual basis to determine the length of time required until revenues equal total expenses and the program "breaks even." Knowing this time length permits decision makers to decide if the program should be implemented or if it is not financially viable and not to be pursued any further. Financial ratios, on the other hand, need to be considered with other ratios and even in a composite grouping to indicate a particular financial profile or condition. Financial ratios do not lend themselves to strategic decision making as readily as management accounting tools.

The purpose of Redenbaugh's study was to understand the perceived usefulness and effectiveness of management accounting tools and the potential or actual barriers to their application in institutional management. A total of 400 chief financial officers of Carnegie classification of Baccalaureate College-General and Master's II institutions participated in the study.

Redenbaugh (2005) found that financial officers did not use management accounting tools to any great extent. Private institutions of higher education were found to place greater emphasis on such tools than public institutions. Financial officers in small private colleges and universities found variance analysis to be effective, while financial officers with prior accounting experience in private companies or public accounting firms used Return on Investment analysis for plant decisions and RCM (Revenue Cycle Management) more so than did their non-profit counterparts.

The findings also indicated that the educational background of financial officers and institutional characteristics were not correlated in the use of management accounting tools. Professional certifications such as a Certified Management Accountant (CMA) or Certified Public Accountant (CPA), as well as accounting experience either in a private company or public accounting firm, however, were significant factors in the use of management accounting tools.

Hiring qualified accountants with CPA designations in higher education has become increasingly difficult. Most states increased the credit hour requirements from 120 to 150 credit hours in 2008. There is also increased corporate demand since the passage of the Sarbanes-Oxley Act of 2004.

Besides such barriers to employing qualified accountants, there are also barriers to using the management accounting tools in practice. Redenbaugh (2005) cited barriers such as shortage of time and resources, culture of the institution, lack of interest, competency of staff, and unwillingness to change.

In order to increase the use of management accounting tools by financial officers, Redenbaugh (2005) proposed professional development and hiring experienced accountants from private companies or public accounting firms. Additionally, Redenbaugh suggested educating the board on the value in using such tools. In addressing cultural reluctance to change, Redenbaugh recommended the financial officer become a change agent in communicating the value of management accounting tools to colleagues. Ultimately, Redenbaugh suggested that additional research was warranted to explore this apparent disconnect between perceived value as a decision-making tool and lack of use by financial officers.

Prinvale (1992) focused her study on strategic planning in higher education. She wanted to understand how formal planning can support positive change as measured by financial ratios. Prinvale focused on three areas in her quantitative study: (a) lack of clarity in defining what was meant by strategic planning; (b) effectiveness and efficiency in using strategic planning; and (c) correlation between decision making in higher education with that of strategic planning.

The goal of the research was to test the hypothesis that improvement in the financial condition of an institution was not affected by institution-wide strategic planning efforts. The study included 873 four-year private colleges and universities in

the United States. The independent variable was institution-wide strategic planning and the dependent variables are noted next to the following financial ratios:

- total assets to total liabilities (financial strength),
- endowment income to total educational and general revenues (financial independence),
- tuition and fee revenues to total educational and general revenues (tuition dependence), and
- unrestricted funds balances to total educational and general expenditures plus mandatory transfers (liquidity).

Study results indicated no significant predictive ability when strategic planning was regressed on each financial ratio examined. There were no statistically significant differences in average percent changes in fiscal condition between those that had institution-wide strategic planning and those that did not. An interesting finding indicated that the level of involvement in institution-wide planning was somewhat high for senior level administrators but not for faculty. Similarly, 80% of institutions reported that their senior management and boards agreed strongly that planning should be conducted, while only 40% of their faculty agreed strongly. Involvement in the planning process was especially low among faculty members, due in part to planning being too time-consuming. Another discovery was that planning was not incorporated into the internal structure and process of the institution.

There was evidence that the lack of predictive ability probably was related to a "mismatch of assumptions concerning decision-making behavior" (Prinvale, 1992, p. x). That mismatch appeared in the different goals a postsecondary administration and its

faculty had with institutional performance a goal of the administration, versus scholarship and new learning as goals of the faculty.

Advocates for strategic planning in Prinvale's (1992) study argued that such activity benefits an organization through its improved financial condition. Involvement in the planning process by participating faculty members was regrettably low, which Prinvale attributed to the existence of conflicting goals in higher education (Prinvale, 1992). Administrators focused on "bottom line" solvency regardless of their area of specialty (i.e., student services, finance, building and grounds, physical plant, academics), with faculty persons displaying loyalty to their disciplines rather than to an institution as a whole. Furthermore, within disciplines there was variation among faculty members, with some projecting the view that it was more important to consider the local neighborhood (institution and community), while others sought to advance a national and international reputation. Thus the Prinvale study began with a faulty assumption that all members of the faculty supported the belief that institutional goals took priority.

Prinvale's (1992) study was conducted at a time when strategic planning was beginning to be in vogue in higher education. There was limited if any consideration allocated to measurable outcomes and promotion of change and financial health of an institution. The author did not explore how financial ratios could be used to overcome the mismatch of conflicting goals between the administration and faculty and improve financial condition.

In another study, DeLegge Grandgenett (2007) investigated whether relationships existed between strategies deployed at small not-for-profit private institutions and financial performance as measured by the CFI score. In a longitudinal study from 1998

to 2005, DeLegge Grandgenett tested hypotheses of relationships between institutional strategies, leadership and governance, innovative strategies, and financial performance. Strategies were the independent variables, while financial performance was the dependent variable.

The quantitative phase of the study used the survey instrument Small Institution Survey Inventory (SISI) to identify and rank the extent to which institutional leaders deployed specific strategies. The longitudinal study included institutions with 200 to 2,999 students in the Midwest. Where the Chief Financial Officer (CFO) position had a new incumbent, the institution's president was asked to complete the survey.

The purpose of the study was to explore relationships among strategies including enrollment management, and curriculum and instruction on institutional financial performance. From the 161 institutions that participated in the study, findings did not indicate relationships among changes in strategies and external factors and change in financial performance in the CFO score.

While all institutions in the sample reported changes in strategies, financially stronger institutions changed strategies the least. This finding supported earlier research by Kraatz and Zajac that found institutions less likely to react strategically to competitive pressures if they had stable resources and better reputations.

DeLegge Grandgenett (2007) noted that a limitation of the study was the lack of adequate time to capture any relationship from strategic planning to effect institutional change. The findings also indicated insufficient evidence to conclude that any particular strategy or external factor affected financial performance.

DeLegge Grandgenett (2007) proposed further research to determine if insufficient resources, “historical academic inertia,” ineffective governance models, or out-of-date consultant recommendations guided the strategies chosen (p. 164). This implied that the strategies selected were ineffective in improving financial performance rather than any lack of institutional commitment in carrying out the strategy.

A case study conducted by Talboys (1995) examined the fiscal health of four private religious universities in the Southwestern United States through the use of financial ratios. The author related the use of specific financial ratios to strategic planning and the subsequent allocation of resources. The ratios chosen for the study were selected because of their computational ease and readily available data.

The ratios focused on areas with the most impact on institutional performance, such as enrollment growth, as well as financial health over the long-term. The following chart (see Table 2-4) lists those ratios Talboys (1995) selected for the case study.

Talboys (1995) used the ratios to assess financial health from a historical perspective noting that such indicators cannot predict future performance. As a limitation, Talboys noted that ratios need to be considered in context with the entire institutional environment, as well as on a comparative basis with similar institutions and industry averages.

Talboys (1995) explained that ratio analysis should readily allow institutional leaders to “easily see the answers to simple questions about the financial standing of the institution” (p. 16). To support ratio analysis, the presentation of data should be organized to be useful to decision makers as well as descriptive of the “financial story” of the institution.

Table 2-4

Ratios Used in Talboys' Study (1995)

Revenue structure rations	Tuition and fees as a percentage of total revenue
	Gifts as a percentage of total revenue
	Endowment support as a percentage of total revenue
Expenditure structures	Instructional expenditure as a percent of total current fund expenditures
	Instructional expenditure per FTE student
	Academic support as a percent of total current fund expenditure
Resources and Reserves	Current fund balance this year as a percent of current fund balance last year
	Long-term debt as a percentage of total liabilities
	Assets as a percent of total liabilities (current ratio)
	Current unrestricted assets as a percentage of total assets (Asset test ratio)
Endowment Ratios	Endowment as a percentage of total assets
	Endowment per FTE students
Development Ratio	Total restricted funds as a percent of total current funds
Physical Capital ratios	Plan operations and maintenance as a percentage of current fund expenditures
	Deferred maintenance as a percentage of replacement value of the plan
Information Capital Ratios	Library volumes per FTE student
	FTE students per microcomputer
Human Capital Ratios	Percentage of total FTE students that are part-time
	Increase or decrease in enrollment
	Institutional Grant Aid as a percentage of tuition income
	Tenure status of FTE faculty
	Percentage of FTE faculty that are part-time
	Ratio of FTE faculty to FTE students

The author (Talboys, 1995) found that basic financial data needed for routine planning often was unavailable and that financial information provided to trustees and decision makers was too complicated, out-of-date, or lacked a consistent format. Talboys proposed a simplified presentation for a ready understanding of financial data. A combination of indicators was identified that presumably provided the most accurate assessment of an institution's financial condition. However, the study concluded that institutional diversity precludes a simple, standardized use of ratio analysis and instead must be selected based on the specific characteristics of the institution under review.

Summary

Over the past 40 years, the use of financial indicators in higher education has developed and expanded. The U.S. Department of Education uses a Composite Score to measure financial health and gauge institutional responsibility regarding Title IV funds. Institutions can also use such composite ratios, or access the variety of individual ratios to manage institutional viability. There does not seem however to be consensus on how best to use such financial ratios, or on their value to decision makers.

As accounting standards have been refined and reformed, a major hurdle to using financial ratios for comparative purposes has been lessened. With the standardization of accounting principles in 1995, financial data is more readily comparable among non-profit private institutions in higher education. Based on the annual audited financial statements, such data is also readily available.

Using the data for strategic decision making, however, seems to be impeded by a number of assumed variables. These include the complexity and number of financial ratios, the limitation of resources available to support use, the lack of interest,

understanding, or shared use among financial officers in higher education, and finally some indifference to the usefulness of application. None of these variables seems to have been researched to the point of any significant and actionable findings. This study seeks to examine the use of financial indicators in decision making so as to aid their use or expel the myth of their value.

Chapter III

Methodology

Overview

This chapter describes the research methodology that was utilized in the research study. Included is a discussion of the research design, site and sample selection, role of the researcher, data collection, managing and recording data, ethical considerations, data analysis, credibility, and verification in conducting the study.

Research Design

According to Creswell, "We conduct qualitative research when we want to empower individuals to share their stories" (2007, p. 40). Additionally, qualitative research allows the researcher to "understand the contexts or settings in which participants in a study address a problem or issue" (Creswell, 2007, p.40). The researcher used a qualitative multiple case study design to answer the primary and supporting research questions. This served to explore how institutional leaders use financial indicators in strategic decision making, as well as to inform their governing boards of the institution's financial health.

The primary research question or "grand tour question" asked, "Do small private colleges and universities in the Midwestern United States gather data, including financial and key performance indicators?" To explore the primary research question in greater depth, the researcher added the following two supporting questions in the study:
(a) What financial and key performance indicators do institutions gather and how do institutional leaders use this data to inform strategic decision-making? and (b) How do

small private colleges and universities create awareness and understanding from financial and key performance indicators?

The researcher selected the case study design for the study in order to obtain an in-depth understanding of the situation, since the interest is in process and context instead of outcomes and confirmation (Merriam, 1998). Case study design allows the researcher to explore the problem "through one or more cases within a bounded system" (Creswell, 2007, p. 73). Each institution selected for the study represented a case or "portrait" to allow the researcher a representation and understanding of the phenomenon (Merriam, 1998). According to Merriam (1998), "the more cases included in a study, the more compelling an interpretation is likely to be" (p. 40). Using a multiple case study approach allowed the researcher to compare and contrast her findings between institutions and between key financial leaders at each institution using cross-case analysis.

The case study methodology used for the research study was both descriptive and interpretative. The case study design provided the researcher access to explore a detailed account of the phenomenon as well as suggest relationships between variables in order to construct theory. Interpretive case studies are also known as analytical case studies based on their complexity, depth, and theoretical orientation (Merriam, 1998, p. 39; Shaw, 1978). Important in case study design is the recognition that context is inseparable from the phenomenon's variables (Yin, 1994). Through intensive descriptions, the researcher can explore the variables and settings in a much more intimate manner.

The descriptive nature of a case study also allowed the researcher to capture the personalities that influence the phenomenon. The researcher conducted telephone

interviews with each institution representing a case in the research study, and each of the three key individuals interviewed from each institution as subcases. As anticipated prior to the study, the researcher found a level of commonality in the cases selected in how institutional leaders manage financial health (Nagy Hesse-Biber & Leavy, 2011).

While the case study design provided the researcher the depth of study desired, the researcher also understood the limitations of case study research. Because case studies focus on a single or limited number of cases, case studies can oversimplify or exaggerate the phenomenon as the sample size is limited and only a small part of the whole is under investigation. The limited scope of case studies also reduces the generalizability of the study. By using a multiple case study, the researcher employed a cross-case analysis to aid in improved generalizations about institutional leader's use of financial indicators in strategic planning (Merriam, 1998). The use of multiple cases also enhanced the external validity or generalizability of findings and served to mitigate an oversimplification or exaggeration of the phenomenon (Merriam, 1998).

Alternatively, Erickson found that the goal of interpretive research is not generalizability, but instead for the researcher to apply specific findings from a particular situation to a similar situation thereafter (Merriam, 1998). This is analogous to applying learned behavior to support and improve future experiences. Merriam explained that the application of learned behavior is how people "cope with everyday life" (1998, p. 210). Although interested in discovering generalizations of how institutions may use financial indicators for strategic decision making, the researcher was also interested in developing a set of best practices that can be transferred to other private institutions and "support and improve future experiences" towards financial health.

Besides the lack of generalizability, another weakness in case study design is the potential effects from researcher bias. Bias results from researcher subjectivity and can reduce the level of rigor in the quality of case study research. At its worst, researcher bias can distort data findings during the observation, collection, and interpretation of data resulting in inaccurate conclusions. During the study, the researcher consciously strove to set aside preconceived ideas and understandings during data collection and while interpreting results to protect the accuracy of the data. At the same time, the researcher's personal filters as a financial officer at a small, private institution enhanced her understanding of the data collected and expanded her ability to merge findings.

The time and effort required of the researcher to conduct case study research can be both time consuming and costly. With a multiple case study, the time and effort required to conduct the study increases commensurate with the number of cases selected. The use of telephone interviews allowed the researcher to collect a thick, rich description of the phenomenon and provide meanings and intentions for context while minimizing time and costs associated with in-person, on-campus interviews (Gall, Gall, & Borg, 2003).

Site and Sample Selection

In this multi-case qualitative study, two phases provided the funnel for the researcher to identify and study in depth a select group of institutions. First through an online survey, financial officers at 214 small, private institutions (N = 214) in the Midwestern United States were surveyed on their level of use of a variety of financial indicators. The second phase was based on responses obtained from the survey tool

where institutional leaders self-identified their use of financial indicators in strategic decision making and to inform their governing boards of institutional health.

In order to first identify institutions that purported to use financial indicators in decision-making, the researcher used an on-line survey tool. An online and web-based survey was chosen as it provides ready access to a population. Additionally, results can be captured in real-time as respondents complete surveys 24/7.

The survey population was obtained using the benchmarking service provided by the Association of Governing Boards (AGB). Included in the population were private institutions with enrollments of 4,000 or less FTE (full-time equivalent), with long-term investments of less than $100 million, which were located in the Midwestern United States as defined by the North Central Association region of the Higher Learning Commission (HLC). The North Central Association region includes 19 states: Arkansas, Arizona, Colorado, Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, New Mexico, Ohio, Oklahoma, South Dakota, Wisconsin, West Virginia and Wyoming. Based on the AGB benchmarking service, the population list resulted in 214 institutions (see Appendix B). Institutions that are under special monitoring by the HLC were excluded from the sample (Higher Learning Commission, 2011).

The names and contact data for the financial officers of the 214 institutions such as e-mail address and phone number were identified in the 2011 Higher Education Directory (Burke & Rodenhouse, 2011); a resource listing all institutions in the United States and their respective officers. This total excluded Aurora University since the

researcher was employed as its Vice President for Finance (although the university met the selection criteria).

The survey tool was developed based on the literature and specifically Talboys' (1995) study of financial ratio use in examining institutional health. The researcher used the application software Qualtrics, as provided by the University of Nebraska – Lincoln, to conduct the online survey. The draft survey tool was reviewed by two financial experts for clarity and understandability of questions as well as ease of use and question flow. One financial expert was a current president at a small private institution in the Eastern United States. The president was an expert in financial management in higher education and has done substantial research on the subject. The second financial expert had been a vice president for finance at a small private institution in the Eastern United States. He was currently a senior consultant with the Association of Governing Boards and recently wrote a booklet on Audit Committees structures and best practices.

Both experts provided feedback on the clarity and flow of the survey tool, added questions that may be informative to the study, and tested the survey as it appeared in Qualtrics. The first financial expert suggested the researcher "probe" respondents as to why they may not use financial indicators, and when used, whether financial indicators are linked to strategic priorities within a strategic plan.

The second financial expert also had a number of valuable comments and suggestions. Regarding questions on physical capital, he suggested the researcher use "Age of Facilities" instead of deferred maintenance as a percentage of replacement value due to ease of calculation. He also noted that Information Capital metrics are less relevant in an age of digital information. Accordingly, the researcher removed questions

related to Information Capital. Questions regarding net revenue analysis were added, along with an open-ended question on Key Performance Indicators to assess their utilization by financial officers. Finally, the second financial expert thought that having a check-off list would provide a higher response rate in considering financial indicators instead of having a completely open-ended question format.

The researcher revised the survey tool based on the comments received from the two financial experts, who later were asked to review the revised survey and offer final comments. The link to the survey tool in Qualtrics was shared with them so they could review the online survey tool. After review, the first financial expert noted that any special instructions or deadlines should appear in a prominent location within the survey. The second financial expert suggested revised wording on the question regarding instructional expense, and question flow improvements. The final of the on-line survey questionnaire is included in Appendix H.

A pre-notice communication was e-mailed February 7, 2012 (Appendix C) to the financial officers of each institution in the population. The researcher used her student e-mail account at the University of Nebraska - Lincoln (UNL), and included contact information for both the researcher as primary investigator and her advisor as secondary investigator to add a level of trust and professionalism to the on-line survey and as required by the Institutional Review Board (IRB) of UNL.

A second e-mail went on February 14, 2012 that included a survey invitation (Appendix D). The invitation explained why the financial officers and their institutions were selected and why they should participate in the survey. The financial officer (participant) was notified of the estimated time it might take to complete the survey and

of the fact that responses would be kept confidential. The communication also provided the contact information of the researcher as primary investigator and advisor as secondary investigator, and closed with a statement of sincere appreciation to enlist respondent participation. A brief e-mail reminder was sent on February 28, 2012 (Appendix E). A final notice was sent to non-respondents to notify them that the online survey would close effective March 14, 2012, essentially one month after the survey was first opened to respondents.

From a population of 214, 87 financial officers (n = 87) or 40.7% responded to the survey. Using purposeful sampling, the researcher chose 6 institutions to study in depth from the responses of these financial officers. Two key questions in the online survey prompted financial officers to self-identify their use of financial indicators. From the survey, 31 respondents shared examples of how they used financial indicators in strategic decision making.

The six institutions were selected based on the example of use of financial indicators as provided in questions #19 and #20: "Do you have an example that demonstrates how you have used financial indicators and/or ratios in setting strategic priorities and/or in making strategic decisions?" and "Please fully explain your example of how you have used financial indicators in strategic decision making." Of the 31 respondents to questions 19 and 20, only 15 indicated they would be willing to participate in Phase II of the study, 8 would not, and 8 were unsure.

The researcher reviewed the 31 responses and selected 6 institutions as compelling examples to study in greater depth. The researcher wanted to obtain a minimum of 5 institutions for Phase II of the study. Given 5 institutions, the researcher

intended to obtain a thick, rich description of the phenomenon and “saturate” the categories or themes that were discovered (Creswell, 2007; Hatch, 2002). As she conducted interviews, the researcher found that she accomplished this goal, as interviews did not provide further insight into the categories but only served to confirm findings already obtained from other respondents (Creswell, 2007).

The researcher selected six institutions instead of five, however, in case one institution decided to opt out of the research study. Of the six institutions selected, five had indicated in the survey they would be willing to participate, with one respondent unsure. The researcher sent a request to each institution’s financial officer requesting their participation. The recruitment letter sent to the institution’s financial officer is included in Appendix F.

A week after the recruitment letter was sent, the researcher contacted the institution’s financial officer to discuss any questions or concerns, as well as to confirm participation. The researcher reiterated that confidentiality would be maintained, that specific institutional names would not be used in the study, and that data would not be made available to other study participants. The respondent, who was originally unsure of their participation agreed to participate after confirming that all shared data would be held in complete confidence. As the study progressed, the researcher found that confidentiality was a critical factor with respondents.

From the beginning of the study, one goal was to formulate a series of best practices that other financial officers at small private institutions in the Midwestern United States could implement at their own institutions. Alternatively, the researcher hoped to understand how financial officers successfully addressed barriers discussed in

the literature review that prohibit the use of financial data in strategic decision making, such as lack of time and resources, level of interest, unwillingness to change, culture of the institution, and competency of staff (Redenbaugh, 2005).

The researcher desired a response rate from the online survey that was representative of the distribution of small private institutions amongst the nineteen states included in the North Central Region of the Higher Learning Commission. Additionally, the researcher hoped that the institutions that were selected for the qualitative phase of the study reflected the participant pool in terms of state representation and even gender.

Included in Appendix B is an analysis of participation by state that shows the total population, number of respondents and non-respondents, and percentage of participation. The data are shown both in a chart and in graphical formats. Responses for the most part were greater in states with larger populations of small private institutions, (Ohio, Illinois, Iowa, and Michigan having the greatest numbers of institutions, with 30, 25, 20, and 19 institutions, respectively). Participation rates were also high (except for Michigan at 43.3%, 56.0%, 40.0% and 21.1%, respectfully). The average participation rate over all was 40.7%.

The map on the next page (Fig. 3-1) highlights the area of the North Central Region of the Higher Learning Commission in the United States. The number of small private institutions and the response rate for the online survey are shown by state, with the numerator representing participants, and the denominator representing the state's population of small private institutions. The notation of a star within a state indicates those institutions selected for in-depth study.

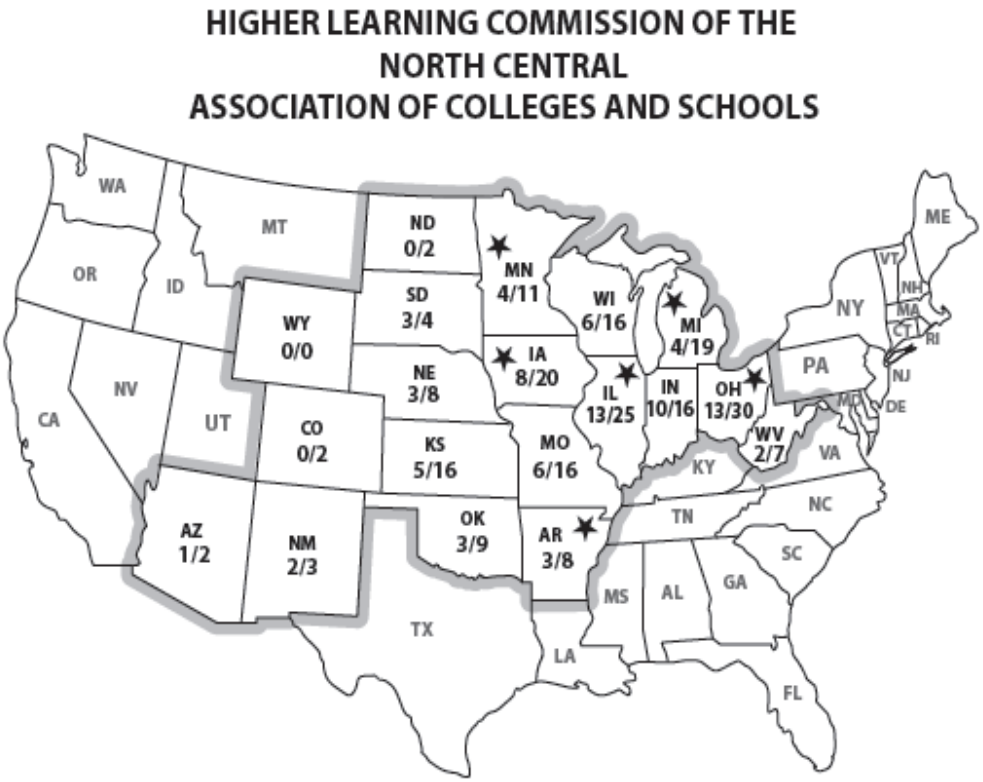

Figure 3-1. Map of study population.

Surprisingly, broad gender representation was also achieved in the study. While this fact is not noted on the map on the next page, one third of the institutions have female financial officers. Of the six selected institutions, two had female financial officers, thus equivalent gender representation exits in this study.

The researcher also requested the financial officer to provide two other institutional leaders from the institution to participate in the study. Initially, at the time of the interview with the financial officer, the researcher requested that the finance committee chair of the board of trustees or other board member, and other related decision maker to the institution's story participate. After the interviews with the board

members, the research requested interviews with institutional presidents as the “bridge” between the administration and governing board perspectives.

After confirming the additional participants from each institution, the researcher sent an Informed Consent letter to each participant (Appendix G) along with the Interview Guide. The Informed Consent letter was slightly revised from the initial letter to the institution’s financial officer since the financial officer had agreed to participate in the study and recommended the researcher contact the additional participants in the study. The revised letter confirmed the institution’s participation and notified the additional institutional leaders that they were recommended for inclusion by their institution’s financial officer.

Before all interviews occurred, the researcher obtained unobtrusive data as shown in Appendix H that was available either on the institution’s website or other public data bases. During interviews with the respondents, further data were obtained relative to the discussion. For example, formal PowerPoint presentations made by the financial officers to their institution’s governing board on ratio analysis were received from participants. Also, the researcher accessed the most recent Form 990 “Information Return for Not-for-profit Institutions” as available using GuideStar.org. GuideStar is an on-line database resource for philanthropic information that provides a variety of not-for-profit financial data including the Form 990 (GuideStar.org).

By having some data in advance, the researcher had a greater awareness and understanding of the institution to form a context for probing questions during the telephone interviews. The various documents requested as shown in Appendix H include financial reports, board committee meeting agenda and materials, and any related

presentation materials shared by financial management with board members that discussed financial ratios.

Role of the Researcher

The researcher acted as the primary instrument in the research study and conducted the interviews, performed data collection, and analyzed and summarized the findings. The researcher currently is employed at a small, private institution in the Midwestern United States as the Vice President for Finance and Treasurer of its board of trustees. As an insider to the subject being explored, the researcher informed participants of her current position and how measures would be taken to ensure confidentiality of the data collected. In her professional life, the researcher works under a standard of strict confidentiality in managing the financial affairs of an institution and assured participants that she would apply these same standards in conducting the research study; data would not be shared with the public, between institutions participating in the study, or even within institutions between the three institutional leaders to promote openness with the researcher.

Data Collection

According to Creswell, data collection in a case study "builds an in-depth picture of the case" (2007, p. 132). In order to gather sufficient data in which to develop a detailed account of the phenomenon being studied, the researcher used unobtrusive data, semi-structured interviews, and personal journaling (Creswell, 2007). Each source of data provided further understanding of the research problem and together allowed the researcher greater insight into the phenomenon.

Prior to telephone calls, publicly available unobtrusive data was gathered on behalf of each institution. The researcher requested specific data from each institution during the interview mainly with the institution's financial officer. Unobtrusive data included such items as financial reports and records, PowerPoint presentations made to the Board of trustees, and minutes and materials from Board committee and full Board meetings. A list of various documents requested in the study is included in Appendix H.

Unlike data obtained during personal interviews, unobtrusive data is not modified or altered by the filters and perceptions of the participants. According to Hatch, such documents provide a sense of history and context, and are "powerful indicators of the value systems operating within institutions" (2002, p. 117).

Besides unobtrusive data, the researcher used semi-structured, telephone interviews for data collection. For each institution, three key financial decision makers were interviewed including the president, chief financial officer, and finance committee chair or other board of trustee member. In one case, the institution's provost was included as intrinsically key to the specific use of financial indicators in strategic decision making at that institution. Creswell recommends selecting participants who "are not hesitant to speak and share ideas" and for the researcher to conduct the interviews in a space conducive to such open discussion (2007, p. 133). By including participants most knowledgeable in the use of financial indicators at the institution, and providing assurance of complete confidentiality, the researcher was able to promote the "space" Creswell recommends.

During the interviews, the researcher used specific guiding questions that were flexible enough to invite participants to share how they make meaning of their social

worlds and how they organize their cultural knowledge (Hatch, 2002). The researcher developed an interview guide preliminarily based on her professional knowledge of the subject and from the literature as shown in Appendix J. The interview guide consisted of a list of questions to ask in the interview based on four question types: essential, extra, throw-away, and probing questions (Berg, 1998).

The essential questions targeted the central focus of the research study and generated key data of the study (Merriam, 1998). Extra questions explored similar focus but used an alternative approach to the subject. Throw away questions frequently start an interview and can obtain basic demographic data as well as increase dialogue between the investigator and the respondent. The researcher chose to explore the respondents' financial backgrounds and how their relationships with their institutions began. Probing questions are difficult to define prior to the interview but arose as part of the discussion and created greater flexibility for exploration by the researcher.

In order to test the interview guide, Merriam recommends a "ruthless review" of questions by the researcher in order to refine the proposed questions (1998, p. 79). The researcher answered the questions as if an actual respondent in the study in order to assess the reasonableness and appropriateness of the questions given the research problem. Besides a ruthless review, the researcher used pilot interviews to test the questions to evaluate the clarity and understandability of the questions, to determine whether the questions yield useless data, and to find if there were questions the researcher may not have considered for inclusion in the interview guide (Merriam, 1998).

The pilot interviews were conducted in the winter 2011/12 with two financial management experts in higher education. Each expert was interviewed in-person as if an

actual participant in the study to vet each question carefully. The experience was debriefed contemporaneously with each expert during the interview as each question was considered. This provided an opportunity for the researcher to improve and clarify the questions, to enhance flow of the dialogue by question placement, and to improve a shared understanding of the language of each question and avoid unnecessary use of financial and higher education jargon. The experts were retired financial executives and/or board members in higher education. One expert was a retired financial and senior corporate executive as well as finance committee chair of a small private university. The second expert had recently retired after 19 years as senior vice president and CFO of a private university in the Midwestern United States.

Actual interviews with case study participants were conducted in the spring of 2012. The researcher interviewed the institution's financial officer, a member of the board of trustees, the president, and in one case the academic officer involved in the specific use of financial indicators in decision-making. Interview strategies involved 30 minute to 1-hour interviews that were audio-taped and transcribed. The researcher asked probing questions in order to gain a richer understanding of the participant's views of using financial indicators in strategic decision making and in educating the governing board to support informed decisions. Probing questions ask for more details and clarification and can be explored through silence, a single word, or even a simple sound (Merriam, 1998). (The preliminary interview guide is included in Appendix J.)

Merriam (1998) noted that the value an investigator brings to the interview process is in part based on the knowledge of the investigator to ask meaningful questions that are understandable by the participant. Based on the researcher's experience as the

feature editor of her college newspaper and professional experience interviewing job applicants, the researcher has developed sensitive skills in the art of interviewing. In the proposed study, the researcher acted as the primary instrument of data collection and benefited from her experience and skills in interviewing.

Managing and Recording Data

Privacy measures were conveyed in the Informed Consent Letter sent to each participant prior to the interview session. (The Informed Consent Letter is included in Appendix G.) The techniques the researcher used to ensure that all data collected remains confidential were explained in the letter and again at the time of the interview. Participants were asked for their oral approval at the start of the interview to allow the researcher to audio-tape the interview. The researcher assured participants that she would protect the identities of the participants as well as the names of their institutions throughout the study. Position classifications however have been referred to in order to add context to the perception from which the participant's experience is drawn, such as financial officer, president, and trustee.

It is important that the participants respond voluntarily and all data is kept confidential at all times. Such confidentiality is critical as it promotes openness during the interview between the participant and researcher. During qualitative research studies, it is not unusual to develop close relationships with participants. According to Hatch (2002), "we ask participants to reveal what goes on behind the scenes in their everyday lives" (p. 65). At the end of the interview, the researcher reminded participants that data will be securely maintained until destroyed two years after completion of the study.

Specifically, all data were to be stored in a metal cabinet housed in the researcher's work office and locked when not in use. Coding was to be used to obscure identification of participants, and the code retained by the researcher. Data collected from the study were to be safeguarded until the study is complete. Preservation of the information was to be maintained for purposes of presenting it to the professional community but only in aggregate form; no individual or institution was to be identified. The researcher considers these steps to be effective in protecting the identities of the participants and their institutions and in ensuring confidentiality.

Ethical Considerations

The researcher secured Institutional Review Board (IRB) approval from the University of Nebraska-Lincoln prior to initiating any aspect of this study. An expedited review process was received as anticipated by the researcher, as the study hold no apparent risk to participants and confidentiality of respondents was to be maintained (Hatch, 2002).

The researcher is "sensitive to ethical considerations" to conduct responsible research (Hatch, 2002, p. 44). A number of studies have had major lapses in ethical considerations leading the Federal government and a number of professional social science associations to establish codes of ethics to protect the welfare of human subjects (Tashakkori & Teddlie, 2003). Accordingly, the researcher endeavored to uphold ethical standards in protecting the privacy and confidentially of the participants and research sites as required by the UNL IRB protocol.

Data Analysis

The researcher analyzed the qualitative data using an iterative process. Coding continually occurred throughout the researcher's gathering of data, review of transcribed tapes, and multiple readings of each transcription until the researcher identified several emergent themes related to the research questions.

The audio-taped interviews were transcribed verbatim by a paid transcriptionist. The transcriptionist signed a confidentiality agreement to protect the privacy of the data and identity of the respondents and their institutions (Appendix L). Transcriptions were compared with the audio-taped interviews to ensure accuracy. The researcher reviewed the transcriptions multiple times, line-by-line, using an open-coding system. The transcribed interviews were analyzed for recurrent themes, concepts, and events (Ruben & Rubin, 2005). The researcher created a table from the transcriptions using Excel spreadsheet software. This facilitated the researcher's repeated "combing" of the data sources until conclusions were reached on the qualitative data. Actual coded transcriptions are not included as an appendix to the study in order to protect the confidentiality of each institution and respondent.

The researcher looked for similarities in themes between institutions and between interviews for the same institution in order to develop meaningful interpretation of the findings. "Interpretation is about giving meaning to data" (Hatch, 2002, p. 180). Hatch added that data analysis is "about making sense of social situations by generating explanations for what's going on within them"

In order to confirm that the themes emerging from the interviews were accurate and complete, the researcher engaged an independent researcher knowledgeable in

qualitative research methodology to review the themes. The researcher provided the independent researcher with four transcriptions, the draft table of "Categories of Coded Qualitative Data," and draft dissertation study. From a detail review of the transcriptions, the independent researcher noted the impact institutional stress had on financial officers in selecting financial indicators to implement at their institutions. The independent researcher reiterated the consistent corporate work experience of the financial officers but noted that there was little mention within the research study of this common factor. These comments were incorporated in the study.

Data collected through the researcher's own observations from unobtrusive data was also analyzed using an Excel spreadsheet table to capture any relationships, themes, or discrepancies with the transcribed data. From the three data sources -- semi-structured interviews, personal journaling, and unobtrusive data -- the researcher analyzed and compared the data to understand the themes that participants experience in their use of financial indicators to support strategic decision making and inform their governing boards about institutional health.

Credibility

In order to answer Creswell's (2007) question, "Are the results an accurate interpretation of the participants' meaning?" the study included two credibility strategies (p. 134). The strategies included peer debriefing and member checking. These strategies were used to increase the probability that the findings would be found credible and that the findings would be approved by the "constructors of the multiple realities being studied" (Lincoln & Guba, 1999, p. 403).

In peer debriefing, the researcher solicited an independent researcher, knowledgeable in qualitative research methodology, but disinterested in the particular study problem. Peer debriefing clarified the researcher's interpretations and exposed any researcher bias that may exist.

Member checking required the researcher to take the findings back to participants in the study to confirm that such findings "are an accurate reflection of their expectations" (Creswell & Plano Clark, 2007, p. 135). The researcher shared summary findings with participants to ensure accuracy of their responses. This allowed the participant to provide a stamp of integrity, helping to validate the study. It also reduced the possibility that the researcher did not misinterpret or misrepresent the data that was collected.

Verification

The researcher used triangulation as the main verification form for the proposed study. Triangulation utilizes multiple data sources and theoretical schemes in an effort to ensure validity during qualitative studies and is recommended as an effective form of verification (Lather, 1991). Unobtrusive data for example provides data that is nonreactive and free of participant's intervening interpretations (Hatch, 2002). The researcher reviewed various unobtrusive data available from public sources prior to actual telephone interviews to let the facts collaborate statements made by participants during interviews.

In order to avoid reactive effects where errors result from the respondent's awareness that they are the target of study, the researcher asked probing questions to clarify and confirm the respondent's answers. In particular, respondents may answer

questions in stereotyped ways or may prefer extreme responses to moderate ones (Tashakkori & Teddlie, 2003). Probing questions helped to mitigate formulated or stereotyped responses.

Having the data and financial reports discussed during telephone interviews corroborated respondent statements use of financial indicators by the institution. During the interviews, the researcher was better prepared to ask probing questions to clarify answers and minimize managed or inaccurate responses. By bridging unobtrusive data with the respondent's answers, and probing where answers seemed unclear or to conflict with unobtrusive data, the researcher was able to triangulate data and improve the accuracy of the findings.

Summary

The researcher used a multiple case qualitative study design to explore six Midwestern institutions that use financial indicators in managing institutional resources and how financial indicators can support strategic decision making. Given the economic stress that continues to threaten the financial viability of small private institutions, managing financial resources is critical to achieving institutional mission and ensuring access and affordability for students. The researcher's intent is to share how institutions use financial indicators to support strategic decision making and inform their governing boards in order to help other institutions navigate the financial headwinds facing higher education and promote financial sustainability.

Chapter IV

Data Results

How do we keep making it work?

- *Financial Officer at Institution #2*

Overview

Chapter IV describes the data results from the two phases of the research study. Findings from Phase I with the online survey explore the level of use of financial indicators by financial officers and provide context to the selection of participants for Phase II of the study. Findings from the interviews in Phase II provide an in depth review of the actual use of financial indicators at six institutions. The perceptions of the financial officers, trustees and presidents are presented by group. Chapter IV ends with a short summary of the data results.

Phase I Online Survey

From the total population of 214, 87 financial officers responded to the survey tool included in Appendix B. While the focus of the online survey was to identify institutions for Phase II of the study, the survey also provided informative data, although limited due to the survey's main focus to identify institutions for further in-depth study.

In regards to use of financial indicators, the online survey focused on a list of financial ratios and indicators. The chart (see Table 4-1) on the next page shows ratios in rank order of use, with most popular ratio showing first as reported by respondents in the online survey:

Table 4-1

Online Survey Ratio Use in Rank Order

Rank	Financial indicator or ratio description	Yes
1.	Tuition and fees as a percentage of total revenue	81
2.	Increase or decrease in student enrollment	80
3.	Institutional aid as a percent of tuition income	80
4.	Instructional expense as a percent of total unrestricted expense	74
5.	Debt coverage ratio	73
6.	Gifts as a percentage of total revenue	71
7.	Ratio of FTE faculty to FTE students	69
8.	Academic support expense as a percent of total unrestricted expense	66
9.	Endowment support as a percentage of total revenue	60
10.	Assets as a percent of total liabilities (current ratio)	58
11.	Current unrestricted assets as a percent of total assets (acid test ratio)	58
12.	Long-term debt as a percentage of total liabilities	57
13.	Change in unrestricted net assets as a % of beginning unrestricted net assets	52
14.	Percent of total FTE students that are part-time	52
15.	Plant operations and maintenance as a % of total unrestricted expense	51
16.	Does your institution compute and/or track Net Revenue? (N = 85)	48
17.	Tenure status of FTE faculty	48
18.	Percent of FTE faculty that are part-time	48
19.	Endowment per FTE student enrollment	45
20.	Endowment as a percent of total assets	43
21.	Percent of total semester credit hours taught by full-time faculty	35
22.	Accumulated depreciation as a % of total depreciation (Age of Facilities)	34
23.	Ratio of FTE staff to FTE students	33
24.	Instructional expense by student level as compared to enrollment by student	18
25.	Asset Maintenance ratio	18

Other ratios that respondents reported computing, as required by letter of credit agreements with banks for debt compliance, included the liquidity ratio (n = 10), expendable cash and investments to debt ratio (n = 3), debt service coverage ratio (n = 2), viability ratio (n = 1), change in net assets to change in CPI (n = 1), fixed charge coverage ratio (n = 1), leverage ratio (n = 1), and capital expense ratio (n = 1).

The Composite Financial Index (CFI), which was developed in the mid-1990s by Prager Sealy and KPMG, was used by sixty respondents, representing 72% of the respondents (N = 83). In order to understand the level of financial health of the survey respondents, the online survey asked those respondents who indicated that they did compute the CFI to provide the most recent ratio. Figure 4-1 displays the responses against the average score of the respondents of 3.56.

The U.S. Department of Education Composite score, also known as the "financial-responsibility test," was included as Question #15 of the online survey. The Composite Score is required to be reported to the U.S. Department of Education each year by all recipients of Title IV funds. According to the respondents, 57 financial officers or their auditors compute the ratio, representing 69% of respondents (N = 83), 12 answered that they did not compute the ratio, and 14 were unsure. Figure 4-2 below displays the responses against the average score of all respondents or 2.55.

It is interesting to note that the U.S. Department of Education Composite Score must be reported by all institutions who receive Title IV funds. Based on the responses of the survey, the financial officer is not always aware of this requirement, did not necessarily understand the question, or the auditors may prepare the ratio and submit the

Question #	Online survey question	# of Yes	%
13	Do you or your auditors compute the Composite Finance Index score?	60	72%

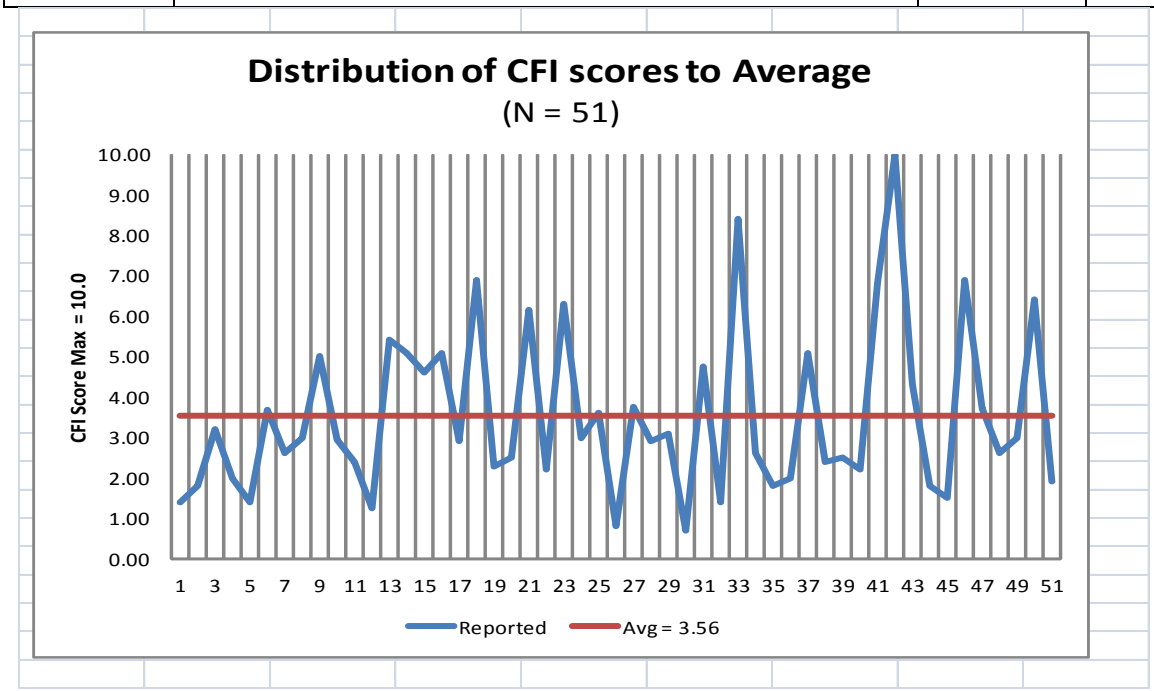

Figure 4-1. Distribution of CFI scores compared to overall average score.

results to the U.S. Department of Education without the institution's knowledge. The researcher anticipated that all respondents would answer this survey question affirmatively and was surprised that a large percentage did not.

Besides the financial indicators and ratios discussed above, respondents also utilized other Key Performance Indicators (KPIs) such as first-year retention rates, student revenue to total FTE students totals, and funded grant in aid as a percentage of total grant in aid. A number of institutions noted that they were developing dashboards that will include various KPIs.

Question #	Online survey question	# of Yes	%
15	Do you or your auditors compute the annual U.S. Department of Education Health Index score "financial-responsibility test"?	57	69%

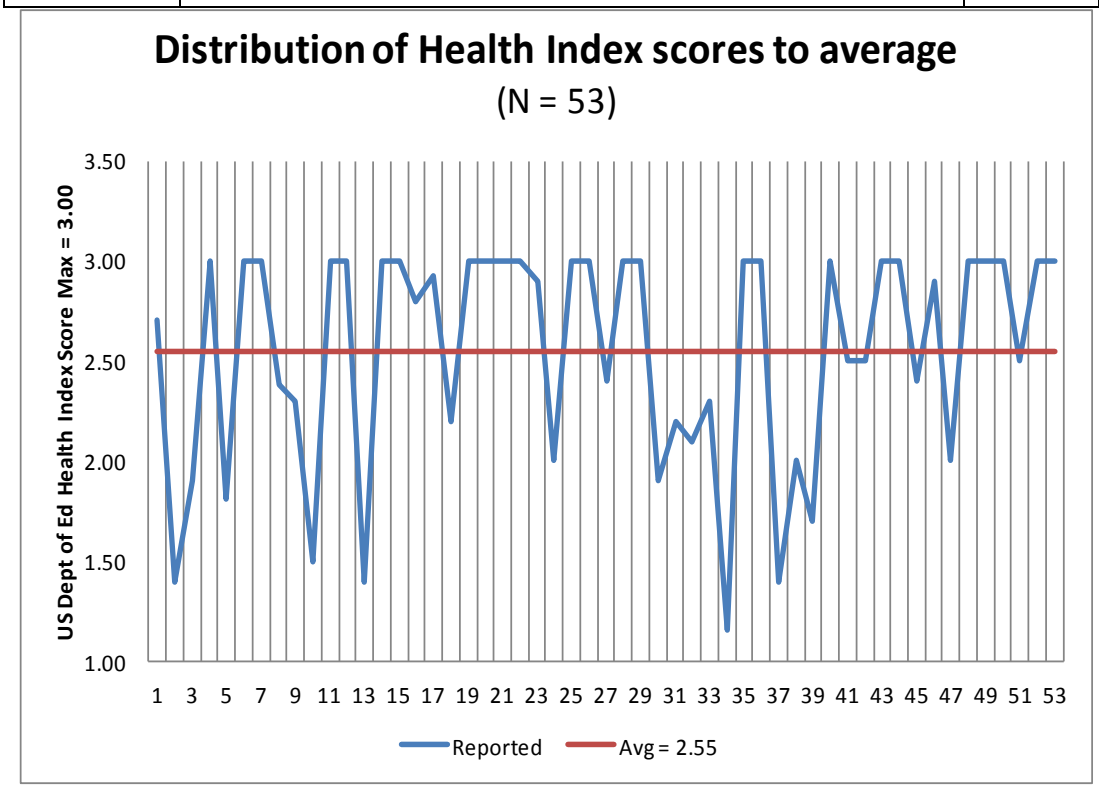

Figure 4-2. Distribution of health index scores to overall average score.

One of the final questions in the online survey asked respondents to note any barriers that they find in using financial indicators. Barriers were discussed in a study done by Redenbaugh (2005) on the use of management accounting tools. Respondents reported six barriers: Lack of understanding and need for education (n = 10), time to prepare financial indicators (n = 4), financial indicators cannot be used alone (n = 1), the lack of comparability between institutions (n = 2), lack of interest (n = 1), and push-back from measured accountability of employees (n = 1).

In order to select the institutions that would form Phase II of the study, the researcher reviewed the responses to question # 19, which queried whether the financial officer could cite an example of their use of financial indicators and/or ratios in strategic decision making (n = 79). Of the 31 examples shared, 15 respondents indicated that they would be willing to share their examples in Phase II of the research study, 8 would not, and 8 were unsure.

The researcher reviewed the examples for institutions that would be willing to share or were unsure if they would participate in the study (n = 23). The researcher used purposeful sampling to select 6 compelling examples of the use of financial indicators to inform strategic decision making. The researcher's review was based on her experience as a financial officer with 15 years' experience working in higher education financial management, as well as her review of the literature.

The six institutions were selected without the researcher knowing the institution's name, the financial officer's name that responded, or any other identifying factors. Of the six institutions selected, the researcher was only familiar with one institution. She had met the respondent at a few events for business officers in the West Suburban Chicago area where her institution is located. She had never visited this campus. Five of the six institutions were religious institutions, which was not surprising to the researcher given the original founding purpose of small private institutions in the Midwestern United States to train the clergy.

Although one of the six institutional representatives indicated in the online survey that they were unsure if they would participate in Phase II of the study, that financial officer agreed to do so after further communication with the researcher. This was based

on the assurance that all data collected and reported would be done confidentially and anonymously.

The need for confidentiality was very important to respondents, as they would be asked to share private financial data, along with personal observations and perceptions about their work, their institutions, and those they work with such as the institutions' presidents and governing boards. The researcher maintained complete confidentiality for each institution as well as with each respondent as the researcher desired to achieve openness and candor in exploring the subject with all respondents.

The researcher sent email requests to the financial officers at each of the six institutions to request participation in Phase II of the research study (Appendix F). The researcher found financial officers very busy during spring, with board meetings and budget preparation work, that delayed the scheduling of interviews somewhat. Financial officers sought approval to participate from their respective presidents. During interviews with these financial officers, the researcher requested unobtrusive data as per Appendix H that was applicable to the discussion. Such documents shared included PowerPoint presentations for new board orientation, board meeting agendas, vice president executive reports to the Board, balanced score card summaries, cash-flow analysis, and contribution margin analysis with supporting detail.

Over all, the documents shared substantiated the work of the financial officer, besides providing a wealth of best practice examples to the researcher. Financial officers shared the documents only after an assurance that such data would not be used as examples or exhibits within this study. Accordingly, none are being used in the study. Other unobtrusive data were obtained from the institution's website, *Guidestar.org*, and

public internet. These data formed a means of triangulation to manage bias in the qualitative study, as well as confirm statements made by the financial officers of the institution.

The next section outlines the findings from Phase II of the study, beginning with an outline of the themes that emerged from the interviews as presented in a table. The section continues with a discussion of how financial officers use financial indicators to inform strategic decision making at their institutions, how governing board members receive, use, and understand the data, and how the president of the institution supports or leads the use of such data. Each institution's name is replaced by a simple number to ensure confidentiality. To further protect anonymity, the state where the institution resides is also not referenced.

Phase II: Interviews

Coded qualitative data. Analysis of the interview transcripts offered the researcher an opportunity to identify these institutional decision makers' perceptions, based on their experience using financial indicators. For each transcript, data were coded into categories that represented a theme. Themes were based on the question asked or specific term used in the answer. From the coding analysis, five themes emerged. These major themes or categories are outlined in the chart (see Table 4-2) on the next page.

As shown in the chart, a number of perceptions by the financial officer, trustees, and president align, while differences can be explained as arising from the unique roles each group performs. For example, each group had substantial tenure with the institution. There was not a lot of turnover, as evidenced by tenures spanning from 4 to 19 years for financial officers, 4 to 14 years for presidents, and 5 to 18 years for trustees.

Table 4-2

Categories of Coded Qualitative Data

Overarching Themes	Sub-themes	Financial Officer (6)	Trustee (6)	President (4)
Education	MBA	(5)	(2)	(1)
	Doctorate	(2 in progress)	(-)	(3)
	CPA	(5)	(1)	(-)
Work experience	Years of tenure at current institution	8,5,4,15,11,19 years	12,5,8, 18, 4, 23 years	14,12,4, 9 years
	Corporate experience	(5)	(4)	(-)
Board structure	Active committee structure in place	(1)	(4)	(2)
	Orientation for new members	(3)	(4)	(1)
	Lack of financial understanding	(4)	(4)	(-)
	Increasing board expertise in finance	(1)	(2)	(2)
Financial data	Executive summary provided	(4)	(2)	(2)
	Transparency/Detail	(2)	(4)	(3)
	Response to institutional stress	(4)	(5)	(3)
	CFO Presentation skills/Engaging	(-)	(3)	(3)
Time	Lack of/Prepare data	(3)	(1)	(1)
	Lack of time/Meet/Discuss	(-)	(2)	(1)
	Need more to understand/Change	(2)	(1)	(-)

The financial expertise was formidable. Out of six institutions, five had financial officers who held double credentials (MBA and CPA). Financial officers, as with all the trustees, had worked in corporate enterprise as well. Presidents, on the other hand, were academics, and did not have corporate experience. Only one president, who recognized a need for greater business acumen as a CEO, had returned to college to attain more expertise through an MBA program.

On the matter of board structure, trustees and presidents emphasized the important role of committees in funneling financial data through the finance committee, as the group of board members had greater financial acumen than the rest of the board. Trustees recognized the need for board orientations in order to develop an understanding of board structure and the workings of higher education. Trustees also admitted to not understanding the financial data of the institution. While financial officers recognized this lack of understanding in the trustees, presidents did not necessarily agree.

All groups mentioned the need for transparency, providing full financial detail, along with an executive summary to facilitate a board-level focus. Institutional stress was an important factor in which financial indicator the financial officer selected and the level of motivation financial officers felt in promoting financial health at their institutions. While financial officers did not self-assess their own presentation skills, both trustees and presidents commented on the importance of financial officers' having strong communication and presentation skills. They need to be engaging, have a sense of humor, and have a vision for their work. Each president noted that his or her own institution's financial officers were unique in having strong presentation skills, whereas other financial officers they had met typically did not.

Time was an important theme for all groups, but from varied perspectives. Financial officers noted the lack of time available for preparing financial data. They also agreed that it took a long time to introduce and implement a new financial indicator. The specific financial indicator they used took many years to develop and to incorporate into the understanding of their boards. Financial officers agreed that the work pace they experienced in higher education was substantially slower than in corporate environments. This pace contributed to the slow rate of change at the institution, which the financial officer at Institution #4 referred to as a result of "traditional thinking."

Trustees, on the other hand, saw time shortages evidenced in having insufficient meeting time or not enough meetings for full discussion of financial topics. Time constraints were addressed by each institution, either through holding lengthier finance committee meetings, or by scheduling additional meetings as necessary. One trustee recognized the lack of time their financial officer had for preparing new data, with one president noting the "machinery" or systems were "daunting" in preparing that data.

The different themes that emerged from interviews with financial officers, presidents, and trustees began to shape an understanding for the researcher of the use of financial indicators in higher education by the three groups. In-depth discussion of the findings below serve to further develop answers to the grand tour question and research sub-questions.

Shaping the use of financial data.

How do we keep making it work?

- *Financial Officer at Institution #1*

Prior to exploring the specific use of financial indicators with the financial officers and trustees, the researcher thought it was important to establish the level of financial expertise and knowledge of higher education for both groups. Out of respect for the limitations on the president's time and availability, the researcher reviewed each president's background based on institutional website data and focused instead on the actual use of financial indicator prepared by the CFOs for informing the governing boards with the president acting as the "bridge" between the two constituencies.

One of the opening background questions for each financial officer and trustee was "What attracted you to this institution?" This question gave the researcher a foundation for understanding each respondent's individual experience and motivation in serving a not-for-profit or "for-purpose" (Chaite & First, 2011) organization. With a focus on mission as compared to a profit motive found in corporate America, small private institutions have a different emphasis. Institutional leaders in "for-purpose" institutions bring unique interests in serving the mission. From the financial officer who saw working as a Chief Financial Officer (CFO) in higher education as "an opportunity to make a difference" to the trustee who captured the meaning of higher education service by noting that "at the end of the day, we're not doing this for ourselves, we're doing it for the benefit of young men and women, to give them every opportunity to be successful."

The financial environment. The researcher asked the financial officers general financial questions related to the institution and explored with respondents the challenges

facing higher education, both at the institutional level and nationwide. The answers formed the basic context for level of financial resources available, and the internal and external pressures that institutional leaders confront in managing financial health.

Over all, the institutions were described as highly tuition dependent, with small endowments ranging from $1 million to $70 million. Competition was overwhelmingly cited as an ongoing challenge, with pressures on the operating budget from enrollment levels below capacity. Institution #3 was located in a state threatened with a shrinking high school student population, reducing the enrollment funnel for new undergraduates. Institution #5 had already seen a drop in its undergraduate enrollment. The financial officer at Institution #6 summarized the financial environment for their small private institution as "still in a very financially restrained environment."

Minimizing costs and promoting affordability were constant challenges for these institutions. The financial officer at Institution #3 noted keeping tuition levels affordable was a "huge issue for students throughout higher education." Keeping costs low was directly related to managing affordability in college attendance. Student demands for technology however were growing, thus driving costs higher. The financial officer at Institution #6 explained, "Keeping up with the ever increasing need for technology and delivery, that's a challenge." The financial officer at Institution #2 summarized the challenges they faced: "You can't just hang on to the old inefficient ways of doing business. You really have to keep pushing the envelope in improving your processes, lowering your costs, doing things a little bit differently, to offer value for the students."

While the financial officer at Institution #1 described their financial situation as "very strong," the president expressed the concern to find a sustainable financial model.

And the trustee of Institution #1 expressed the ongoing challenge that market pressures presented as a "distraction" from the goal of serving students. The complexity and ongoing challenge of managing financial health at these small private institutions was a shared story deserving in-depth review and understanding.

The financial officer's background. The researcher explored with each financial officer his or her level of financial expertise based on educational and other professional credentials, work experience, and number of years worked in higher education. The researcher also explored how the financial officer came to work at that particular institution and when that occurred.

Five of the six financial officers were Certified Public Accountants (CPAs), with three having worked in public accounting. All six financial officers worked in corporate America in for-profit organizations, with one financial officer acting as president of a manufacturing company. Five of the financial officers had masters' degrees in business, with two currently pursuing a doctoral degree. Years of service in higher education ranged from 4 years to just upwards of 25 years, with an average tenure of 13 years.

The financial officer's perspective.

There is no mystery as to where my numbers come from.

- *Financial Officer at Institution #4*

Each financial officer interviewed uses financial indicators to guide and educate members of the governing board as part of the strategic decision making process. This effort was done through collaboration and support of the president by focusing on a select financial indicator or combination of financial indicators. The financial officer took the lead role in creating the awareness and understanding of the use of the selected financial

indicator. The financial officer accomplished this through ongoing education and consistent use and presentation of the financial indicator with both the president and governing board. In order to use the financial indicator for strategic decision making, the financial officer linked the financial indicator within strategic planning and assessment. Financial officers required perseverance, however, to address the barriers that inhibited such use. The following findings provide insights into the ways financial officers were successful in using financial indicators to drive institutional mission with their governing boards.

The financial officer was found to be the individual who prepares financial data for sharing with the president and governing board. Financial officers stressed the need to provide high-level narrative data for the full governing board, with further detail for those trustees wanting to have more information. Financial data was shared more regularly with their president by monthly budget reporting than with the governing board, which occurred quarterly or annually at formal full-board and board committee meetings.

The need for summarized financial data was confirmed by all financial officers. Upon first assuming the role of financial officer at Institution #4, that individual changed the way data had been reported. Instead of lengthy and detailed financial reports, the financial officer provided summary data in a "user-friendly way," explaining, "I try to keep it really, really high level . . . I give them the information that they need to be able to make those decisions that the board makes." Through focused and summarized presentation of financial indicator data, the financial officer promoted a more ready understanding of otherwise complex financial information.

Overall, each financial officer focused on a specific financial indicator or financial management tool to use to inform his or her governing boards of the financial health of the institution. Three institutions relied on the Composite Financial Index (CFI), two on contribution margin (C/M) analysis, and one on a balanced scorecard financial management tool. All financial officers found that it took time to develop the use and understanding of their financial indicator before it became institutionalized in the financial management of the institution. The financial officer at Institution #1 touched on the experience that all financial officers encountered in their use of financial data by commenting on board understanding, "So it's just like anything, you have to hear it for years and years." To create awareness and understanding, the financial officer found it necessary to present the select financial indicators in a consistent and ongoing manner year-over-year to board members.

The researcher explored how financial officers started using the specific financial indicator with their governing boards. From these interviews, it became apparent that time was a significant barrier to usage. In other words, the use of the financial indicator evolved over time and began with the administration prior to being implemented at the board level.

The theme of time would play out in various forms across the study. A shortage of time poses a barrier to the financial officer who needs to prepare financial data. Then it takes time to process a level of understanding with other constituents in the institution, and even more time to effect change in a culture or tradition. One financial officer from Institution #5 exclaimed, "If I had known what higher education was like before I came here, I would have never have come!" The financial officer went on to explain:

> I mean we have a strategic planning process here, and it took a year, and when they told me that at the start of it, I said, 'You guys are nuts.' I said, 'In manufacturing, if it took us a year to figure out our strategic plan, we would have been out of business.'

The financial officer from Institution #6 had an alternative viewpoint on managing in higher education within the limitations of time. The financial officer explained, "Everybody is so pressed for time that they think their own business experience translates into running a university." The financial officer acknowledged, however, that people need to understand "what makes higher education click on the business side. We are businesses; there is no other term for it. We may be mission-driven, but we are businesses and we have to operate like businesses." This conflict captures the complexity in higher education given shared governance amongst many constituents, along with the need to address the financial and economic stress of managing tuition-dependent institutions that do not have ample endowments or reserves to fall back on when enrollments drop.

For the financial officer at Institution #4 who developed a balanced scorecard tool, the process was an evolution that began with a single page of six measurements they had developed, which grew over the past two to three years into a page of performance indicators developed in collaboration with the president's cabinet. The scorecard uses standard red light, yellow light, and green light indicators for easy interpretation of performance levels.

In explaining how the scorecard developed, the financial officer replied, "What the board needed is something that demonstrated that we were actually executing the strategic plan, so kind of carrying it out. So that was the idea of the balanced scorecard."

The balanced scorecard established goals and measured the outcomes of performance against benchmarks.

In order to promote awareness and understanding of the financial indicators, the scorecard is shared with employees on the institution's intranet and at town hall meetings. The purpose of the sharing is to support "transparency," a theme that ran throughout interviews at each institution and with each group, financial officer, trustee, and president. And, transparency in effect promotes wider and more expansive understanding with an institution's community.

The need for financial transparency was highlighted during the period leading up to passage of the Sarbanes-Oxley Act of 2002 upon the implosion of Arthur Andersen and the downfall of Enron. While Sarbanes-Oxley does not specifically apply to not-for-profit entities, a number of best practices have been developed and promoted by such organizations as the National Association of College and University Business Officers (NACUBO) as a result of the legislation. One example is having a separate audit committee. Transparency also allows for shared understanding of financial information important to managing in a collaborative environment such as higher education. One financial officer began working in higher education in the summer of 2008, right before the credit crisis in the United States began. That financial crisis had serious consequences for many colleges and universities, especially in regard to financial liquidity, endowment values, and meeting debt covenants, all of which had serious implications for financial officers trying to manage small private institutions at the time.

Thinking back on the experience, the financial officer at Institution #1 commented, "We're very enrollment-dependent, you know, so I think it [the financial

difficulty imposed on higher education during the national economic downturn] is going through what I went through in 2008-2009, that I just can't go back there personally." The impetus for monitoring financial health through use of select financial indicators was reinforced for the financial officer after that institution's financial health was threatened.

In using the Composite Financial Index (CFI) to build transparency, the financial officer of Institution #1 goes on to explain, "It has to be simple, it has to be clear, here's the shortfall, here's what it means . . . and you know, people make decisions based on poorly presented information, and so that is what I feel a huge passion for." The effective presentation of data was something that all institutions and all groups discussed during their interviews in order to promote financial indicators as part of the institutional decision-making process.

One president commented, "I think a good Chief Financial Officer helps us by summarizing a lot of data in very pertinent and useful ways." One board member noted the importance of the financial officer's ability to report information succinctly, adding that summary data was shared with the full board, while greater detail was shared with the finance committee to raise understanding. Over all, financial officers provided highlights to financial data, offered an oral report at board meetings, and then answered questions to clarify and address financial information.

Besides delivering ongoing and regular reporting of financial indicators to governing boards, most financial officers were directly involved in new board member orientations to educate and inform new board members as to the use of financial indicators in strategic decision making at the institution, as well as general financial matters in higher education. These orientations in large part were a new activity for these

institutions, or had been restored after not being implemented for some time. At Institution #1, the financial officer presents to new board members a complete overview, which includes a discussion of the CFI. At Institution #6, the financial officer also provides a complete history of the college. The financial officer at Institution #3 also prepares a formal presentation, and said that the institution is continually looking for ways to improve orientation. This activity appeared to be driven by the institution's president, according to the financial officer, who explained, "Under our president's leadership, we've improved, I would say, the experience level on our board significantly."

After reading the literature, which described a disconnect between the financial officer and board in regards to the understanding and use of financial data, specifically cost data from Jane Wellman's Delta Cost Project (2008), the researcher included a few questions to explore this issue in detail. The researcher asked all respondents how financial indicators were reported to the board, if there might be a better way to share financial indicators with the board, and what barriers existed to using such data. Essentially and often times, the researcher simply posed the question, "Does the board understand the financial data?"

Responses to this simple question were insightful into the nature of these boards, the expertise of these boards, and how reputation and trust become apparent factors for each financial officer in successfully serving a small private institution, and more specifically, using financial indicators in strategic decision making. The financial officer at Institution #1 responded, "I think they understand in general, they certainly don't understand every ratio" At Institution #4 the financial officer replied, "They don't have

the depth of financial knowledge to really probe and hold me accountable and kind of challenge me on those things." The financial officer at Institution #6, however, said, "They may not know all the terms, but, believe me, they understand the cash flow and how to identify your source of revenue and your main expenses. We get a lot of good questions from the board that we used to not get."

The financial officer at Institution #6, however, captured the nature of the problem and expressed how institutional leaders can raise the board's level of understanding that is not necessarily immediate or intuitively gained. When the researcher queried the financial officer as to the level of understanding of the board on the use of the contribution-margin analysis, the financial officer replied, "Yes, and no. It's difficult for them to understand the difference between the academic and corporate environment."

The financial officer from Institution #5 agreed that their board members do not necessarily understand the industry of higher education. In order to aid board member understanding, however, the financial officer from Institution #5 explained concepts to the board in terms of the corporate environment. Drawing awareness and understanding from financial indicators required the financial officer to be creative in educating and informing board members new to higher education, and not necessarily experts in university financial matters. The financial officer explained, "So I can take it out of the context of higher education, the college, and, you know, put it into a context of an industry that they maybe can understand a little bit better." This financial officer also acknowledged that the financial officer's experience in corporate America served the

individual well in bringing management tools from corporate America to higher education.

The use of the financial indicators that the financial officers had selected to use with their governing boards were intentionally linked to strategic planning and institutional mission. According to the financial officer at Institution #2, the use of the balanced scorecard formed a strategic summary that "give[s] them [the board] the information they need to make those decisions that the board makes."

In May 2011, the financial officer at Institution #2 presented a PowerPoint presentation on the balanced scorecard to the full governing board. In that presentation, the financial officer described the balanced scorecard as "a strategic planning and management system" that "transforms an organization's strategic plan from an attractive but passive document into the 'marching orders' for the organization on a daily basis." The financial officer concluded, "It enables executives to truly execute their strategies." According to Chabotar (2006), linking financial indicators to strategic planning is a critical element in the effective use of financial data in strategic decision making. Institution #2 did this through their use of the balanced scorecard.

At Institution #4, the financial officer focused on the contribution margin to gauge direct revenue and expense levels, and on the resulting financial resources in which to cover institutional overhead. The contribution margin was included in annual budget reports to the governing board, and measured the specific levels necessary to balance operating performance. To improve understanding and meaning, the financial officer included historical, current, and three-year projections of the contribution margin in order to provide trend and comparative data. The financial officer explained, "Once again, it is

the benefit of the trends. Like any component in ratio analysis, static data is not very useful." The finance committee and full board both receive contribution margin information on a regular basis. The financial officer added that the use of trend and comparative data "enhances the discussions and lets the Board have a good quick sense of where we stand and where we've been moving."

Institution #3 provided a useful example of linking financial indicators to strategy for improved financial health and to promote institutional mission. After starting in higher education in 2008, the financial officer at Institution #3 found their CFI score in the "danger zone" and at a level less than the 3.0 score Prager Sealy established as representing minimal financial health. Through intentional planning, the financial officer, president, and board set a goal of achieving a ratio of 3.0 or above. This goal was met in fiscal year 2011.

Presently, the financial officer at Institution #3 is developing an expanded five-year forecasting model with a consultant. In the model, assumptions can be altered to assess how changes in operations may affect the CFI score. The financial officer explained that they are "trying to build a model that is accurate and predictive, which is hard to do." The CFI continues to be an important financial indicator at Institution #3 to guide strategic decision making and promote mission there. The CFI is shared with the board, in greater detail with the finance committee of the board, and with faculty and staff at various forums. The financial officer noted, "You know it is not my job to get this place financially secure. It is all of our jobs."

The board perspective.

The balanced scorecard clearly has gotten our board engaged at a higher level.

- *Trustee Institution #2*

Phase II of the study included interviews with trustees at each of the six institutions. In exploring board perspectives on how the governing board uses financial indicators, and how they are informed and educated to such use, the researcher was interested in the level of financial expertise and professional background that the trustees brought to their roles on the board. All the trustees that the researcher interviewed had been or currently acted, as chair of the finance committee at the institution. Two had become the vice-chair of the full board of trustees and were therefore next in line for the chair position of the board. One trustee was currently chairman of the board. Three of the six trustees were alumni of their institutions.

In regards to work experience, all trustees held senior executive finance positions in corporate organizations from health care, banking, telephone, and construction management. Three trustees held master's degrees, with one holding a CPA. Three trustees were chief executive officers, with two owning their own companies. All trustees interviewed were men.

After obtaining an overview of the board members' financial acumen, the researcher focused on the specific financial indicators shared by the financial officer with the board of trustees. The first question in the Interview Guide (Appendix J) focused on how financial data were shared with the governing board. This question was important in answering the research question as to whether financial indicators were being used as part of institutional decision-making by the board.

The trustee at Institution #3 provided a clear example of how financial indicators were used in strategic decision making. The example also answered the research sub-questions as to how the financial indicators were used to form strategy and drive institutional mission. Following financial stress from the national economic downturn that began in 2008, the institution used the CFI to bring financial performance back to a balanced budget. The trustee explained, "We went from losing money a couple of years ago, to being in the black the last two years, and we're projecting a budget surplus this year."

In order to create awareness and understanding of the CFI at the board level, the financial officer presents the CFI to the full board each October as the trustee at Institution #3 noted. The trustee added that the executive committee of the board reviews financial performance "very carefully." Earlier, the trustee had asked the financial officer for an executive summary report to be provided accompanied by the seven or eight page more thorough report. In the summarized report, the financial officer includes benchmark and comparative data along with the CFI in this report. In addressing the subject of managing the level of detail provided to the board, the trustee noted, "If you give them too much information, they can get disengaged." In using the summary format, the trustee explained, "You can read the pages and get a real good handle on where we are."

The trustee at Institution #6 confirmed the need to provide succinct financial data to the governing board. The trustee noted, "They'd either get lost in the numbers because they're not numbers-oriented, or it's just too much data for the time you've got allotted to use it." Institution #6 continues to struggle financially given increased competition from

local, low-cost public institutions, and the growing costs of technology for on-line learning at the institution.

Because of more pressing financial constraints, Institution #6 focuses on cash flow as a key financial indicator to promote financial health and guide strategic decision making. The trustee explained, "[The financial officer] does another nice report that is very detailed, which is the cash flow projection for approximately one year." For the trustee, cash flow is critical to making payrolls and paying bills. The trustee exclaimed, "I am sitting there saying, how can you not care about the cash flow statement?!" The cash flow projection also combines contribution margin analysis by programs at the institution. This allows the board to understand trends over a two- to three-year period for each program's operating performance. The trustee summarized the use of the cash flow projection and contribution margin analysis as "a very useful tool."

Not all trustees, however, were satisfied in the level of understanding and use of financial information available for strategic decision making at their institutions. Being new to governing boards in higher education, the trustee at Institution #5 struggled to understand financial management at the institution, and to relate this understanding within the trustee's experience in corporate financial management. (The institution focuses on the CFI.) The trustee voiced a need for further data and understanding. The trustee added, "All this fund accounting stuff is really quite confusing, even to somebody like me who's supposed to understand some of that." The trustee explained, "And when you don't ask the question, you never get the answer." The culture seemed to limit discussion and to require conformity. The trustee was interested in obtaining more detail but "not to the point of paralysis."

In Chapter II, the literature review on governing boards' use of financial indicators and cost data points to a number of additional factors that impede the use of such data in strategic decision making. Factors cited included that insufficient time was allocated at board meetings, that the board members were not adequately prepared for meetings, and that other priorities superseded the boards' attention that would otherwise be focused on financial data. As noted earlier, the manner in which financial data is reported to the board may be unwieldy in its detail, or may not even be shared with the governing board (Wellman, 2008). The researcher explored these factors in depth with the board members at the six institutions to understand if such impediments existed or if the factors had been overcome in ways that may be utilized by other institutions.

When asked if the trustees had encountered barriers to using financial data in strategic decision making, the responses revolved around taking more time when time was needed. The trustee at institution #1 found that "there is ample time and information," noting that they will have pre-board meeting discussions of up to three hours in length when necessary. At Institution #4, the trustee added, "Sometimes too much has to be covered at one meeting, and we will say, you know, we need to table this item, and we need to have a separate meeting on it." All institutions seemed to take additional time to address any time constraints on financial matters either through longer meetings, or by adding special meetings to appropriate more time for discussion.

And although trustees found that they had sufficient time, or allocated additional time to financial matters, trustees did recognize that the barrier of time existed for administrative staff. At Institution #6 the trustee noted, "if I ask him [the financial officer] to go in and do something different, that would be very difficult, not because he

doesn't know how to do it, he knows how to do it, it's a question of does he have time to do it."

In discussing the issue of time as a barrier with trustees, two sub-themes developed regarding financial data use by the governing board: (a) transparency in sharing and communicating financial data, and (b) the use of committees within the governing board structure.

The first sub-theme relates to the level of detail and the manner in which financial data are presented to the governing board. This sub-theme addresses the literature review issue of financial data either not shared with the governing board, or not presented in a manner that is readily understandable.

Trustees emphasized the importance of transparency at their institutions. Transparency was perceived as promoting awareness and understanding of financial data at the institutions. For example, the trustee at Institution #2 explained the benefits of using the balanced scorecard in sharing key financial and performance data. The trustee noted, "All of a sudden, the board members are more knowledgeable than they used to be about the key components of what are the success factors in the organization."

Transparency was also evidenced by allowing student government leaders to attend all board meetings, by the fact that the same level of financial data was shared with all board members, and that board members had the opportunity to ask questions directly, either to the financial officer, or to the institution's president in private executive sessions. The transparency theme emerged in discussion with financial officers, presidents, and the provost. The trustee at Institution #1 found that "we have an

opportunity to look at as much detail as we want." The trustee at Institution #2 explained this further:

> What 'our Financial Officer' has come up with here is, in my judgment, clearly the best way to share information. Because it makes information available at any depth, at any level, that as an individual you're interested in going to. It really puts right in front of you, what is going well, and what is not going well, from a finance standpoint.

According to the trustee, the use of financial indicators, in this case the balanced scorecard, has elevated the knowledge level of the board while focusing on key components of what the success factors are in the organization. But when respondents were asked about the level of understanding of the board on financial data, their responses were mixed.

At Institution #2, the trustee noted that many members do not have a high level of financial understanding, adding that members not on the finance committee are less interested in the financial situation. Institution #3 responded, "I think some do," while Institution #6 added, "imagine that about half, probably more than half, are not particularly financially oriented." The trustee at Institution #6 raised the issues of time and understanding when explaining, "They'd either get lost in the numbers anyway, because they're not numbers oriented, or it's just too much data for the time you've got allotted to do it."

One of the ways in which institutions have addressed this apparent gap in financial understanding is through the second sub-theme, board committee structure. Institution #1 explained the need for developing expertise on board committees because of the increasing compliance issues and regulations institutions must address. The board member noted, "the Board has specifically sought expertise in that area because of those

much more stringent kinds of requirements." The trustee at Institution #1 explained "not only has the pressure increased on "the financial officer" and the financial staff but we've recognized we need more expertise on the audit committee and we've actually gone out and recruited at least three other trustees."

Besides building expertise, the committee structure assigns board members knowledgeable in financial matters to focus specifically on finance issues thus improving the board's effectiveness. The trustee from Institution #1 explains, "It's hard to do business with 30 people sitting around the table together, so it's helpful to have the reliance, in our case, on the committee structure and expertise and time that those committees put in." For Institution #5, committees provide a channel for sharing data with those board members better suited to understand the data. The trustee exclaimed, "Throwing all these ratios at pastors or things like that on our board is just going to be a complete waste of time." The trustee at Institution #2 noted that board members not on the finance committee are less interested in the financial situation of the university. The trustee added that many board members do not have a high level of understanding in financial matters.

But even with focused recruitment to develop greater expertise at the board committee level, the financial data still can be difficult to understand. The trustee from Institution #5 finds that fund accounting, which is used in not-for-profit institutions, is "quite confusing." Because of the confusion, the trustee thought that more data should be shared.

Over all, Institution #3 agrees, commenting that the board committee structure makes board governance more efficient. For Institution #4, the trustees summed it up in a few words, “It’s really committees that drive things.”

For one institution, reliance on the finance committee can become burdensome. At Institution #5, the board defers to the finance committee to such a degree that if the finance committee chair recommends or proposes something, the board will support it. The trustee commented, “If I get up in front of the board and say it’s OK, most people are going to say, ‘OK, it’s OK, because the ‘Trustee’ is saying [so].” The respondent’s apparent discomfort with this may be from his newness to the role of finance chair and the board, as evidenced by his comment, “I am trying to figure out how the Board operates.” Or it may be due to the trustee’s comment that “there are going to be some hard decisions to be made.” Considering the statement made earlier by the financial officer at Institution #3, “You know it’s not my job to get this place financially secure, it is all of our jobs,” the trustee may be seeking the collective strategic decision making role of the board.

At the conclusion of the trustee interviews, the researcher asked for ideas on how financial officers can improve the financial data that are shared with the governing board in order to enhance awareness and understanding in decision, and better promote institutional mission. Responses varied from very specific requests to broader concepts. The trustee from Institution #6 felt that there should be more financial data shared on the capital budget process. At Institution #5, the trustee asked for more ratio analysis regarding staffing levels to serve students in order to understand an apparent disconnect between the strength of the balance sheet and the lack of capacity on the income

statement. Institution #3 thought more forecasting would be useful, noting that the corporate standard is to present forecasts on a monthly basis. The trustee at Institution #3 also offered the suggestion, "Ask the board, what do you want to see? You know, what is most helpful to you?"

The president's perspective.

We've been very open, honest, transparent with our budgeting process and our reporting.

- President Institution #6

After conducting the interviews with board members, the researcher contacted financial officers to request an interview with the institutions' presidents. The stated purpose of these interviews was to understand how each president, as a "bridge" between the administrative and governing boards, affected the use of financial indicators. Each institution's financial officer in collaboration with his or her president had identified specific financial indicators to use with their governing boards to inform strategic decision making and to guide strategy in support of the institution's mission. The president, as chief executive officer (CEO) of a college or university, holds a critical role in providing strategic leadership to an institution and contributes or preempts the use of financial indicators. Understanding the president's perception of the use of financial indicators in strategic decision making would provide a more complete story of how institutions do this.

Four institutional presidents were interviewed through in-depth telephone interviews. One institutional president declined, due to an already full schedule and lack of availability and time. One of the four presidents was emeritus of the institution and

continued to serve on the institution's governing board. For purposes of the study, and based on their actual comments during the interview, the individual maintained a perspective of an institutional president even though now a trustee. Accordingly, each individual's responses are included in the data results from a president's perspective.

The presidents' perspectives had developed over years of leading their institution as president and working with the board of trustees. Presidential tenure ranged from 5 to 14 years. The presidents emphasized transparency and measures they had taken to expand board understanding, to increase the financial data shared with the board, and to promote an opportunity for the board to ask questions. The presidents also focused on the effective use of board committee structure, funneling issues through the committees for full review and discussion before reaching the full board for approval. Additionally, institutions used new board member orientation programs to acclimate new trustees to the culture of the board and provide knowledge of the institution and higher education. Finally, institutions have engaged in targeted recruitment efforts to increase specific board expertise when identifying new board members for the institution. This intentional recruitment has been going on for many years to build board capacity to serve the institution's growing needs for accountability and compliance.

To understand how each institution created awareness and understanding of the financial indicators, the researcher asked the presidents a number of open-ended questions to gauge the extent of knowledge within the governing board. For example, when asked if the board members understand the financial data that are shared with them by the financial officer, the presidents collectively agreed that there were different levels of understanding, with greater capacity residing with board members on the finance

committee. The president from Institution #6 was the most positive in their response, explaining:

> I think about 85% of them do. Because we've educated them, very, very carefully and I think they're comfortable if they don't understand something, those that may not be as financially astute as others, they are now willing to ask those questions.

The presidents, as with both the financial officers and trustees, agreed that there is a need to educate board members concerning financial matters of the institution. The president at Institution #1 noted, "Trustees do need help focusing on what's the important number here. . . . .My impression is that the board members don't always know what I should be looking at." In order to provide a starting point for educating new board members on the financial matters of the organization, all six institutions hold orientation programs for new board members. The financial officer at each institution studied took the lead role in educating and informing new board members at orientation sessions to develop awareness and understanding of both the general financial health of the institution and the focused use of the financial indicators in strategic decision making.

Communication was noted as a key characteristic found in successful financial officers needing to educate and inform the board on financial matters. The president at Institution #6 explained, "CFOs need to be great communicators, and they've got to be willing to share the information to keep the Board informed and to keep, certainly, the president and his or her cabinet informed." The president went on to explain that the financial officer needs to "stay on top of your figures on a daily basis. It's got to be accurate, it's got to be timely, and I think it's got to be transparent."

Institution #1's president noted that the ideal financial officer needs to both have a great grasp of financial details and be able to lead and facilitate a board retreat.

Institution #5 added that an effective financial officer is able to present the financial data in a manner that makes it as simple as possible and as easy to understand as possible.

To facilitate new board members' understanding of financial management in higher education, new board member orientations included formal presentations by financial officers. Institution #5 includes a discussion on fund accounting, which is unique to not-for-profit organizations. The president explained, "In the last few years, we have tried to institute a good orientation program. . . . Just to give the board, new board members, a starting point for how we do accounting in a college setting."

To effectively meet the challenges in higher education, the presidents agreed that financial data were critical. The president at Institution #6 summarized this as follows:

> The CFO is at the center of the strengthening effort. I don't mind the challenges, I just want to make sure I have the information that allows me to make some decisions and perhaps provide a bit of leadership for the team that can address the issues.

The president at Institution #1 looked at the challenges in higher education as a shift in the business model and the need to develop a sustainable financial model. The president described the current business model by saying, "Most companies don't rely on loans to 18 year olds with no credit history and no income to sustain their business model, so it's a little different." Institution #2 added, "I don't think small privates are going to remain competitive if they can't have processes that bring greater clarity to efficiencies and effectiveness."

In utilizing financial indicators to guide and educate the governing board as part of the strategic decision making, the impetus came from the president, the financial officer, or a combination of the two. At Institution #2, the president brought a unique perspective based on an "inherent interest in analytics and statistics." Already holding

terminal degree, this president sought a master's degree in business administration five years earlier. The president explained, "Colleges are very complex places with multi-million dollar budgets and there about the only place that would hire an unqualified [candidate] as their CEO, with little or any financial background. And you know how complex schools are becoming finance-wise these days." From his business education, the president noted that the financial officer and the president "were able to talk in the same language and [were on] the same wavelength."

This shared understanding provided a foundation to further the use of financial data, and specific financial indicators, at the institution. The president noted:

> These innovate approaches are not going to work without the president's leadership. Because I think that specifically most boards are not going to require it [specific financial data] in opposition of the president and I don't think that most CFO's are going to be able to pull it off without the support of the president. So I think the president does play a key role.

Presidents recognize that introducing new financial tools such as financial indicators, takes time to develop a level of awareness and understanding and is a process. Small private institutions lack the human resources of large institutions. For example, the president at Institution #2 noted that large institutions with twenty thousand, thirty thousand, or forty thousand students have business officers who focus solely on forecasting. The limited spread sheeting skills reside mainly with the financial officer, with the controller being next in line. At a small private teaching college, analytics is "thin" when compared to a large research institution.

The process for implementing a new financial tool can be described by the president of Institution #2 as follows, "I'm a pretty strong advocate in saying, let's take three steps forward, one step back, so we would press ahead, and press ahead. And then

we'd say, OK, I guess that data we're going to have to wait a year to put together." Given these limitations, however, the president added that the small college is "actually more agile" than the larger institution, or even a corporation, in being able to make changes.

The president at Institution #2 was a major advocate for using financial indicators at their institution in strategic decision-making. The president found that "senior officers of any college have to move from being merely operational, to being more visionary and strategic, and it's not common." Besides promoting the use of the balanced scorecard at their institution, the president actively shares this tool with other institutions recognizing the financial challenges that all small private institutions face. The president explained, "It [balanced scorecard] has been powerfully, transformational in our campus, and in our governance, and in our strategic advance. And so, I would love to see more people adopt it."

Institution #1 on the other hand uses the CFI to guide the governing board in focusing on specific financial data pertinent to strategic decision making. The president explained, "Trustees do need help focusing on OK, what's the important number here. My impression is that board members don't always know what they should be looking at." The financial officer at Institution #1 provides this needed guidance through "summarizing a lot of data in very pertinent and useful ways."

As with Institution #1, the financial officer at Institution #5 provides focus to important financial data to the governing board. In using the CFI at Institution #5, the president elaborated on the financial indicator's value in strategic decision making at the board level. The president explained, "It has been something that we, the board, have

continued to refer back to, as we've been having strategic discussion about moving forward. We do keep referring back to our strength and how do we tap that strength for strategic growth?" Institution #5 has achieved the maximum CFI score of 10.0, placing it in well into the category to allow innovation.

The CFI has been incorporated and accepted at Institution #5 as an important financial indicator to guide the governing board in strategic decision making and influence strategic direction of the institution. According to the president, discussions with the governing board currently focus on "How do we use those strengths that we have in terms of our financial position to help further the mission of the college?" The use of the CFI at Institution #5 is a clear example of how financial indicators provide a vehicle for driving institutional mission based on the awareness and understanding of the level of financial health that the financial indicator measures for institutional leaders.

Summary

Chapter IV presents an analysis of data collected in this multi-case qualitative study about the use of financial indicators in strategic decision making. Interviews with six institutions representing six financial officers, four presidents, a provost, and six trustees offer insights into the perceptions of each group in the effective use of financial data. These findings provided the researcher with an in depth understanding to answer the Grand Tour Question and research sub-questions in this study as presented in Chapter V.

Financial officers, trustees, and presidents of all six institutions studied confirmed that financial indicators are used to guide and educate members of their governing boards as part of the institutional decision-making process. Each institution did this through

focusing on a specific financial indicator or combination of financial indicators. This focused attention effectively addressed barriers that have been found to hamper use such as lack of time, understanding, and interest as found in the literature.

One example of such a barrier was the lack of time. The data from financial officers indicated that there is substantial time required to prepare the financial indicators and that it takes substantial time to introduce and use such data for strategic decision making with their governing boards. The use evolved over the course of many years, and the financial indicators used are narrowly defined. Another barrier was the complexity of financial data. Accordingly, the presentation of the financial data needs to be done in a clear and simple manner, both at a high summary level and with sufficient detail to support transparency and important element in promoting understanding.

Trustees reiterated the importance of simple and clear presentation with full detail to aid transparency. A board committee structure that placed financial experts on the finance committee contributed to a higher level of understanding and a greater capacity to ask questions. Both trustees and presidents noted increased intentionality in their strategic recruitment of new board members. This was in the interest of building financial capacity to address the institution's increasing regulatory and compliance needs. New board members also brought an increased level of financial understanding and experience in using financial indicators in strategic decision making.

Serving as the bridge between the financial officers and governing boards, the institutional presidents promoted transparency in sharing financial data with the board to increase understanding in strategic decision making, as well as to limit surprises from adverse financial issues. Additionally, the president supported interaction between

finance committee chairs and the financial officer to address questions and plan finance committee meetings. All presidents supported board engagement and noted the importance of the committee structure in facilitating board strength and directing financial expertise towards the use of financial indicators on the finance committee.

Chapter V continues with further discussion on how the financial officer, trustee, and president perceptions promote the effective use of financial indicators to educate and inform the governing board in strategic decision-making. Conclusions and recommendations for helping financial officers at other small, private institutions promote best practices in using financial indicators are also key components to Chapter V.

Chapter V

Conclusions and Discussion

The CFO has to have his or her finger on the pulse, the financial health of the institution.

- President at Institution #6

Overview

This chapter presents the conclusions and discussion of the research study. Included is a synopsis of the study, discussion of key findings, answers to the research questions, recommendations for best practice and further research, limitations to the study findings, and brief concluding remarks.

Research Study Synopsis

Chapter I presents the concept of using financial and key performance indicators in strategic decision making and provides a framework for understanding the difficulties in managing small private institutions in today's economic environment. The first chapter defines the study's purpose: To identify the use of financial and key performance indicators in strategic decision making by institutional leaders entrusted with guiding the fiscal health of small private four-year institutions with long-term investments less than $100 million and accredited in the United States. Furthermore, the study investigated how six institutions use financial indicators in order to identify best practices that can be shared with other financial officers to improve the use of financial data to inform strategic decision making. The first chapter explains why this study has significance, in that it can provide a map for financial officers to guide them in providing meaningful financial data to their governing boards that will support strategic decision making.

In Chapter II, the history of financial indicators is provided to explain the development of financial ratio analysis in the not-for-profit sector in the 1970s and how it has evolved in higher education since that time. Various research studies are presented to illustrate the themes in using financial indicators and the barriers that have inhibited greater and more effective use.

A detailed description of the research methodology is found in Chapter III. The researcher provides a thorough review of this multi-case qualitative study, which uses a two-phase explanatory design. It is based on an online survey to identify the sub-population of financial officers who self-identify as using financial indicators in strategic decision making.

The online survey was sent to 214 financial officers who represent private institutions in the North Central Region of the Higher Learning Commission with student enrollment levels of 4,000 and less, and endowment levels less than $100 million. This population was seen as more vulnerable to external factors of financial stress. They are highly tuition-dependent with inadequate reserves to weather long-term financial storms, making any downward shift in enrollment more difficult to manage financially.

The second phase of the research study explored six institutions selected by the researcher using purposeful sampling. The researcher selected the institutions based on compelling examples provided in the online survey of how the respondents use financial indicators in strategic decision making. Besides in-depth telephone interviews with each institution's financial officer, trustee, and president, the researcher also obtained unobtrusive data such as financial analyses and reports from the financial officers,

strategic plans, histories, and leadership profiles from the institution's website, as well as other financial data available on other public websites.

Chapters IV and V describe the findings and themes that emerged from the study, as well as key conclusions and recommendations for best practice and further research.

Conclusions and Discussion

This section provides conclusions to the study by answering each research question while incorporating findings from the literature review. These conclusions form a foundation for later recommendations the researcher hopes will assist financial officers in promoting institutional financial health.

From the online survey, respondents indicated that all institutions gather data, including financial and key performance indicators, but not all utilized data for decision making. The ratios most survey respondents computed measured level of tuition revenue dependency, enrollment trends, and institutional aid rates. Less than half of all respondents, however, computed ratios to measure endowment levels. Given that the population represented institutions heavily tuition dependent with small endowments, the respondents computed financial indicators measuring those factors with the greatest impact on an institutions' financial health: tuition, enrollment, and discount.

From the online survey, 31 respondents, or 39%, indicated that they had an example of using financial indicators to inform decision making. This meant that 61% of respondents did not such an example. Accordingly, the majority of respondents indicated that they did not utilize financial indicators for strategic decision making with the institution's governing board.

For the six institutions in Phase II of the study, financial indicators were used in a joint effort with the financial officer in a supporting and educating role and the president in a leadership and gatekeeper role. The outcomes were still mixed, however, in regards to depth and extent of use. Financial officers struggled with barriers of lack of time, limited understanding and interest by the president and governing board, as well as an institutional culture that accepts change slowly and works from a basis of tradition. The financial officers at each of the six institutions initiated the use of financial indicators and persevered in navigating the barriers as an institutional "change agent."

Overall, financial officers are responsible for preparing accurate, timely financial data that includes focused use of selected financial indicators and presenting it to decision makers (such as the institution's president and governing board) in a manner that is understandable and supports strategic decision making. Financial officers, however, defer to the president in which financial indicators are allowed to flow to the governing board. And whereas the financial officer has the highest level of expertise in financial management in higher education, the president, with the least financial expertise, is the gatekeeper to financial indicator use.

To create awareness and understanding from financial indicators, a number of barriers as defined in the literature were addressed. These barriers were found at each of the six institutions studied but were managed effectively in order to promote financial indicator use. Financial officers however had to persevere to be successful and were surprised to find the slow pace, lack of willingness to change, and traditional think that exists in higher education. Overall, the use of financial indicators is a team effort based

on the financial officer's expertise, president's support, and focused attention by the finance committee of the board of trustees in planning and decision making.

The results indicated that financial officers at the six institutions brought the expertise and experience that Redenbaugh (2005) found was significant in promoting the use of financial indicators at small private institutions. Significant factors included certifications such as a CPA or CMA, and private or public accounting experience. In the study, all financial officers held master's degrees in business and had worked in corporate for-profit enterprises in accounting or financial positions. Five were CPAs and two were continuing their education at the doctoral level. The average tenure of these individuals within the institutions studied ranged from 4 to 19 years.

The financial background of the six financial officers supported Redenbaugh's (2005) recommendation from the literature review to hire experienced accountants from public or private accounting firms. Such work experience was found to address the barriers that inhibited the use of financial indicators and was a significant factor in using management accounting tools, management accounting tools simply being expanded multi-tiered financial ratio analysis.

In order for financial officers to be effective in promoting the use of financial indicators and management tools in decision-making, Redenbaugh (2005) recommended that financial officers become a "change agent" in communicating the value of such use with colleagues and through education of the board of trustees. The study results revealed, however, that the financial officer does not act alone as the change agent. Instead, the president must support the financial officer's use of financial indicators and

allow such use with the trustees. In this manner, the president acts as a gate keeper to the use of financial indicators in strategic decision making by the board.

While presidents noted that they hired financial officers who were qualified to lead the financial function of the institution, the president still acted in large part as catalyst and proponent of the use of financial data within the governing board.

The president at Institution #2 best expressed this when the president explained:

> These innovative approaches are not going to work without the president's leadership. Because I think that specifically most boards are not going to require it in opposition of the president and I don't think most CFOs are going to be able to pull it off without the president's support.

When the president does support the use of financial indicators with the board, to succeed in providing useful financial data to the president and governing board, the financial officer must work within a culture that accepts change slowly, and work from a basis of tradition. Redenbaugh (2005) found the static culture of the institution and lack of willingness to change as two barriers to using financial indicators. The results of the study revealed that all six financial officers experienced these two barriers that prolonged the introduction and acceptance of the use of financial indicators. These barriers however did not stop the financial officer from their efforts in using financial indicators. Through an intentional and ongoing management of barriers, the financial officer persevered in using financial indicators at the six institutions.

The financial officer at Institution #4, for example, referred to these barriers as "traditional thinking" while at Institution #5 the financial officer found such barriers a "hamstring" to innovation and creativity. In order to manage such barriers, the financial officer at Institution #4 found that the addition of a new compliance officer freed the

financial officer to be more “refreshed” and allowed to pursue creative thinking that they could share at board meetings.

The frustration of these barriers, however, can be heard in Institution #5 financial officer’s statement, “If I had known what higher education was like before I came here, I would never have come.” At Institution #3, there was both a level of awareness and acceptance of these barriers as the financial officer explained, “So it’s just like anything, you have to hear it for years, over and over again.” The trustee at Institution #2 affirmed the existence of these barriers by the statement, “It’s not common to have something like this [balanced scorecard] available. I think it is just going to take some time for board members to get comfortable with it.”

Besides promoting use of financial indicators with the institution’s president and board, the financial officer must address cultural reluctance to change both within faculty and staff. Part of this communication is in explaining the value of such tools. For example, the use of the balanced scorecard at Institution #2 began at a small level with the governing board, but as the scope of the scorecard grew to cover a broader area of performance indicators, the president’s cabinet of senior management needed to understand the benefits to the institution in putting such a tool in place. Additionally, the financial officer needed to consider the natural inclination not to want to be “measured” by faculty and staff. This was also noted by Institution #2’s trustee. In order to create greater buy-in, the financial officer had to promote realistic goals and develop a streamlined method to compute performance measures each quarter.

Besides cultural tradition and lack of willingness to change, the financial officer must have an ability to explain financial data in a manner that is understandable to

presidents and trustees who do not have the same level of financial expertise in higher education. In the study, the financial officer was found to have the highest level of business acumen for financial management in higher education. The chair of the finance committee was second with substantial financial expertise, but in corporate rather than not-for-profit organizations. And the president was third in level of financial management expertise in higher education, having professional experience and academic credentials in non-financial areas.

To manage the varying levels of financial expertise, the board of trustees directed those members with business acumen to the finance committee. In the study, of the six board members interviewed, five were the current or past chair of the finance committee with one a long-standing member of the finance committee. All were corporate executives. Four were presidents and/or owned their own companies. Three had either an MBA degree or a CPA. None had professional experience working in higher education or non-profit organizations, except for their role as board members.

New trustees were sought for their specific financial and accounting expertise in order to build greater strength in the finance committee to manage the increasing compliance and regulatory requirements placed on higher education today. At Institution #1, the financial officer explained, “Under our president’s leadership, we’ve improved the experience level of our board significantly.” The trustee at Institution #1 noted, “If you’re serving on the finance committee, the first thing would be for the membership committee to really place folks that have a bent or some form of expertise on it.” Institution #5 actively recruits expertise for its finance committee. The president noted,

"We try to recruit people with specific expertise and not just have anybody on the finance committee."

The placement of board members with financial acumen on the finance committee was part of an overall strategic committee structure of the board. The trustee at Institution #1 explains this phenomenon. "It's hard to do business with 30 people sitting around the table together, so it's helpful to have the reliance in our case on the committee structure, and expertise and time that those committees put in." And as the trustee from Institution #2 acknowledged when considering the full board, "Many do not have a high level of understanding of financial matters" thus the importance of assigning those with financial acumen to the finance committee.

The practice of targeted assignments also served to address the barrier Redenbaugh (2005) noted as lack of interest in using financial indicators and management accounting tools. The trustee at Institution #2 conferred, "Board members not on finance are less interested in financial matters." At Institution #3, the trustee provided this summary, "Committee structure makes board governance more efficient," with the trustee at Institution #4 adding, "It is really [board] committees that drive things."

While an institution aggregates its financial interest and expertise on the board to receive and use financial data, study results indicated the importance of financial officers preparing summarized and succinct financial reports. Talboys (1995) found that the presentation of financial data needed to be organized and that basic financial data provided to the board was too complicated, out-of-date, or lacked a consistent format. In

presenting the financial data in a meaningful way, financial officers often used graphical displays, comparative analysis with peer and other institutions, and trend data over time.

As Talboys (1995) recommended in the literature review, financial data need to be organized to be useful to decision makers, as well as descriptive of the "financial story" of the institution. All financial officers in the study reiterated these two points in various ways. The financial officer at Institution #1 noted, "It has to be simple, it has to be clear." At Institution #3, the financial officer uses graphics to present financial data, especially for comparative analysis and trend data. The financial officer explained their use of graphs by saying, "The graph tells the story, so to speak."

As Lee (2008) advocated, financial data were prepared using a limited number of financial indicators that had been selected as most meaningful to understand and track. Two institutions focused their attention on the Composite Financial Indicator (CFI) (a financial measure based on a blending of four key financial ratios), two on the contribution margin, and one on a balanced scorecard (a management tool that includes impact, learning, retention, and affordability indicators). This narrow focus then allowed financial officers to direct the time and attention of the governing board on the financial indicator(s) seen as an "independent and respected management tool" as noted by the financial officer at Institution #2. The end result was to streamline understanding and allow institutional leaders to answer simple questions about the institutions' fiscal health based on a specific financial indicator.

For Institution #2 with a maximum CFI score of 10.0 trustees understood the score represented an institution with a strong balance sheet that could innovate. Thus, the

financial officer, president, and trustee were all able to be aligned in their focus to promote innovation at the institution, driven by the results of the CFI.

The literature did not however address how the financial data was explained to decision makers, nor the skills required for effective delivery. The study findings indicated that for all the institutions studied, the financial officers were seen as effective in their presentation skills. As the key educators in creating the awareness and understanding of financial indicators, such communication and presentation skills are critical.

The president at Institution #1 captured the level of a financial officer's success as being able to lead and facilitate a board retreat. The president at Institution #2 clarified why such presentation skills were viewed as unusual for financial officers. The president noted, "Andrew [pseudonym] is unique in his personable, engaging leadership level that is not the norm of CFOs I have met." At Institution #3, the trustee noted that their financial officer is a very good public speaker. So besides the financial expertise from credentials and professional experience that Redenbaugh (2005) found, today's financial officer has additional skill sets required for the position.

Both Talboys (1995) and Lee (2008) found the need for financial officers' to provide high-level, but simple summaries of complex financial data. Study results however, found that institutional decision makers still require detail data to be available along with the summaries in order to support full disclosure or "transparency." This was noted by all three groups interviewed in the study.

The financial officer at Institution #4 explained, "There is no mystery to where my numbers come from." The financial officer provides detail for summary data and was

unique in the collaborative approach and joint effort with the provost office in developing such financial data. The president at Institution #5 found transparency is especially important in today's management of higher education. The president explained:

> I think the biggest thing is probably transparency and Boards can't help you if they do not know the condition of things financially. . . . Boards don't like surprises, and I think transparency, being forthright with the Board.

The trustee at Institution #1 confirmed, "We have the opportunity to look at as much detail as we want." Additionally, the same financial data is shared with all board members and not just the finance committee members. Institution #3 uses an appendix to provide financial data for board members who want to drill further into the details.

Redenbaugh (2005) also noted the shortage of time and resources as barriers to use of financial indicators and management tools. From the study results, financial officers rely mainly on themselves to prepare and deliver the financial reports to the Board. The theme of time was a very real impediment to the financial officer. It was not a problem for the president or trustees, who appropriated more time either within meeting agendas or in adding more meetings to provide for sufficient discussion.

The available time of the financial officer, however, would be impacted by longer board meetings or an increased number of meetings given that the financial officer prepares the financial data and materials for the board. The barrier of time accordingly became a catch-22 for the financial officer as insufficient time at the board level resulted in more meetings or longer meetings, taking away the already limited availability of time from the financial officer required to provide financial data and reports to the board.

In the literature, financial indicators must be tied to planning to be considered strategic (Chabotar, 2006). At Institution #3, the financial officer tracked the CFI to

improve the ratio. The financial officer noted that the budget was intentionally prepared so that analysis of financial results would tie back to the CFI. This allowed decision makers to understand institutional progress as measured by the CFI, and to chart goals to further improve financial health. This was done through an intentional process presented by the financial officer, supported by the president, with buy-in by the governing board. As discussed previously, without the president's support, a financial officer would not be able to promote the use of a new financial indicator with the governing board.

This was clear in the use of the balanced scorecard, which Institution #2's president prioritized. The financial officer then led the development and implementation of the management tool at the institution based on the financial officer's expertise and ability. Informing the governing board, however, took many years. The process started with a short list of six financial indicators that grew into a full-fledged balanced score card based on financial and performance indicators that drove the success of the institution.

Promoting the use of the tool by the faculty and staff required small steps of buy-in. Demonstrating the usefulness of the tool allowed the financial officer to expand the scope of the balanced scorecard to use in a more comprehensive manner. The institution is now considering the expanded use of the balanced scorecard at the division, department, and desk level, referred to as the 3-Ds by both the institution's president and its financial officer.

Shortage of time (Redenbaugh, 2005) continued to come up as a barrier for financial officers throughout the study. To combat the time and effort involved for management to prepare data, the financial officer at Institution #2 was in the process of

implementing a new financial system to be completed the summer of 2012 that will provide the means of easier access to data. This was important to staff, who found it burdensome to prepare financial data that was hard to access. Additionally, a change was made to compute financial data quarterly instead of monthly. This was expected to reduce the burden of more frequent computation and reporting. Since the data did not change substantially from month to month, the extra effort was not worth the time.

Trustees also acknowledged the limitation of time on the financial officer in pursuing new ideas and suggesting expanded or different financial indicators. Trustees noted that the limitation did not reflect on the financial officer's capabilities, but the lack of available time the financial officer had to devote to something new. Institution #6 explained, "If I asked the financial officer to go in and do something different, that is very difficult, not because the financial officer doesn't know how to do it, it's a question of does the financial officer have the time to do it." The barrier of time continued as a loud and clear obstacle to be managed by the financial officer.

In Chapter IV, the researcher discussed the data collected in the study organized around the perceptions of the three types of participants: financial officers, trustees, and institutional presidents. The researcher also reviewed the data to offer insight into practices that work for the six financial officers in providing meaningful financial data to their governing boards and how the three groups address and/or overcome the barriers in the literature review that prohibit such use. This Chapter offers conclusions by answering each of the research questions with supportive findings from the literature review. These conclusions offer a foundation upon which the researcher will later recommend best

practices for financial officers to use at other small private institutions. Lastly, the researcher provides recommendations for future research at the end of the chapter.

The use of financial indicators in strategic decision making. The early research questions of this study focused on what financial and key performance indicators institutions use and how institutional leaders employ this data to inform strategic decision making and create awareness and understanding. Through exploring the perceptions of three groups -- financial officers, trustees and institutional presidents -- the researcher hoped to understand how the three groups came together in using financial data for strategic decision making.

In general, financial officers are responsible for preparing and delivering the financial data to the president and governing board. The financial data, however, must be presented in a manner that is clear and easily understood. Financial officers are also expected to educate and inform their boards as to what the data mean and what is important to know. In partnership with the president, the financial officer can create meaning from financial indicators. Without the president's support, the financial officer would not be able to promote such use at the board level.

Essentially, the financial officer is the facilitator of financial indicator use, while the president is the gatekeeper that allows the flow of financial data to the governing board. The board is the ultimate user in approving strategic direction based on the financial indicators. Together the three groups combine to use financial indicators more effectively for strategic decision making in guiding institutional health.

Through in-depth interviews, the researcher explored the unique role of each group and how the groups worked together to use financial indicators effectively at their

institutions. The findings from these interviews allowed the researcher to answer the research questions as outlined in Chapter I and presented below.

Research questions answered.

Grand tour question: Do small private colleges and universities in the Midwestern United States gather data, including financial and key performance indicators? Results revealed that presidents and their financial officers recognize the value of financial indicators in educating their governing boards to make informed decisions. These results support Chabotar (1989), who reported ratio analysis as invaluable to stewardship and accountability, as well as Redenbaugh (2005), who recommended that financial officers become change agents and educate the board on the value of financial tools.

While the targeted use of financial indicators in strategic decision making may not have been the case in earlier years with the financial officers under study, each institution interviewed reiterated the current importance of focused financial data in strategic decision making. Such focused use conforms to Talboys (2005) research, which advocates ratio analysis be presented in a format that is simple, consistent, and selected based on the specific characteristics of the institution due to institutional diversity. When financial indicators were ignored however, resulting decisions could have far reaching negative outcomes.

At Institution #6, for example, the governing board had made a significant decision, more than a decade earlier, with complete disregard to the financial officer's ratio analysis. The financial officer recalled the board's "ignoring financial ratios,

trustees overrode me, and they overrode our audit firm, and ignored and used for-profit ratios to determine the value of the entity we were buying so we grossly overpaid for it."

After years of work to recover from that decision (which resulted in financial hardship on the institution), the financial officer reported that the situation has completely changed. The financial officer currently provides a traditional package of financial statements with a summary narrative and contribution margin analysis to the board. At board meetings, the financial officer also provides oral highlights on the financial data and answers questions. The financial officer noted, "They may not know all the terms, but believe me, they understand the cash flow and how to identify your source of revenue and your main expenses. We get a lot of good questions from the board that we used not to get."

From the president's perspective of Institution #6: "We've created a very, very transparent financial reporting system here that the university never had, and a lot of universities don't adopt." After taking over from a long-term president who unexpectedly passed away, the president found a board that was neither informed nor functioning. The new president outlined for the board the nature of their governance role. The president then directed the business office to provide financial reports to budget managers to monitor spending data, to the president to inform financial health on a regular basis, and to the governing board for strategic decision-making. Financial data was an essential part of the strategic decision making process.

The trustee from Institution #6 confirmed the outcome of the change in strategy. The trustee noted the importance of the cash flow projection that the financial officer

prepares annually, along with the contribution margin analysis. And the trustee noted the distinct role in governance at an institution when explaining as follows:

> But here's the thing, you cannot, as good as the CFO might be, I've got more responsibility, I think as a director or trustee, to not only trust that he is doing it right, but to at least provide some kind of oversight in saying did he miss something here? Because we all make mistakes and it is easy, as something as complex as a financial institution, it is easy to miss something. So I would not at all be happy to just hear, oh, everything's OK. I've heard that before, and it doesn't flow well with me.

The situation had changed from a governing board that did not use financial indicators to inform decisions to one where the financial data became essential and the board's role clear that good decisions were being made for the institution on complete financial data.

Research sub-question #1: What financial and key performance indicators do institutions gather and how do institutional leaders use this data to inform strategic decision-making? The use of financial indicators has influenced strategic decision making by informing the president and governing board of the financial health of the institution. When the financial health is shown as unsatisfactory, based on levels of computed ratios, the institutional leadership will make decisions that strategically promote improved financial health. Monitoring financial indicator outcomes is an effective way to track the progress and success of the strategies set in place and measure financial health (Chabotar, 1989).

At Institution #3, for example, the Composite Financial Index (CFI) was used to promote increased financial health. The institution's chair of the governing board noted that the CFI was used to bring the institution back to a balanced budget. The trustee

explained, “we went from losing money a couple of years ago, to being in the black the last two years – and we’re projecting a budget surplus as well for this year.”

The advantage to the institution of the CFI is that a consortium (to which the institution belongs) monitors the CFI for its members and shares detailed data each year with all members. This allows member institutions to compare their own financial health, as measured by the CFI, with other member institutions, and to track this measurement over time.

The financial officer at Institution #2 recently sat a panel for a webinar presenting the CFI and discussing how the CFI can inform strategic decision making. The financial officer referred to the CFI as “an independent and respected measurement tool that everybody else is watching, too.”

At Institution #5, which also focuses on the CFI, the financial officer presented a PowerPoint presentation to the full board at its semi-annual meeting in the spring of 2011. This presentation provided a full understanding of the CFI and a review of the four financial ratios that comprise the CFI, along with peer data rankings. Because the CFI score at this institution indicates an institution with the capacity to innovate, the president and the board focused their attention on innovation, and how increasing innovation can be accomplished given declining enrollments and constraints within the tuition-dependent operating budget.

The trustee from Institution #5 explained a dilemma that had surfaced in using the CFI. “We have a strong balance sheet and our balance sheet would support additional debt. The conflicting area, though, is that our income statement doesn’t seem to reflect the capacity to expand interest expense.” According to Lee (2008), the CFI computation

needs to be disaggregated because the complexity of ratio analysis makes drawing accurate conclusions difficult.

Chabotar (1989) also cautioned the use of ratio analysis in drawing conclusions without further analysis. Institution #5 is at the threshold of considering how the conclusion based on the results of the CFI conflicts with apparent limitations. Thus, the use of financial indicators influences strategic decision making, but as Talboys (1995) also noted could present a limitation. Ratios need to be considered in context with the entire institutional environment to be more fully understood by decision makers. Accordingly, the ratio or financial indicator is not necessarily the end of the story.

Institutional decision-makers must link financial data to planning to form context and create a meaningful story. Chabotar (1989) explained that without a connection between the financial indicators and strategic plans, financial indicators simply present trend data without providing further understanding that would inform and support strategic decision making. This lack of connection leaves financial indicators as a mere historic measurement tool and not one that informs the governing board in setting the future direction of the institution.

In using the balanced scorecard at Institution #2, the president noted the important tie between this management tool and strategy at the institution. The president explained, "we'd like alignment so that things that happen in a department and on someone's individual desk align with the strategic direction, as demonstrated by your institutional scorecard."

The trustee at Institution #2 confirms that president's assessment of the importance of the balanced scorecard in driving mission. The trustee noted,

> but all of a sudden, through a tool like this, their accountabilities are much more brought out in the open, and I think that, over time, that really helps to improve the sense of team, the sense of collaboration among the various pieces of the organization.

The president at Institution #2 goes on to examine how this financial tool was developed and why it is remarkable and effective in driving mission at the institution. The president recalled in talking to the financial officer:

> You have a remarkable ability to consolidate the financial health and strength and perspective on a single side of a single sheet of paper. He said (you know), when we were a 40 billion dollar organization at ABC Corporation [pseudonym], we would put the entire perspective on one piece of paper.

The president concluded, "I don't think that the small privates are going to remain competitive if they can't have processes that bring greater clarity to efficiencies and effectiveness." The president found that having a balanced scorecard builds capacity for small private institutions to think strategically.

The trustee at Institution #3 summarized the reason small private institutions are committed to institutional mission. "This is really a people business. And our devotion to students, that's what drives all of us." For the researcher, that is the beginning and the end of the story.

Research sub-question #2: How do small private universities and colleges create awareness and understanding from financial and key performance indicators? Financial indicators need to tell a story. From the literature, that story can include blended ratio analysis such as the Composite Financial Index (CFI) (Lee, 2008) or comparative and trend analysis (Buddy, 1999; Chabotar, 1989), while presented in a format specific to the institution's needs and characteristics (Lee, 2008; Talboys, 1995). All six institutions in the study presented their financial health using such tools, but in a

manner and format applicable to their institution due to the institution's unique characteristics, or "diversity" (Talboys, 1995).

Part of the way financial officers told that story in the study was through graphical presentations, comparative analysis, trend data, and benchmarking. The financial indicators were shared with the university community through presentations to faculty and staff at town hall meetings, and was made available on the intranet for 24/7 employee access, in dashboards shared with the trustees, and in presentations at full board meetings and in new board member orientations.

The theme of transparency was stressed by a number of financial officers and presidents during their interviews. This theme was new to the literature, and may have resulted from the passage of the Sarbanes-Oxley Act in 2002 as a result of a number of corporate and accounting scandals in the United States.

To promote transparency, Institution #1 board meetings included student representatives. Additionally, members of the university community outside of the president's cabinet were able to attend and present at board meetings to keep the governing board informed. This was noted as important, as board members do not necessarily come from academia or understand the higher education industry. Opening attendance at board meetings to more community members enhanced the story shared with the board and improved the understanding of all attendees.

In one example, at Institution #4 the provost had presented four priorities to the governing board that were the focus for academic function. These priorities were supported by contribution margin analysis that was used by the administration and prepared in cooperation and collaboration with the academic provost and faculty. The

provost had opened up the presentation to include various faculty members, academic deans, and students. After the presentation, the vice chair of the board exclaimed, "You know, this has been wonderful because for the first time I understand the product!" The respondent explained, "It was such an epiphany for him, and one for me too, and for our president."

This institution appears to have successfully addressed many of the weaknesses in the literature review in the use of financial indicators. The institution used financial indicators to present a story, and did so with various players participating in that story as part of the presentation to the governing board. Additionally, the data was presented to the governing board, when too often the data (particularly cost data) is not shared (Wellman, 2008). The financial indicators were linked to a strategy of focused priorities. Institutional leadership had overcome the barrier of struggling to identify which financial indicator to use. This institution chose and implemented contribution margin analysis to inform strategic decision making.

Talboys (1995) found that the presentation of data must be organized to be useful as well as descriptive of the "financial story" of the institution. At Institution #4, the use of financial indicators supported that story so well that it achieved a level of board understanding not previously reached even by the vice-chair of the board.

Recommendations for Best Practice

The following recommendations for best practice were developed from the findings. They are intended for financial officers at small private institutions to promote the use of financial indicators in strategic decision making and to understand the environment that supports their effective use. The findings from the study promote the

following best practices for financial officers working in higher education: (a) focus on a specific financial indicators such as the Composite Financial Index (CFI), contribution margin, or balanced scorecard tool to measure financial health at the institution; (b) ensure that the governing board is educated about the financial indicator so that they understand the meaning and feel confident in asking questions; (c) be engaging to promote effective communication of financial indicator data with the governing board; and (d) share the financial indicator in a context that creates a story tied to the planning of the institution.

Focus on a specific financial indicator to measure financial health. When financial officers focus on a specific financial indicator, they are able to concentrate their time and effort more effectively on creating meaning from financial data. In turn, the financial data becomes more important in forming a shared understanding to support strategic decision making.

In the study, financial officers focused on one of the following three financial indicators to inform strategic decision making: (a) the CFI, a composite of four ratios to measure financial health; (b) a contribution margin analysis, a tool to gauge operating performance by program within an institution; and (c) a balanced scorecard, a summary of non-financial performance drivers and financial ratios. Each was supported by a combined focus of the financial officer, the president, and the governing board.

Ensure governing boards are educated and understand the financial indicator. Assuming that the institution has chosen to focus on a specific financial indicator, the financial officer is best suited to explain and educate the governing board on the purpose and meaning of the financial indicator. This understanding can be

presented in a formal PowerPoint presentation to the full board of trustees and/or through presentations made at new board orientations. Regular reporting to the board of the financial indicator, with summary narrative on its meaning, will continue to develop the financial story that this financial indicator informs. Greater detail regarding the use of the financial indicator should be shared with the board's finance committee, whose members bring a greater depth of financial expertise to the board members in general.

Communicate effectively with the governing board. An important measure of success for financial officers is whether they are effective in communicating with their boards. Too much data can be overwhelming to the board, especially when many do not have the interest in or inclination for financial matters. Thus financial data must be succinct and meaningful.

More importantly, the financial officer needs to present financial data in an engaging manner through high-level communication ability. Public speaking and being able to facilitate board discussion are important skills for an effective financial officer.

Share financial indicators as part of a story tied to planning. Financial indicators alone do not create a story. Financial indicators must be presented within a context that tells a story. Part of the story is linking past, current, and future forecasted financial indicator performance to planning to create a complete story.

In order to effectively tie the use of financial indicators to planning, the financial officer must incorporate the financial indicators within the goals and objectives of the institution. In the study for example, financial officers use the Composite Financial Index (CFI) to promote a balanced budget, the balanced scorecard to increase accountability and measure outcomes, and the contribution margin analysis to understand

operating performance of various instructional programs. Each financial indicator was intertwined in the story by including it in the planning and using it to measure the outcomes of the story.

For financial officers that do not use financial indicators in strategic decision making presently, the best way to begin is to select a small number of ratios to share with the president and board. As the trustee from Institution #2 recalled, the Institution started with six financial ratios on a single page which ultimately developed into the balanced scorecard analysis. The trustee from Institution #3 offered that financial officers ask their governing boards: "What do you want to see? What's most helpful to you?" in order to understand the need and interest of the board. And, as the financial officer at institution #5 recalled from finding a book on the CFI in the office, "I started learning about it [the CFI]." With support from a state consortium, the financial officer was also able to obtain peer data and increase use through comparative analysis.

The key, however, is for the financial officer to take the first step in using financial indicators. As the "change agent" and as the most knowledgeable in financial management in higher education, the financial officer must lead the use of financial indicators (Redenbaugh, 2005). Based on research, over time the financial officer, president, and board will increase their understanding in the use of financial indicators in strategic decision making. And as understanding is increased, the use of financial indicators will expand. When connected to planning, the use of financial indicators will support strategic decision making.

These recommendations for best practice are practical ways that financial officers can use financial indicators more effectively in supporting strategic decision making with

their presidents and governing boards. For other financial officers who work in small private institutions, thoughtful attention must be given to how best to serve their institutions in promoting financial sustainability during these difficult economic times.

Recommendations for Future Research

As the researcher reviewed the literature, it became apparent that there was a disconnect between the actual use of financial indicators and the perceived value of use in guiding strategic decision making. Based on data collected from institutions that were using financial indicators to guide strategic decision making with their presidents and governing boards, new questions emerged for future research. Four main areas could be studied: (a) motivators to a president to promote financial indicator use in strategic decision making, (b) barriers imposed by time constraints experienced by financial officers in using financial indicators, (c) competency levels of staff who support the financial officer's preparing and reporting of financial indicators, and (d) the use of technology to streamline use of financial indicators.

Motivators to president to promote financial indicator use. In this study, presidents facilitated the use of financial indicators and extent and direction of that use. While this finding makes logical sense, given the role of the president in leading the institution and in being the bridge between the financial officer and the governing board, it was surprising to the researcher. The importance of using financial indicators was not driven home to the board by the financial officer who brings the highest level of business acumen to an institution's administration. Instead, the president acts as gatekeeper to the board as to what goes over the bridge and the financial data that is shared with the board to inform strategic decision making. Because the president can be a major proponent or

inhibitor of using financial indicators, further understanding of what motivates presidents to use financial indicators would be useful in guiding their use in strategic decision making.

Time as an ongoing barrier. Because the theme of time seems to be a continued barrier for financial officers who use financial indicators to inform their governing boards, exploring in greater detail how time limitations can be overcome may provide financial officers with an ability to utilize financial indicators more effectively and more often.

When governing boards had insufficient time to discuss financial issues, they tended to address the time barrier by adding meetings or lengthening meeting times. However, trustees did voice their need for sufficient time to understand the financial indicators being reported. In referring to the use of the balanced scorecard, the trustee from Institution #2 noted, "It's not common to have something like this available. I think it is just going to take some time for board members to get comfortable with it." This concern may also involve the board's level of financial understanding, and may touch on the idea of "traditional thinking" noted earlier in the study by a financial officer at Institution #4.

Competency of staff. This is a noted barrier in the literature (Redenbaugh, 2005) with a recommendation for further professional development and hiring experienced accountants from public and private accounting firms. While this study did not explore professional development issues, it did, however, explore basic demographic data provided by the financial officers in regards to financial credentials and work experience.

Specifically, five of the six institutions had hired chief financial officers who had experience in public and private accounting firms. These financial officers also held CPAs and MBAs. The depth of expertise within the finance office, however, was not examined beyond that of the financial officer. Given that the financial officers in this study prepare and report financial data to their boards, it is unclear whether this is due to the lack of expertise on staff, or whether financial officers prefer to prepare the data themselves. Understanding this further may address and alleviate the financial officers' barrier of time that inhibits the use of financial indicators at their institutions.

Technology to support financial indicator use. Only one financial officer in the study noted that a new computer system was being implemented that would provide more ready access to data and would result in greater ease in computing financial indicators. While the subject of technology did not come up except in this one case, the opportunity afforded by automated systems may be an untapped solution to financial indicator use. The literature review did not note technology as a barrier, although the focus in the literature has been on people and not necessarily computer systems. Given the rapid technological improvements in the past ten years, this may be an area deserving further study.

Limitations

This study had two main limitations: (a) use of an online survey to identify institutions for Phase II of the study, and (b) the in-depth study of only six institutions. The researcher used an online survey to identify the institutions for the in-depth research in Phase II. The online survey was conducted based on a population of 214 institutions, of which 87 institutions responded. From the 87 respondents, 31 financial officers

answered questions #19 and #20, which formed the basis upon which the selection for Phase II of the qualitative study was derived. Financial officers that responded to the survey, but who did not answer questions #19 and #20, may not have taken the time to provide an example of their use of financial indicators even though they may have had one to share. Additionally, had more financial officers participated in the online survey, there might have been more compelling stories than the ones the researcher chose for in-depth study. Phase II of the study was limited to the results of the online survey.

Phase II of this study focused on 6 institutions in the Midwestern United States. While there was diversity in states represented, only 6 out of 19 states in the Midwestern Region of the North Central Association of the Higher Learning Commission were included in the study. And the Midwestern region represents a subset of the 52 states in the United States. Expanding the study to further regions of the Higher Learning Commission may result in similar or different findings. Additionally, expanding the study to understand how larger institutions, including public ones, use financial indicators to support strategic decision making may add new understanding to the literature.

Conclusions

For financial officers to use financial indicators in strategic decision making, financial officers focus on a specific financial indicator that has the president's support. The financial officer must present the data in a manner that provides a simple, easily understood format, while providing supporting detail to aid transparency. The financial officer bears the responsibility for accurate and timely financial data that will inform the president and governing board of the ongoing financial health of the institution. The data must provide historic information, current information, and forecasts. To be successful

the financial officer must avoid surprises. Good news and bad news must be communicated early so that strategic decisions can be made proactively instead of reactively.

The financial officer can navigate the headwinds, but not alone. The financial officer is raising the sails, swabbing the decks, and keeping the galley stocked on a daily basis. Through regular meetings, the financial officer informs the president of the speed of the ship, conditions of the waters, and threats of mutiny. At regular intervals on the journey, the financial officer and president work with the trustees in charting the course. The strategic direction of the institution is set by a collaborative effort of the three groups, with the financial officer in both a supporting and co-leadership role, the president in a directing role, and the governing board in a confirming and validating role. Together, they can navigate a sustainable course in promoting institutional mission.

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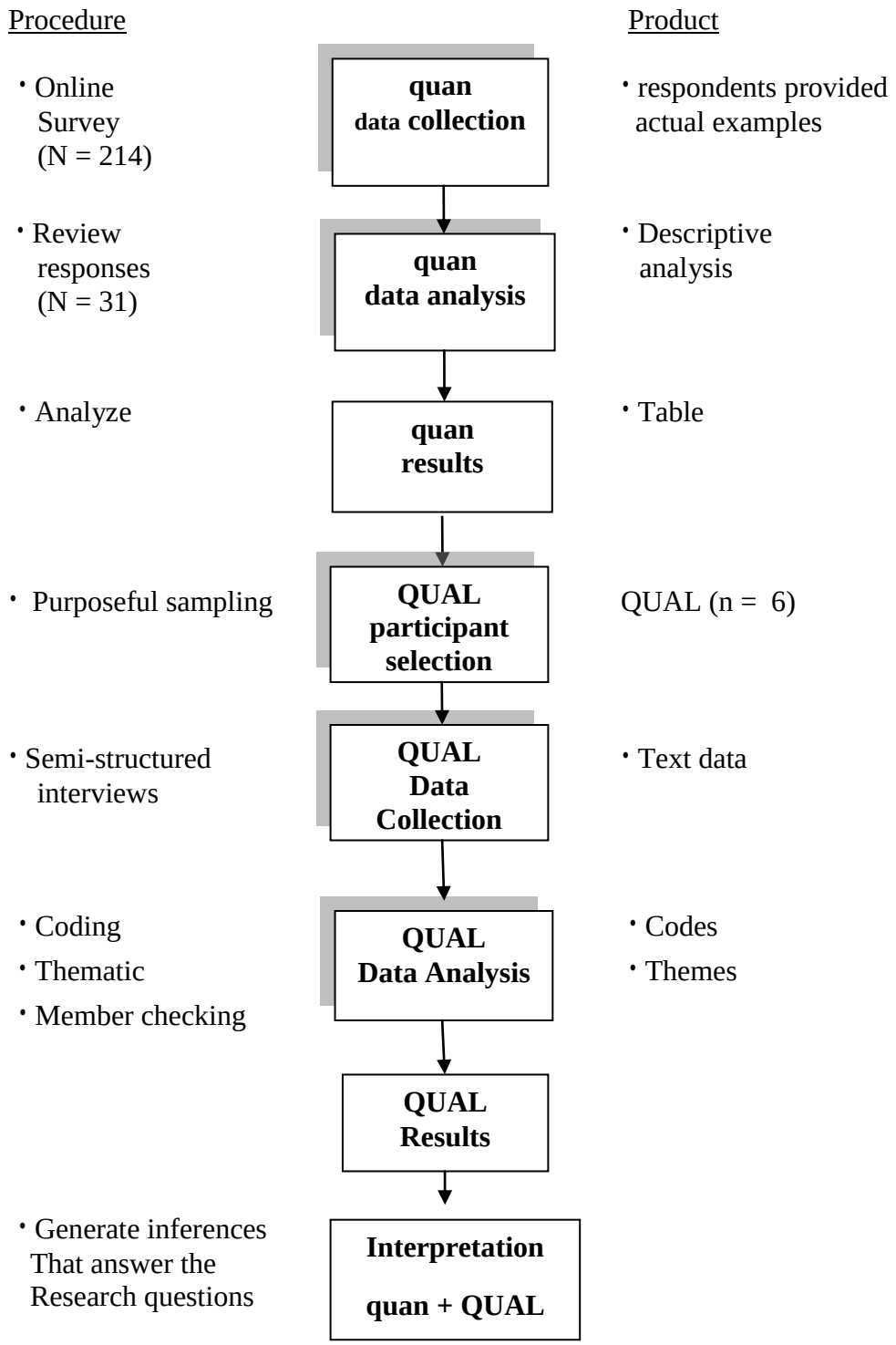
Appendix A

Visual Model for Explanatory Design

Visual Model for Explanatory Design:
Participant Selection Model (QUAL emphasized)



(adopted from Creswell & Plano Clark, 2007)

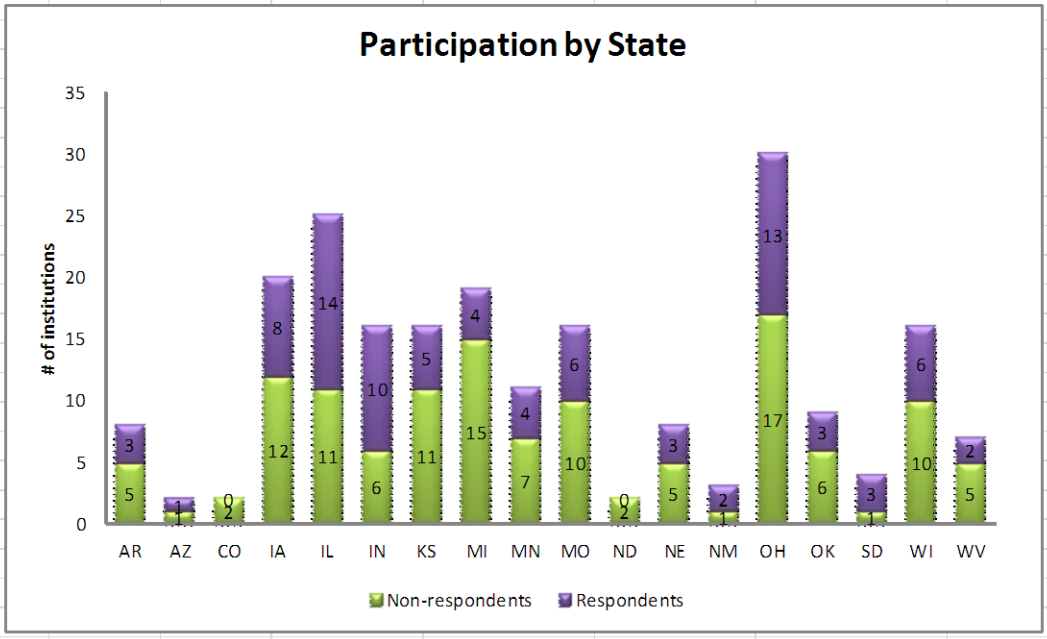
Appendix B

Online Survey Participation by State

Online Survey Participation by State

Analysis of Participation by State

State	Total	% of population	# on non-respondents	# of respondents	% respondents
AR	8	3.7%	5	3	37.5%
AZ	2	0.9%	1	1	50.0%
CO	2	0.9%	2	0	0.0%
IA	20	9.3%	12	8	40.0%
IL	25	11.7%	11	14	56.0%
IN	16	7.5%	6	10	62.5%
KS	16	7.5%	11	5	31.3%
MI	19	8.9%	15	4	21.1%
MN	11	5.1%	7	4	36.4%
MO	16	7.5%	10	6	37.5%
ND	2	0.9%	2	0	0.0%
NE	8	3.7%	5	3	37.5%
NM	3	1.4%	1	2	66.7%
OH	30	14.0%	17	13	43.3%
OK	9	4.2%	6	3	33.3%
SD	4	1.9%	1	3	75.0%
WI	16	7.5%	10	6	37.5%
WV	7	3.3%	5	2	28.6%
	214	100%	127	87	40.7% Participation rate



Appendix C

Sample Recruitment Email for Online Survey

Recruitment Email for Online Survey (Final)

February 7, 2012

Dear Financial Officer,

My name is Beth Reissenweber. I am a doctoral candidate at the University of Nebraska – Lincoln in Educational Administration in Higher Education, and the VP for Finance at Aurora University. As a doctoral candidate, I am conducting a research study to understand the use of financial indicators and ratios in strategic decision making by leaders who are responsible for the financial health of private colleges and universities in the United States.

In the next few days you will receive an email with instructions to participate in this study by answering questions about your experience at your institution. My intention is to make your participation in this study easy and enjoyable. I am writing in advance because many people like to know ahead of time that they will be asked to complete an on-line survey. This research can only be successful with the generous help of people like you.

To say thanks, the survey results and findings will be shared with respondents. I hope you will take approximately 10 minutes of your time to assist me in this study. Throughout this study, your responses and your institution will be held in strict confidence, and anonymity. Please note: There are no known risks involved in this research.

If you have any questions, please do not hesitate to contact me. Thank you for your consideration to participate in this important survey and effort.

Very truly yours,

Beth Reissenweber, Primary Investigator
Doctoral Candidate in Educational Administration
University of Nebraska – Lincoln
(630) 844-5490
beth.reissenweber@huskers.unl.edu

Brent D. Cejda Ph.D., Secondary Investigator
University of Nebraska-Lincoln
(402) 472-0989
bcejda2@unl.edu

Appendix D

Sample Electronic Invitation for Online Survey

Electronic Online Survey Invitation (Final)

February 14, 2012

Dear Financial Officer,

My name is Beth Reissenweber. I am a doctoral candidate at the University of Nebraska – Lincoln in Educational Administration in Higher Education, and the VP for Finance at Aurora University. I am writing to you for your assistance in a research project I am conducting to understand the use of financial indicators in strategic decision making by leaders who are responsible for the financial health of private colleges and universities in the United States.

The best way to explore this issue is by asking leaders, like you, to share their thoughts and opinions. The questions should take approximately 10 minutes to complete. Participation in this study is voluntary. You can refuse to participate or withdraw at any time without harming your relationship with the researchers or the University of Nebraska-Lincoln, or your institution. Please note: There are no known risks involved.

This study has been reviewed and approved by the University of Nebraska-Lincoln Institutional Review Board. If you have any questions about this survey, please contact me at beth.reissenweber@huskers.unl.edu. If you prefer to speak with someone else, please call the UNL Research Compliance Services Office at (402) 472-6929.

By taking time to share your thoughts and opinions about use of financial indicators in strategic decision making in higher education, you will be helping to advance the knowledge of this important subject to other leaders. For your participation, a summary of the results of the survey findings will be made available to you.

Click here to go to the survey now: https://new.qualtrics.com/SE/?SID = SV_bax J1qchEvvsY9C&Preview = Survey&BrandID = unleducation

I greatly appreciate your time and effort in participating in this important research study.

Very truly yours,

Beth Reissenweber, Primary Investigator
Doctoral Candidate in Educational Administration
University of Nebraska – Lincoln
(630) 844-5490
beth.reissenweber@huskers.unl.edu

Brent D. Cejda Ph.D., Secondary Investigator
University of Nebraska-Lincoln
(402) 472-0989
bcejda2@unl.edu

Appendix E

Follow-up Email reminder for Online Survey

Follow-up Email Reminder for Online Survey (Final)

February 28, 2012

Dear Financial Officer,

Two weeks ago I sent to you a survey link via e-mail. The survey will be available to you to complete until March 14, 2012. If you have already completed the survey, I would like to thank you for your time. If you have not completed the survey, **I would greatly appreciate** any input you could provide and your participation in completing the survey.

Please click below to go to the survey now.

I greatly appreciate your time and effort in participating in this important study. If you have any questions, please do not hesitate to contact me.

Thank you for your consideration in this important research study.

Very truly yours,

Beth Reissenweber, Primary Investigator
Doctoral Candidate in Educational Administration
University of Nebraska – Lincoln
(630) 844-5490
beth.reissenweber@huskers.unl.edu

Brent D. Cejda Ph.D., Secondary Investigator
University of Nebraska-Lincoln
(402) 472-0989
bcejda2@unl.edu

Appendix F

Initial Recruitment Letter

Initial Recruitment Letter for Institution (Final)

Month XX, 2012

Dear Financial Officer,

My name is Beth Reissenweber. I am a doctoral candidate at the University of Nebraska – Lincoln in Educational Administration in Higher Education, and the VP for Finance at Aurora University. My area of research is in the use of financial indicators for strategic decision making by leaders who are responsible for the financial health of private colleges and universities in the United States, and how they inform their institution's governing board of financial health.

Part of my research design is to study five institutions that have indicated the effective use of financial indicators in decision making. Based on the responses from my initial on-line survey, your institution is one that I would like to include in this phase of my study.

I would like to conduct a 30 minute telephone interview with you at a time mutually convenient. Additionally, I would appreciate access to certain financial related documents to assist me in my research. All data will be maintained with great care to retain all confidentiality and security.

Thank you in advance for your time and consideration with my research study. I will contact you by telephone to discuss this request further and answer any questions or concerns you may have. Additionally, I will be happy to share my findings with you as a participant in the study. I hope that your institution will participate and look forward to speaking with you later this month.

If you have any questions, please contact me.

Very truly yours,

Beth Reissenweber, Primary Investigator
Doctoral Candidate in Educational Administration
University of Nebraska – Lincoln
(630) 844-5490
beth.reissenweber@huskers.unl.edu or
breissen@aurora.edu

Brent D. Cejda Ph.D., Secondary Investigator
University of Nebraska-Lincoln
(402) 472-0989
bcejda2@unl.edu

Appendix G

Informed Consent Letter

Informed Consent Letter with other institutional participants (Final)

Month Day, 2012

Dear Name:

(Chief Financial Officer's name) _____ has suggested I contact you to participate in an important research project on the use of financial indicators in strategic decision making by leaders who are responsible for the financial health at private colleges and universities in the United States. The purpose of this research study will be to explore how leaders use financial indicators for decision making and to inform their governing boards of the institution's financial health.

Your institution was identified from the results of an on-line survey conducted in January as being successful in utilizing financial indicators in a strategic manner in building financial health at your institution. Given the financial headwinds facing higher education, understanding the factors that support the use of financial indicators would be beneficial to understand and share with other private institutions. (Chief Financial Officer's name) _____ has agreed to participate and offer his/her expertise in this important study.

I would appreciate approximately thirty minutes of your time for a telephone conversation. Please know that the interview will be audio-taped. As part of the research study, other sources of data will be collected prior to the interview and will include financial reports and analysis, finance committee meeting agendas and materials, and other related documents as appropriate.

Shortly before the interview, I will provide for you with an outline of questions in order for you to consider your responses in advance of the interviews. Additionally, I may ask you clarifying questions during the interview to explore details and examples from your responses. Your responses will be confidential. Please note that I will take every precaution to protect your identity and that of your institution.

Participation in this study is voluntary. You can refuse to participate or withdraw at any time without harming your relationship with the researchers or the University of Nebraska-Lincoln, or your institution. Please note: There are no known risks involved.

I will secure all data, including audiotapes and transcripts, in locked metal file cabinets in the researcher's office. The data will be destroyed within two years from the end of the study. Your name will not appear in any data. I will omit or change all potentially identifying information in any publication based on the study.

I appreciate your participation in this study. If you have any questions about this study or the questions you receive shortly, please feel free to contact me. You may also contact the Institutional Review Board at (402) 472-6965.

Very truly yours,

Beth Reissenweber, Primary Investigator
Doctoral candidate in Educational Administration
University of Nebraska – Lincoln
(630) 844-5490
beth.reissenweber@huskers.unl.edu

Brent D. Cejda Ph.D., Secondary Investigator
University of Nebraska-Lincoln
(402) 472-0989
bcejda2@unl.edu

Appendix H

Unobtrusive Data Request

Unobtrusive Data Request

1. Audited financial statements from most recently completed three fiscal years.
2. Finance committee agenda, meeting materials and minutes from three fiscal years where discussion of financial indicators or related topics were included.
3. Annual computations of U.S. Department of Education Health Indicator and Composite Financial Indicator (CFI) as available.
4. Form 990 Informational Return from prior three fiscal years (Also available on GuideStar.org although the most current year may not have been posted on the web).
5. PowerPoint presentations including financial indicators made to the board and/or senior leadership as available.
6. Institutional reports such as environmental scans and annual operating goals statements.

Appendix I

Online Survey Questionnaire

Online Survey Questionnaire (Final)

Financial Indicators and Strategic Decision Making Questionnaire

This survey is to explore your use of financial indicators including financial ratios and benchmarks in strategic decision making in your position as a financial leader at your institution. Please answer all of the questions if possible.

Note: Previous Question #1 asking for position title has been deleted.

1. **What is the size of your current operating budget? (Check one)**
   - ☐ **More than $100 million**
   - ☐ **$50 million up to $100 million**
   - ☐ **Less than $50 million**

2. **What was the total long-term investment amount on the balance sheet for the most recent fiscal year-end audit? (Check one)**
   - ☐ **Less than $100 million**
   - ☐ **$100 million or more**

3. **Does your institution compute and/or track any of the following REVENUE financial indicators and ratios? (Check all that apply)**

   - ☐ **Tuition and fees as a percentage of total revenue**
   - ☐ **Gifts as a percentage of total revenue**
   - ☐ **Endowment support as a percentage of total revenue**

4. **Does your institution compute and/or track NET REVENUE (margin) by academic program, location, or other factors?**

   - ☐ **Yes**
   - ☐ **No**

5. **Do you allocate direct costs when you compute NET REVENUE (margin)?**

   - ☐ **Yes**
   - ☐ **No**
   - ☐ **Unsure**

6. **Do you allocate indirect costs when you compute NET REVENUE (margin)?**

   - ☐ **Yes**
   - ☐ **No**
   - ☐ **Unsure**

7. **Does your institution compute and/or track any of the following EXPENDITURE financial indicators and ratios? (Check all that apply)**

   - ☐ **Instructional expense as a percent of total unrestricted expense**
   - ☐ **Instructional expense by student level (undergraduate and graduate) as compared to enrollment by student level (undergraduate and graduate)**
   - ☐ **Academic support expense as a percent of total unrestricted expense**

8. **Does your institution compute and/or track any of the following FINANCIAL RESOURCES AND RESERVES financial indicators and ratios? (Check all that apply)**

   - ☐ **Change in unrestricted net assets as a percentage of beginning unrestricted net assets**
   - ☐ **Long-term debt as a percentage of total liabilities**
   - ☐ **Assets as a percent of total liabilities (current ratio)**
   - ☐ **Current unrestricted assets as a percent of total assets (acid test ratio)**

9. **Does your institution compute and/or track any of the following ENDOWMENT financial indicators and ratios? (Check all that apply)**

   - ☐ **Endowment as a percent of total assets**
   - ☐ **Endowment per FTE student enrollment**

10. **Does your institution compute and/or track any of the following PHYSICAL CAPITAL financial indicators and ratios? (Check all that apply)**

    - ☐ **Plant operations and maintenance as a percent of total unrestricted expense**
    - ☐ **Accumulated depreciation as a percent of total depreciation (Age of Facilities)**

11. **Does your institution compute and/or track any of the following HUMAN CAPITAL financial indicators and ratios? (Check all that apply)**

    - ☐ **Percent of total FTE students that are part-time**
    - ☐ **Increase or decrease in student enrollment**
    - ☐ **Institutional aid as a percent of tuition income**
    - ☐ **Tenure status of FTE faculty**
    - ☐ **Percent of FTE faculty that are part-time**
    - ☐ **Percent of total semester credit hours taught by full-time faculty**
    - ☐ **Ratio of FTE faculty to FTE students**
    - ☐ **Ratio of FTE staff to FTE students**

12. Does your institution compute and/or track any of the following DEBT COVENANTS? (Check all that apply)

- ☐ **Debt coverage ratio**
- ☐ **Asset maintenance ratio**
- ☐ **Other _____**
- ☐ **Not necessary as institution does not have required debt covenants**
- ☐ **Unsure**

13. Do you or your auditors compute the Composite Financial Index score? (If no, skip to question #15)

- ☐ **Yes**
- ☐ **No**
- ☐ **Unsure**

14. What was your institution's composite score based on the most recent audited financial statements?

_____ (range of 0.0 to 10.0)

15. Do you or your auditors compute the annual U.S. Department of Education Health Index score "financial-responsibility test"? (If no, skip to question #16).

- ☐ **Yes**
- ☐ **No**
- ☐ **Unsure**

16. What was your institution's U.S. Department of Education Health Index score based on the most recent audited financial statements?

_____ (range of -1.0 to 3.0)

17. Do you utilize other Key Performance Indicators? (If Yes, please explain).

- ☐ **Yes _____**
- ☐ **No**
- ☐ **Unsure**

18. What other financial indicators or ratios do you use to make financial decisions?

_____

_____

19. **Do you have an example that demonstrates how you have used financial indicators and/or ratios in setting strategic priorities and/or in making strategic decisions?**

    - ☐ **Yes**
    - ☐ **No**
    - ☐ **Unsure**

20. **Please fully explain your example of how you have used financial indicators in strategic decision making below.**

    _____
    _____
    _____
    _____
    _____
    _____
    _____

21. **Would you be willing to share your example of how you use financial indicators in strategic decision making in greater detail as part of this study?**

    - ☐ **Yes**
    - ☐ **No**
    - ☐ **Unsure**

22. **Do you experience any barriers in using financial indicators? (please fully explain)**

    - ☐ **Yes** _____
    - ☐ **No**
    - ☐ **Unsure**

23. **Please provide any additional information you wish about the use of financial indicators by you or other decision makers at your institutions.**

    _____
    _____
    _____

24. **Would you like the summarized survey results sent to you electronically as soon as they are available?**

    - ☐ **Yes**
    - ☐ **No**

Appendix J

Interview Guide

Interview Guide (Final)

Interview Guide

Note to respondents – all questions are optional, and all answers will be kept confidential. The main purpose is to fully understand the context and use of financial indicators in a **positive and supportive manner** to support **strategic** decision making in higher education.

Demographic data: (brief discussion)

1. What attracted you to this institution?
2. How many years have you been in higher education? How many at this institution?
3. Do you have a financial background? CPA designation, etc.?

Financial questions related to the institution:

1. Tell me about the financial situation at your institution.
2. How large is the endowment? Under $50 million, $50 – 100 million, over $100 million?
3. What are the types of financial challenges you may have experienced in your career in higher education? How have you met these challenges?
4. What challenges do you see for the future at your institution and in higher education in general?

Key question to explore:

1. Please share with me your story on how financial indicators were used in informing strategic decision-making. Based on response given in online survey.

Supporting questions:

1. How do financial indicators get reported to the Board? How often?
2. How are new board members educated about the financial characteristics of the institution?
3. How does the Board develop an understanding for the principles and best practices of strategic financial management in higher education in order to keep the "institution vibrant and competitive?"(Wellman, 2008, p. 15).
4. What might be a better way to share financial indicators with the Board?
5. How could financial indicator use be improved in strategic decision making at your institution? How could it be improved universally at other private institutions?
6. What barriers exist to using financial indicators and implementing management accounting tools? What resources need to be available or in place to support the use of financial indicators?

Final Question:

1. May I have permission to contact you with follow-up questions I may have?

Appendix K

Transcription Agreement Template

Transcription Agreement Template

Transcriptionist Confidentiality Statement

I, _____ (name of transcriptionist) agree to hold all information contained on audio recorded tapes/ and in interviews received from Beth Reissenweber, primary investigator for the research study on Financial Indicators in Strategic Decision Making, in confidence with regard to the individual and institutions involved in the research study. I understand that to violate this agreement would constitute a serious and unethical infringement on the informant's right to privacy.

I also certify that I have completed the CITI Limited Research Worker training in Human Research Protections.

_____ _____

Signature of Transcriptionist **Date**

_____ _____

Signature of Principal Investigator **Date**

Appendix L

Institutional Review Board Approval

Institutional Review Board Approval

February 8, 2012

Beth Reissenweber
Department of Educational Administration

Brent Cejda
Department of Educational Administration
129 TEAC, UNL, 68588-0360

IRB Number:
Project ID: 12351
Project Title: Financial Indicators in Strategic Decision making: Recommended Practices at Small, Private Colleges and Universities in the Midwestern United States

Dear Beth:

The Institutional Review Board for the Protection of Human Subjects has completed its review of the Request for Change in Protocol submitted to the IRB.

1. The final survey instrument has been approved.

2. The final recruitment email and electronic invitation emails have been approved. Please include the IRB approval number (IRB# 20120112351 EX) in the on-line consent documents. Please email a copy of these messages to irb@unl.edu for our records. If you need to make changes to the messages please submit the revised messages to the IRB for review and approval prior to using them.

3. The list of the recruitment population is also acknowledged.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:
* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
* Any breach in confidentiality or compromise in data privacy related to the subject or others; or
* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This letter constitutes official notification of the approval of the protocol change. You are therefore authorized to implement this change accordingly.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,

Becky R. Freeman, CIP
for the IRB