CORPORATE REPORTING: FROM STEWARDSHIP TO CONTRACT

THE ANNUAL REPORTS OF
THE UNITED STATES STEEL CORPORATION (1902-2006)

by

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DEDICATION

This dissertation is dedicated to my family and friends who have supported me through the experience, but especially my father, Joseph (rest in peace), and my mother, Eileen, who provided me with every opportunity a son could desire.
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Corporate Reporting: From Stewardship to Contract
The Annual Reports of the United States Steel Corporation (1902-2006)

Abstract

By

KEVIN CHRISTOPHER CARDUFF

The United States Steel Corporation, formed in 1901, was the first company in the United States financial markets to be capitalized at the billion dollar level. Its iconic role in the industrial economy of the country has been studied from several dimensions. This research proposes to examine fully the reporting outcomes for the company. Previous content analysis projects [Claire (1945), Vangermeersch (1970, 1979)] have examined shorter periods of US Steel’s external reporting. However, this study will examine a complete set of the company’s annual reports from 1902 to 2006, in hard copy and digital formats. It is motivated by an interest in establishing an historical perspective for a question posed by Ross Watts, “Why do financial reports take their current form?” (Watts, 1977, 2006)

The study is initiated with the undertaking of traditional, manual content analysis of the annual report data set. In this process, five separate eras of financial reporting were identified throughout a century of annual reports. The eras identified are: 1) The Gary Years; 2) The Transition Years; 3) The Voorhees/Tyson Years; 4) The Evolution
Years; and 5) The Cost-Effective Years. Each of these eras are distinctive in their reporting style and corporate financial information which was emphasized and reported. Next, a model-based method of content analysis was developed and performed using structured equations in an attempt to identify external variables which may have influenced the content, display, and tone of the annual reports over the period of the study. This analysis did not produce significant results; however, the process of developing the model and analysis of the reports provides a promising pathway for future exploration of single company data sets by clarifying the limitations of such modeling for long periods of time.

The findings altogether assist in improving an understanding of the managerial ideology of the company toward public reporting which appears to have evolved from a stewardship model of corporate reporting to a contract model consistent with the changing configuration of capital providers and management’s view of the information needs of such providers.
Chapter 1: Introduction

1.1 Overview

This study investigates the financial reporting history of the United States Steel Corporation (US Steel) for the past century. It is motivated by a question, framed in the writings of Ross Watts, “Why do financial statement take their current form?” Annual reports of US Steel from 1902 to 2006 will be examined in order to improve the understanding of a variety of financial reporting elements, including events, discretionary disclosures, changes in reporting format, trends, and the tone of the president’s/chairman’s letter. Increased analysis of these reports over time has the potential to assist in improving our discipline’s understanding of the financial reporting process overall, given the bell weather role and position US Steel has had in this process over the last century. These elements will be identified based upon traditional and model-based methods of content analysis. Traditional content analysis, as to specific terms, events, and similar items will assist in the discovery of highlights and reporting trends. Additionally, a new model-based technique of content analysis will be employed to test variable relationships related to the content, display and tone in the annual reports.

As the first billion dollar corporate capitalization in the United States, US Steel is an appropriate candidate for analysis. Its annual reports are the first known to include corporate performance of multiple business areas through consolidated financial statements, as detailed in Dickinson’s The Profits of a Corporation (1904). Even though US Steel’s annual reports have been used in numerous research studies, no other study has evaluated as complete a series of US Steel’s annual reports, nor has a study used
content analysis software to analyze variables of key portions of the text in US Steel’s reports.

Previous US Steel studies [Claire (1945), Vangermeersch (1970), Vangermeersch (1979), McCraw et al. (1989), Reed (1989)] have examined specific time periods and financial reporting concerns. However, this longitudinal study is unique, using the firm’s reports for the period of more than a century (1902-2006) as the basis for examining reporting and disclosure properties as to their qualities as noted below by May (1961) and Allen (1993). Also, the study will employ digitized versions of these annual reports as the dataset for established and model-based methodologies of content analysis. Previous studies have performed extensive longitudinal analysis (more than seventy years) of Texaco (Hutajulu 2002), or of multiple companies [(Murphy 1970), Vangermeersch (1979), Edwards (1984)]. However, no other study has performed analysis using a digitized dataset of similar company-specific completeness.

Recent content analysis software will support statistical tools and improve the consistency of methodology in conducting this study of the information in these reports. Content analysis is becoming an accepted method of exploring accounting narrative, and researchers have sought additional technology-enhanced measures to leverage it, Sydserff et. al. (1999). The software, NUD*IST, has been used in studies by Hutajulu (2002) and Fogarty (2005), for word counting and readability scales. The software, DICTION 5.0, was utilized in a study, Sydserff et. al (2002) to develop a transitivity index for an accounting narrative in the management discussions of 26 companies.

In summary, this study will contribute to the existing accounting literature by performing a traditional content analysis of a single corporation’s annual reports for a
period of over one hundred years. In addition, the study will develop and test a model-based method to analyze variables using content analysis software, seeking to identify new methods for content analysis of annual reports as a basis for identifying important aspects of US Steel’s financial disclosure practices.

1.2 Structure

As noted, the complete series of annual reports for US Steel will be analyzed through two methods of content analysis. To begin the study, primary documents were obtained and digitized. Original copies of US Steel annual reports were scanned and converted into searchable text and PDF files.

Traditional content analysis will seek to identify major attributes or patterns in US Steel’s discretionary disclosures, and evolutionary trends such as the use of text over graphics or tables for reporting financial performance over the one hundred plus years of report data.

Using the digitized reports, software-based content analysis will be employed to identify key variables in the accounting narrative, or the “tone” of management’s reports to the shareholders of the company to gain insights into the managerial ideology of communication to readers of the annual reports.

Both methods of content analysis will employ dependent variables in our model to be tested. The traditional content analysis will provide us with two dependent variables: 1) the content of discretionary disclosure over the period and 2) the visual display of financial information. The literature of contemporary content analysis research will provide us with the third dependent variable of “tone” in the management’s letter. The
model-based method approach derived from these variables will be discussed in Chapter 4.

1.3 Motivation for the Research Project

Through the analysis of US Steel’s annual reports over the 20th century, this study responds to and expands upon Watt’s (1977, 2007) query noted above by: 1) improving our understanding of the role and the influence of US Steel on public corporate reporting; 2) relating managerial ideology and external financial reporting of a large corporation; and 3) employing traditional content analysis in the accounting literature and exploring model-based applications of a digitized primary document dataset of US Steel annual reports.

1.3.1 The Influence of US Steel upon Public Corporate Reporting

The formation of US Steel was significant for many reasons. First, it was a full representation of the valuation processes of the House of Morgan, i.e. a demonstration of the calculation of how to value an enterprise. At the turn of the 20th century, there were at least four recognized methods for valuation of stocks: dividend discount value, cost basis, replacement cost, and earning power. However, the value of earning power of the firm was not widely accepted. In 1901, there was public scrutiny and suspicion as to the vast amount paid for the assets of US Steel, i.e. the $1.4 billion capitalization, at a time when the revenues of the entire federal government were only $586 million (Gordon, 2004). During the rise of the railroads, the value of the stock was based in the potential dividend payments expected in future years. An article in The Chronicle in April, 1867, discusses the merits of the railroad’s dividend policies and whether these stocks were
overvalued. The issues under debate related to the bankruptcies of many railroads at the
time, and the author questions the value of these stocks:

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“... so long as the credit of established companies can be used
almost without limit to infuse life into bankrupt roads for selfish
purposes, nothing better can be expected than that the public will
refuse to purchase stocks except at a heavy discount from their
real dividend value (emphasis added).” -- The Commercial and
Financial Chronicle, April 27, 1867, pg. 520
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Another method of valuation is the worth of the assets of the company. People
believed that the amount of stock and liabilities of the company should be equivalent of
the value of the assets in the firm. When stock and bonds were issued over the estimated
value of the tangible assets, the company was deemed to have issued “watered stock.”

This was a claim made against US Steel. Strouse (1999) cites the industry magazine Iron
Age criticism of the US Steel consolidation as “an aggregate of large consolidations, each
liberally dosed at the time it was formed with aqua pura,” plus “additional quantities of
water . . . sprinkled in to cement the amalgamation.” Initial estimates claim that US
Steel only had assets valued between $676 million and $793 million (Strouse, 1999), and
were overcapitalized by nearly $600-700 million dollars. Many experts at the time
questioned whether US Steel would ever be able to pay dividends to the numerous
shareholders. However, J. P. Morgan issued a release in March 1901 stating:

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Statements furnished to us . . . show that the aggregate of the net
earnings of all the companies for the calendar year 1900 was
amply sufficient to pay dividends on both classes of the new stock,
besides making provision for sinking funds and maintenance of
properties. – Strouse, 1999, pg. 406
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Morgan believed that the true value of the company was in the earning power of
the firm. As Strouse notes, “The value of the common stock depended on the company’s
future earnings, which, as in Morgan’s railroad reorganizations, were expected to rise
because of increased efficiencies, economies of scale, and administrative rationalization.”

Morgan had no concerns about “overpaying” for the individual pieces of the company in order to form the whole. The following are attributed to Morgan concerning the price of the assets. Carnegie apparently said he should have asked Morgan for an additional $100 million, to which Morgan responded, “And I would have paid it.” In the negotiations for the difference in the final piece of the US Steel —American Steel and Wire—after Judge Gary objected to the asking price of $30 million, Morgan was quoted as saying: “Judge Gary, in a business proposition as great as this, would you let a matter of $5,000,000 (difference in price) stand in the way of success” (Strouse, 1999)?

After being convinced of Charles Schwab’s vision for a giant steel conglomerate following Schwab’s speech of December 12, 1900, Morgan perceived a vast potential earning power to sustain and advance the value of the company beyond the book value or historical cost of the combined assets. It was this potential of the combined assets (and centralized management) to produce the future earnings which created value, in Morgan’s mind. To demonstrate this belief, a corporate finance textbook (Lough, 1913) used US Steel as a case study for corporate formation. Lough stated:

In what has been said it has been assumed that the proper way to value a property is to arrive at the probable cost of replacing it. But there is another method of valuation which is more popular among business men, and, to this writer’s mind, more scientific. This method is to capitalize earning power. – Lough, 1913, pg. 217

Lough noted that the combined profits of the original eight companies which formed US Steel in 1901 were $96,000,000. He then determined the net earnings of US Steel for the first seven years of its incorporation. The average earnings were $120,614,000. He stated, “Now if we assume that 10 per cent is a fair rate on money
invested in the steel business and capitalize profits on that basis, we get a result not a great deal below the present capitalization.” These results support that the concerns over watered stock were exaggerated because Morgan understood the valuation of the firm would be determined by earning power of the firm, not in the balance sheet cost or replacement cost valuations of the assets.

Another area of importance from the creation of US Steel is its influence upon corporate reporting since inception. US Steel’s corporate reports have been recognized as historical milestones in corporate reporting.

In 1903, Scientific American described the US Steel annual report as “the most complete and circumstantial report ever issued by any great American corporation” (Allen, 1993). George O. May (1961), who succeeded Dickinson as the senior partner of the U.S. office for Price Waterhouse, described the first annual report’s significance: “All authorities will probably agree that the first full report of the United States Steel Corporation, which was for the year ending December 31, 1902, was a landmark in the history of this development.”

In his 1971 autobiography, John Inglis, who was the US Steel engagement partner for Price Waterhouse in the 1940s, commented that US Steel was the first manufacturing company to adopt the last-in, first-out method of inventory accounting. In addition, US Steel was a leader in two post-World War II developments regarding the debate over historical cost depreciation versus inflation-focused replacement cost accounting.

In 1938, the National Association of Manufacturers (NAM), a leading industry advocacy group, published a study which examined the annual reports of over 2,000 public companies to provide examples of “best practices” in financial reporting. The
study concluded that corporate reports had devolved into pages upon pages of tables and obscure accounting terminology which were not useful to the general public, only to accountants, themselves, or corporate management. NAM proposed companies should “modernize or humanize” their annual reports to expand the accessibility of the message contained in the annual report to ordinary investing citizens or other stakeholders. They recommended colorful graphs and charts which focused upon simple messages of where corporate funds are spent (payroll, taxes, inventory costs), and discuss how companies are improving society. US Steel was one of the leading implementers of the recommendations of the 1939 NAM study. This change may be related to the new Chair of the company’s Finance Committee, Enders Voorhees, who took office in 1938 and remained in that post until 1953. Vorhees noted the importance of the clarity of the statements to US Steel, similar to the model suggested by NAM:

It has been our custom through the years to present the ordinary accounting reports in considerably more that the required detail, with whatever supporting accounts seemed necessary for a full understanding. We still do that. But in recent years it has been borne in on us that technical accounting and its language tell the story only to those few who have the ability to analyze such accounts and that the accounts did not at all tell the story to the considerable audience that wanted to understand our workings but could not comprehend our accounting language and presentation. Also we found that in certain of accounts both the nomenclature and the arrangements tended to be misleading to those unfamiliar with accounting technicalities and language. Therefore we have been making over our formal accounts and terminology in order that they could not mislead and we have evolved from them several new presentations which we think tell better the economic story of the year. – Voorhees (1970), pg. 36

In 1943, Voorhees described the US Steel managerial ideology for financial reporting by stating:
The point that I want to make is that our stewardship is not discharged unless we report our doings in such a fashion that the basic social function of our enterprises is clearly portrayed—only then will business be held to the highest degree of responsibility for what it can and should do and not be hampered by being asked to do what is not in its power to do. The annual report is one of the most effective methods of presenting the simple facts to the public. – Voorhees (1970), pg. 31

Today, the early 21st century public company reporting environment is characterized by mandated standards or regulations. However, in 1902, this was not the model of financial reporting. US Steel defined the 20th century model with their first Annual Report in 1902. The report reflected the influence of Arthur Lowes Dickinson and his associates at Price Waterhouse & Co (PW). Prior to the 1933 and 1934 Securities Acts, there was not a mandated common format for corporate reporting to the public. Beginning with Dickinson’s speech to the First World Congress of Accountants in 1904 (Dickinson, 1904) up through his colleague John Scobie’s internal memo of 1912, “Memorandum on Balance Sheet Audits,” ---the PW firm developed what became known by the staff as the “Accounting Bible” (DeMond, 1951). Scobie’s memo was later provided to the Federal Trade Commission (FTC) to establish standard balance sheets for business to submit to banks for credit purposes. In 1917, it was published with only slight modification by the Federal Reserve Board in a pamphlet entitled “Uniform Accounts.”

The memo was described by Allen and McDermott:

The committee members “were favorably impressed” and agreed on text. This document was transmitted to the Federal Reserve Board for publication in the April 1917 issue of its Bulletin, reprinted in 1918 in pamphlet form, and then revised in 1929. Not only was this report the first step in what would ultimately lead to the development of formalized auditing standards in the late 1940s, but it was also the only attempt to set down a compendium or accounting principles, aside from articles in the

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1 This report was retitled “Verification of Financial Statements” and published in the Journal of Accountancy, May 1929, V. 27, No. 5.
US Steel may have assisted PW in being a principal force in the movement to create national awareness of the importance of reporting given important and possibly unique financial reporting challenges such as: surpluses, “watered stock,” goodwill, depreciation accounting, and quarterly reporting.

1.3.2 The Development of Managerial Ideology in Corporate Reports

Kaufman and Englander (2004) have examined the rise of professional corporate management and analyzed the shift in corporate responsibility from a “trustee” (and fiduciary) relationship between the professional management and shareholders of the firm in the 1920s and 1930s toward a more legally-based contract relationship between managers of the firm and investors—creditors or shareholders—in the 1990s.

In revisiting the work of Berle and Means’ *The Modern Corporation and Private Property* (1932), they cite Adam Smith in stating the invisible hand only influences organizations owned and operated by the same person (or small group of people). Berle and Means contended that the development of large, publicly financed corporations has changed the ownership structure from a small group of proprietary managers to professional managers, who represent a dispersed ownership structure. Indeed US Steel’s capital structure was the largest and one of the earliest examples of the change from a purely proprietary model toward that described by Berle and Means after the fact. While the firm was financed partially by bonds (approximately $360 million), it was significantly financed by the issuance of preferred ($510 million) and common stock ($508 million). To further examine the stock numbers, the $510 million in preferred stock represents 5,102,811 shares held by 25,296 investors; and, the $508 million in
common stock represents 5,083,025 shares held by 17,723 investors (many of whom were employees in the mills.) US Steel ownership was represented by a large group of shareholder owners who were without influence over the day-to-day management of the firm, while the company developed an extensive management team to run all the steel operations. This called for a new approach to financial reporting to reflect management’s ideology as to the role of providing for the information needs of owners and to meet fiduciary expectations and obligations.

Just as the awareness of a management’s ideology may be useful in achieving an improved understanding of the reporting objectives of corporations, so also the approaches to valuing a company may influence or be influenced by an investor’s “orientation” to the financial performance measures of the firm. In recognition of this influence, Zeff (1962) proposed an orientation postulate for accounting. He noted that no single accounting system would suffice for all accounting issues for all industries, and as a result, management needed to determine how they would disclose information and to whom they were accountable. This framing of managerial ideology with regard to management’s external communication to shareholders as individual investors becomes a starting point for consideration.

In this work we attempt a modification to Zeff’s “orientation postulate” to acknowledge the influence of management’s ideology with regard to financial reporting and ownership structure. For example, does the company have a long-term or short-term orientation or a stewardship or, a compliance orientation? Initially, US Steel’s management reflected Morgan’s earning power valuation predisposition; they developed
proprietary income statement orientation, as outlined in Dickinson’s 1904 paper, as the vehicle to reflect an earnings power orientation from the first report published in 1902.

This approach was in contrast to a fixed asset or balance sheet orientation which was customary at the time. Indeed this custom was evidenced by the focus of the American Association of Public Accountant’s decision to write its first standard in the 1894 annual meeting which dictated the order of the balance sheet was to be that of liquidity (Anonymous, 1938). As Vangermeersch discovered, US Steel was the only company out of twenty industrial companies to include an income statement in their annual reports every year prior to it being mandated by the Securities Acts (Vangermeersch, 1979).

After World War II, a shift in capital sourcing from individual investors to institutional investors would eventually precipitate adjustment in the orientation of managerial ideology and the reporting related thereto. In his 1955 dissertation, Horngren identified another emerging party demanding additional corporate information for investment decision making by professional financial analysts who directed capital flows from the growing community of institutional investors and who served as advisors to larger sophisticated individual investors, and who were beginning to act as consolidators of individual pension plan funding which became the modern 401(k)/mutual fund system of the 1990s. Horngren described the analyst as follows: “He represents, dollar wise, a large percentage of existing investment capital. As an investor, or an advisor to investors, he has a weighty responsibility. He is an investment sophisticate who demands and deserves full and accurate information.”
In Horngren’s interviews with financial analysts, the key aspects of financial information which analysts were requesting was increased financial disclosure, more importantly consistent and comparable financial information for inter-company and intra-industry analysis to make predictions for future corporate performance.

The importance of relating managerial ideology to the contents of reports and the needs of capital providers will provide a context for the analysis of the US Steel reports over time.

1.3.3 The Use of Content Analysis in Accounting Research

Content analysis of annual reports (and other forms of financial reporting disclosures) has a historical presence in social science research and has extensively been applied to accounting research topics. Berelson (1971) has discussed the history of content analysis within the communications field. He proposes three assumptions for content analysis research: 1) establish inferences about relationships between the intent and the content of the information; 2) correspond “meanings” in the content to the “meanings” intended by the communicator so they can be understood by the audience; and 3) confirm that the quantitative description of communication content is meaningful. These three assumptions are applicable to accounting research and provide guidelines for consideration in the applications of this study.

As earlier discussed on page 9, in the accounting research field, one of the earliest examples of content analysis was the NAM study of 1938. The organization examined 2,000 annual reports to document best practices in corporate financial reporting. As noted above this study influenced the content and appearance of US Steel’s reports.
Content analysis was advanced as a methodology in the studies of Clair and of Vangermeersch who examined specific financial disclosures and the format of the reports of US Steel [Claire (1945), Vangermeersch (1970)]. Their work enhanced our understanding of the interaction between several institutional forces, such as NAM, and the disclosure properties of corporate reports.

The use of content analysis as a methodology declined in the accounting literature after the emergence of capital market research and positive accounting. However, it was reintroduced in the 1990s in several papers, one in particular which was developed to provide information to the American Institute of Certified Public Accountant’s (AICPA) special committee on financial reporting, the Jenkins Committee. In that study, Previts et. al. (1994) examined the language of analyst reports applying a rudimentary software instrument. This report provided data useful for the development of the Jenkin’s user-needs model.

In the history literature, Previts and Samson (2000) examine early railroad annual reports using manual database content analysis methods, mostly worksheet denomination of information classes and types as found in the Baltimore and Ohio Railroad (B&O) annual reports of 1827 to 1856. Following Claire’s methodology, they concluded that the financial accounting system of the B&O was directed toward the end of producing reports to an audience of investors not merely to capture transaction data for recordkeeping purposes. Chatfield (1974) cites the publication of Thomas Jones’ accounting textbook, Principles and Practices of Bookkeeping in 1841 as a refinement in proprietary theory. Jones’ textbook saw the preparation of financial statements, rather than ledger balances, as the final step in the account-keeping cycle.
Recently accounting researchers have begun to employ content analysis by way of different avenues of exploration into the accounting narrative. Sydserff et. al (1999 and 2002) explore and advocate new electronic methodologies for examining accounting report information, such as that found in the management’s letter or in the management discussion and analysis (MD&A) sections of an annual report. Such applications of new electronic methodologies for content analysis of accounting reports and their narrative have the potential to contribute to the literature and expand our understanding of corporate disclosure processes.

Electronic analysis of text narratives has established methodologies within social science literatures such as communications and psychology; however, it has only begun to be applied to the accounting narratives such as annual reports and other financial disclosure artifacts. As previously mentioned, Previts et. al. (1994) used a content analysis software, WordCruncher, to analyze analyst reports obtained from the Investext database of analyst’s reports. Hutajulu (2002) and Fogarty and Rogers (2005) used NUD*IST to analyze the annual reports of Texaco and analyst reports, respectively. Sydserff and Weetman (1999) proposed a texture index—taken from the communications literature—for analyzing accounting narrative, rather than the traditional “readability” factor implemented. Subsequently, Sydserff and Weetman (2002) proposed utilizing the DICTION 5.0 software suite to develop a transitivity index for the accounting narrative and perform statistical significance tests upon the “t-unit” counts. A transitivity index measures the use of passive language in the narrative. Communication researchers contend that the use of active phrases promotes the activities of the speaker or company, while passive phrases distance the speaker from the narrative.
There were, of course, limitations in early content analysis applications. For example, the software was limited to word counts and other marginal statistical methods, which restricts the ability to examine multiple layers of disclosure within financial reports. Dynamic content analysis software developments and the availability of financial reports in a digital database format—through the advancement of the SEC’s EDGAR database of public company financial reports and other on-line databases such as the ProQuest historical digitized annual report service introduced in 2006—provide accounting researchers with new and important primary materials to advance the study of reporting and increase the opportunities for discovery.

The primary database and subject matter of this study are US Steel’s annual reports from its formation in 1901 through 2006. They were provided to CWRU’s Weatherhead School of Management by Professor Emeritus Richard Vangermeersch of the University of Rhode Island. These reports were then given to the CWRU University Library system and were scanned into searchable text files, and viewable PDF files for preservation and analysis.

Furthermore these primary annual report documents were manually examined to identify and support analysis of a variety of corporate disclosure patterns over time by 1) recording the topics covered in the annual reports and length of each section in the reports; 2) analyzing the visual display of the information as to whether it is simple text or a visual display of information such as, a chart, a table, or a visual graphic, and whether the visual disclosure contained financial or non-financial information; and 3) exploring each annual report for unique disclosures and similar signal changes in reporting style. Additionally, certain data points such as board of director composition
and representation, executive leadership, financial performance, and other demographic data for the corporation were collected.

For the digital analysis of the president’s letter, the software package DICTION 5.0 will be utilized. DICTION 5.0 has been used extensively in the communications research literature to examine speeches of politicians and other influential individuals to improve understanding of the message being communicated. DICTION 5.0 analyzes text based upon the verbal tone identified in five master variables: certainty, optimism, activity, realism, and commonality. These five master variables will be used to depict the tone of the president’s letter, and discover if specific independent variables alter the tone of the letters over the period of study. The use of model-based digital content analysis is expected to improve the ability of researchers to explicate the accounting narrative provided in published corporate reports.

Previous accounting research has indicated that financial information has impact on the marketplace and share prices; the possibility of relating narrative information trends and master variable changes to share prices in a similar fashion may also represent an area of potential importance, albeit it is not an expressed purpose of this study, but a potential derivative outcome. In the future, other studies may use this model-based method to examine the primary documents of a company’s corporate disclosure.

1.4 Limitations

As with any new avenue of research, the conclusions will be subjected to outcome challenges derived from this analysis; however, content analysis of accounting narrative has emerged as an established avenue of research. With the advent of more sophisticated analysis software and the growing database of primary digital financial information, the
US Steel annual report database, as constituted, is a clear and unique opportunity to advance our understanding of the use of content analysis and the communicative properties of annual reports. In addition, traditional content analysis of accounting information may provide guidance and normative insights into best practices and disclosure trends of companies.

1.5 Conclusion

This chapter is designed to outline the purpose and scope of this study, and establish a point of reference for the remaining sections. The second chapter will explore the relevant literature for this study. The third chapter will provide a traditional and narrative description of the changes in the financial reporting of US Steel over the past century. The fourth chapter will attempt a model-based approach to content analysis and develop hypotheses to be tested. The fifth chapter will explain the results of the study, identify limitations, and provide recommendations for future research.
Chapter 2: Literature Review

2.1 Introduction

This study examines the annual reports of the United States Steel Corporation for the past century from its first report in 1902 to 2006 for various purposes. First, to improve our understanding of US Steel’s financial reports and/or techniques of accounting, and where evident, their role in the development of corporate reporting in the American financial markets. Second, to implement traditional content analysis, and attempt a new method of model-based content analysis, in a longitudinal study of this single company’s financial reporting practices. Third, to examine the tone of the president’s letter of the annual report, and attempt to identify a managerial ideology of corporate leaders of US Steel, as it relates to corporate disclosure.

To perform such analysis effectively, this research must be informed as to knowledge of the subject and research methodology. This chapter provides a literature review to examine three areas relevant to the study of the financial reporting techniques of US Steel: the importance of US Steel in the steel industry and the study of US Steel in prior business research; the use of content analysis as a research method generally and how it has been implemented in business research; and, the research into the development and changes in managerial ideology.

2.2 Importance of US Steel

US Steel has been one of the largest and most important companies in the economic life of the United States within the past century. It was the first corporation capitalized for more than $1 billion. US Steel was one of the dominant corporations in the United States for most of the 20th century. The formation of this steel conglomerate
was a fulfillment of Charles Schwab’s vision of a vertically integrated steel corporation which could maximize efficiencies to dominate domestic steel production, but also compete effectively with the European steel powers. Additionally, US Steel’s corporate reporting practices have been influential in the development of accounting practice. Continued analysis of US Steel’s reporting practices may provide insights into the development of accounting thought in the United States.

2.2.1 History of US Steel

Wilgus (1901) provides a collection of three lectures on the subject of US Steel’s formation delivered to a law school course, Laws of Corporations, at the University of Michigan in 1901. Wilgus was provided complete access to the papers which document the US Steel merger led by J. P. Morgan. In these lectures, he details a case study about forming US Steel. The main sections of the lectures consider four topics: formation, industrial position, management, and legality. These lectures provide a unique insight into the legal documents and papers used to combine the elements the first billion dollar corporation.

In 1904, at the World’s Fair in St. Louis, Missouri, the first World Congress of Accountants was held. Arthur Lowes Dickenson, who would become a recognized leader of the profession, presented the paper, “Profits of the Corporation,” which detailed the accounting issues regarding large scale, multi-divisional corporations. While US Steel is not specifically mentioned in the paper, Dickinson, as managing partner of Price Waterhouse, was responsible for the US Steel audit engagement. The timing and topics of this paper are such that it is plausible that it was written to capture his experiences in preparing financial statements for a large corporation, in particular US Steel.
Cotter’s *The Authentic History of the United States Steel Corporation* (1916) is an insider’s narration of the fifteen year history of US Steel to that point in time. It is not specifically a public relations tool (as is Cotter’s 1921 book described below); however, the author admits a bias on behalf of the company in the foreword. The book has value due to its extensive narration on the initial years of US Steel, including personal information on the key men of the company and corporate policy decisions.

Cotter (1921) followed his 1916 book with a second book published on the 20th anniversary of US Steel, entitled *Corporation with a Soul*. It was written after the settlement of the bitter 1919 steel strike. Cotter devotes the work to the story of Judge Elbert Gary in his role as Chief Executive Officer of US Steel during this period. As the prologue proclaims, “The story of United States Steel is the tale of how Gary made his dream come true.” This text provides a comprehensive early history of the company; however, it reads as a public relations message for the company and an exhortation for Gary and his efforts. One chapter related to this study discusses “Steel from an Investor’s Viewpoint,” and describes how the company sought to eliminate goodwill from the initial merger from the balance sheet, in order to address popular allegations about “watering” the stock of the company.

Fisher (1951) is an illustrated book with limited narration highlighting the success and impact of US Steel on the American economy. Fisher was in the Office of the Assistant to the President when he compiled the work, designed as publicity materials for the corporation. The book does contain some fascinating pictures and pieces of information. The narrative is laudatory of US Steel’s action relating to labor,
productivity, and research and development, so its objectivity must be regarded with some skepticism.

Since Price Waterhouse (PW) was the first auditor of US Steel, DeMond’s (1951) account of PW’s history provides a glimpse into the accounting firm’s approach to the issues for preparing consolidated financial statements for a large corporation and how Price Waterhouse came to these decisions. Demond notes that the Gary and Morgan quote about, “Business must be now done in glass pockets,” reflecting concern about public and government reaction to the disclosures of such a large company, influenced PW’s approach to the company’s annual reports.

Allen and McDermott (1993) detail the history of the accounting firm Price Waterhouse and its early years in America. An early, important development in the history of Price Waterhouse was the award of the audit engagement for US Steel in 1902. This is seen as a key event in financial reporting development for both Price Waterhouse and US Steel, as Allen and McDermott note that the lead partner on the engagement, Arthur Lowes Dickenson, developed the first “consolidated annual report” for the company. In 1903, this report was described by Scientific American as “the most complete and circumstantial report ever issued by any great American corporation.”

Apelt (2000) was hired by US Steel to complete their centennial history. While it is designed to be a publicity piece, the richness of history and detail make this text an excellent resource on the history of US Steel. Apelt had access to all of US Steel’s records and to prior and current management of the company which enhanced the volume with historical documents and perspectives on the firm from the people who lead US Steel.
In 2001, Warren published a comprehensive account of US Steel’s first century of business. This writing appears to be an objective and critical study of the activities of US Steel. While not exhaustive, the author attempts to focus on “themes such as technological change, major shifts in corporate policy, and reaction to new patterns of demand or government pressures of all kind.” This history spans the period of a century of US Steel, with attention to the contextual matters useful in the study of financial reporting disclosures in the annual reports.

2.2.2 Men of Steel

Initially, one would suspect that Ida Tarbell’s (1925) biography of Elbert Gary would be an unfavorable review of American capitalism, given her previous writings which were critical of business practices of the late nineteenth and early twentieth century. However, the recounting of Gary’s life is both even-handed and thorough. The work benefits from the open access, given to her as to original source materials of US Steel, as well as access to corporate executives, including Gary himself, which, as the author notes, allowed her to freely voice opinions and to question Gary, who patiently responded. This book provides intimate details of the formation of US Steel, including an entire chapter on the close relationship Gary developed with President Theodore Roosevelt during the early days of US Steel. Tarbell was given access to personal letters between Gary and Roosevelt which provide insights about that relationship.

Corey’s House of Morgan (1930) was written during a difficult period in American history when public sentiment was anti-business; as a result, the writing reflects and highlights Morgan’s anti-labor stances, derides the initial capitalization of US Steel stock as “watered” (the only money made was by stock speculators and profiteers,
Morgan above all), and discusses the formation of US Steel as seen from the viewpoint of the 1911 Stanley Commission investigation of US Steel, which was critical of the company.

Hesson’s (1975) biography of Charles Schwab contains a chapter on the formation of US Steel, and on Schwab’s role, first in the formation of the company, and then during his short term as president of the newly formed entity. Schwab played a key role in convincing Morgan to proceed with the deal. In the documented speech by Schwab on December 12, 1900, he detailed the economies of scale which a large steel and iron trust could achieve in order to lower overall costs, and form an integrated firm which could support the entity of the United States into the foreign steel markets. Morgan had been approached before about such an effort by others, including Elbert Gary, but he never felt it was economically rational until Schwab’s speech. Four months after that speech US Steel was formed.

McCraw (1989) examines the reasons why US Steel’s market share fell from two-thirds of the American steel market at its formation to nearly one-third in 1930. He concludes that the actions and motivations of Chairman Elbert Gary to maintain constant price levels and avoid anti-trust actions by the federal government, plus organizational and managerial failings caused US Steel to fall behind the industry in technology and efficiency. These failings “constrained it [US Steel] from the unbridled pursuit of discounted profits that the economic theory assumes.”

In contrast with Corey’s early work, Chernow’s (1990) House of Morgan, which chronicles the rise of the Morgan banks and documents their influence on large corporations and governments, has the benefit of perspective gained from the passage of
time, with regard to the impact of Morgan. The US Steel episode does not compose a significant section of the book; however, Chernow does provide insight into Morgan’s motives. Morgan did not view the company as a vehicle for monopolization, but rather as calming force in an industry ravaged by competition.

Strouse’s Morgan (1999) is a very thorough look into the life of J. P. Morgan. It differs from Chernow’s book because the author is interested primarily in Morgan as an individual and his impact on business, while Chernow takes a more institutional view of the Morgan banks, of which Pierpont is a key player. Strouse was given access to the Morgan libraries and much of the family’s personal correspondence along with business records. The author recognizes that she entered the project with preconceived, negative views of Morgan acquired from previous biographies and accounts; however, with access to more personal information and materials from the Morgan collections, the subject became personable and impressive. Her accounts of Morgan’s deals are laudatory and evoke an understanding of his motivations.

2.2.3 Steel Industry and Other Steel Companies

Rose (1937) was contracted by the Republic Steel Company to tell the story of Republic Steel. The writing style is an entertaining narrative attempting to capture the character and spirit of Republic and detailing “the five M’s of the steel business:” Money, Men, Materials, Management, and Metallurgy. It provides many interesting stories about the first seven years of Republic; however, similar to Cotter, it reads like a public relations document rather than an objective study. While this text was never published, the page proofs with handwritten corrections and notes were found among the archive
materials of its—now bankrupt—successor, LTV Steel Corporation, and have been preserved by the Western Reserve Historical Society (WRHS).

Warren (1973), a geography professor at the University of Oxford, studied the American steel industry analyzing geographic influences upon its development. Originally Britain was the world leader in steel production; however, by the 1920s, the United States was the dominant producer of steel in the world economy. Once he establishes the foundations for the US Steel industry during the late 1800s, he discusses the expansion due to railway development in key areas, expansion into the South, and the importance of innovation to increasing productivity.

Discovered among the WRHS archives for LTV Steel were the recollections of Thomas Patton, the CEO of Republic Steel (from 1960 to 1971). *Recollections* (1981) is a detailed account of the history of Republic Steel from its founding to 1971, when Mr. Patton retired from the CEO position. Patton joined Republic Steel in 1936 as their chief legal counsel after working with the law firm which Republic employed. He was chief legal counsel until 1960 when he became President and Chief Executive Officer. Patton brings an insider perspective on all aspects of the steel firm’s activities, especially its labor relations.

### 2.3 Content Analysis

This study will use content analysis techniques to examine the annual reports of US Steel. To perform this type of inquiry, one must have a comprehensive understanding of content analysis methods and their implications for research in other research disciplines. This section will examine the literature of content analysis in three areas:
methodology, applications to corporate reporting research, and applications using US Steel financial information.

2.3.1 Content Analysis: Methodology

Budd, et. al. (1967) addresses how to employ content analysis in social science research, specifically in the communications field. This text explains sampling, categories, research direction, problems with reliability and validity, and final analysis. Even though this is an early text on the subject, it mentions the impact of computers on content analysis. The authors recognize content analysis can be detail oriented and time intensive. The emergence of computers in the late 1960s allowed the authors to describe how computers would aid content analysis. They recognize two areas in which computers would assist content analysis: 1) thoroughness of examination of the material and elimination of potential missed observations, and 2) accuracy of the computations of observed instances.

Holsti (1969) addresses content analysis for the social science and humanities field. Compared to Budd, et al., this study is more comprehensive and detailed in describing the applications of content analysis. Holsti takes a communication theory approach to content analysis and emphasizes six areas of communication: a source, an encoding process, a message, a channel, a detector, and a decoding process. From this perspective, Holsti examines the applicability of content analysis, including the importance of research design, understanding the purpose of the communication medium, coding the data, and ensuring data reliability and validity. Even though the subject of interest to the author is political speeches and propaganda, Holsti provides specific methods and directions for generic content analysis. In addition, similar to Budd, et. al.,
he provides an extensive description of the use of computers in content analysis. Examples of punch card technology for content analysis input methods are included in the text, and the efficiency of computers is highlighted. Holst’s text has a 45 page chapter about the use of computers, while Budd had a nine page chapter on computers.

Berelson (1971) discusses the history of content analysis in the communications field. He describes three assumptions for content analysis research: 1) establishing inferences about relationships between the intent and the content of the information; 2) understanding the “meanings” in the content which correspond to the “meanings” intended by the communicator so they can be understood by the audience; and 3) assuring that the quantitative description of communication content is meaningful. Berelson also reports on the history of content analysis, especially its renaissance as found in the work of Harold Lasswell analyzing propaganda and political messages.

Krippendorff (1980) attempts to adapt content analysis from a descriptive tool for social science research toward more empirical methodology and scientific rigor. Krippendorff, a communications professor, applies content analysis to theories of communication by exploring the idea of messages, the idea of channels, the idea of communication, and the idea of systems. “Examining content for the purpose of content is pointless,” he asserts, “without understanding the purpose and system within which the content operates.” This “communication” approach to content analysis research corresponds with the communication theory of accountancy first proposed by Bedford and Baladouni (1962).

Rosengren’s (1981) work is a compilation of papers from the Scandinavian Conference on Content Analysis. The conference hoped to highlight the advancements
of Scandinavian research in quantitative content analysis and to demonstrate that
Scandinavian content analysis research is based in a more qualitative approach, as
opposed to the quantitative approach of the West. European approaches are perceived to be much more “critical” than the “impartial” approaches of the West.

Weber (1990) summarizes the methods of content analysis and defines the subject as “a research method that uses a set of procedures to make valid inferences from text.” This work is a generalization of content analysis techniques for social science research. Weber’s text is useful in its description of methodologies for content analysis.

Computers are emphasized because they introduce rigor and predefined rules which can be replicated and examined. In addition, computer-aided research facilitates eliminating unnecessary information which may distract from the research focus. Also, computers allow for cross-relational comparisons among discovered variables. Weber raises four concerns about content analysis—measurement, indication, representation, interpretation—and discusses each problem and proposes appropriate measures to mitigate them.

Roberts ed. (1997) is a collection of essays discussing the potential of content analysis in the advancement of social science research. He asserts that content analysis was abandoned during the 1990s. Roberts attempts to present articles which analyze the differences between quantitative and qualitative text analysis; and thematic, semantic, and network text analysis. The essays first discuss the methodologies of analysis, specifically thematic, semantic and network techniques. This work relates the examples of text analysis in studies such as examination of the front-page content of the New York Times, labor unrest in Italy, and the portrayal of biology in high school textbooks.
Sydserff and Weetman (1999) complain of the use of readability formulas for scoring accounting narratives to determine their effectiveness as a communication vehicle. They examine the communication and linguistics literature to discover an alternative method for evaluating accounting narratives from corporate reports. They discover Roseberry’s texture index approach which identifies six criteria for evaluating the effectiveness of a narrative: topicality, conjunction, connectivity, conjunctive reach, topic shift, and specificity. Each of these criteria can be assigned a score level, and analyzed for effectiveness. The authors believe this method could be an effective evaluative tool, “in particular the collation of comprehensive taxonomies of keywords for the various indexicals”, which would permit computerized coding of narratives. Research investigating user response to each characteristic represented by the indexicals would permit weighting of indexicals and a clearer interpretation of the arithmetic total summed across indexicals.”

Nikolychuk and Abbott (2008) perform a computer-aided content analysis study of consumer camera advertisements between 1980 and 2003. While the study does discover changes in the social structure of consumer advertisements over the twenty-year period, the ultimate purpose of the study is to encourage researchers to increase the application of content analysis. They contend that valuable findings can be discovered through the use of content analysis, and yet, content analysis has not garnered greater acceptance because researchers have not significantly strengthened their research methodology.

\(^2\) Indexicals are linguistic expressions whose reference shifts from context to context. Many philosophers hold that indexicals have two sorts of meaning. The first sort of meaning is often called ‘character’ or ‘linguistic meaning’; the second sort if often called ‘content’. *Stanford Encyclopedia of Philosophy*, http://plato.stanford.edu/entries/indexicals/.
2.3.2 Content Analysis: Business Research

In *Making the Annual Report Speak for Industry* (1938), the National Association of Manufacturers (NAM) performed a content analysis of over 2,000 annual reports of public companies to provide examples of “best practices” in financial reporting. NAM demonstrated annual reports had devolved into pages and pages of tables and obscure accounting terms which were not useful to people beyond accountants and the corporate management. Ordinary people, even though involved in the stock market, did not have the requisite education to understand concepts such as “Capital, Surplus, Invested Capital, Profits, Dividends, Gross Earnings, Net Earnings, Overhead, Depreciation, and innumerable other words.” NAM proposed that companies should “modernize or humanize” their annual reports to allow them to speak for the industry, to present the facts of the firm, and to broaden the coverage of the annual report to include other stakeholders such as employees and the general public. The NAM report highlights “humanizing” efforts such as: an increased use of graphs and charts; speaking in clear, plain language to describe accounting terms such as assets and expenses; and personifying the annual report through the inclusion of a President’s letter and more supplemental reports with employee statistical data or other corporate promotional materials, similar to fact books. This study is a comprehensive analysis of these best practices of its time. Most of these best practices emphasize a better, simpler definition of the activity and performance of the firm. Many of the graphs and charts illustrated in the analysis attempted to explain where every cent of revenue is allocated to highlight the firm’s impact on the economy by detailing how many workers the firm employs and the wages and benefits they received.
In his dissertation at Harvard Business School, Hawkins (1962) examined corporate reporting at the turn of the 20th century; however, he incorporated the political and social issues from as early as 1840, to examine their influences upon management’s disclosure tendencies. Obviously, the timeframe of 1900 to 1933 is significant because it is defined by the establishment of the first $1 billion corporation, US Steel in 1901, and the enactment of the Securities Act of 1933. This period defines when Hawkins sought to examine the social, governmental, and political pressures which affected management decisions and their financial reporting practices.

Murphy (1970) studies the development of corporate reporting in Canada from 1900 through 1970. He documented the selected changes in financial reporting techniques in Canadian companies throughout the century with a focus upon auditor reports and then annual reports themselves. This is one of the first studies of the Canadian financial capital market reporting system which differs extensively from the American system. He identifies an evolution of the Canadian disclosure system, but recognizes it does not resemble the comprehensive disclosure of the American system.

After analyzing models of social change in 61 years of General Motors annual reports, Neimark (1983) discussed the empirical research issues of implementing content analysis in accounting historical research. She contends historical research is productive in analyzing the processes of social change. Neimark says annual reports are useful “because annual reports are produced every year, they assure full coverage of a lengthy period,” and they “represent what the top management of the organization chooses to communicate to its shareholders and the public.” While Neimark recognizes there are concerns about the reliability and validity of the research design in the GM content
analysis study, she concludes “the importance of the automobile industry and GM within it throughout the period covered by the study suggests the likelihood of some generalizability.”

For the 100 year anniversary of the accounting profession, the *Journal of Accountancy* produced a centennial issue. Within the issue, Brief (1987) discussed corporate financial reporting, and while this was not a content analysis research study, he did examine specific materials from the turn of the century, and presented examples of historical ledger materials.

Sivakumar and Waymire (1993) were among the first to attempt to apply empirical methods to an historical database of the *Commercial and Financial Chronicle* (CFC). They collected the weekly stock price data of firms through the CFC and examined the annual earnings report for the sample firms. While Bricker and Previts (1994) criticized the study for its lack of historical relevancy and “present-mindedness,” it is an example of researchers applying content analysis to a historical stock price data set.

Previts and Brown (1993) examined the *Journal of Accountancy* on a monthly basis from 1905 to 1989 and analyzed the articles concerned with governmental accounting issues. The methodology required the researchers to summarize each article into an abstract and then summarize the content of the article. The research separated the study into three key areas: pre-World War II, 1940-1979, and 1980-1990s. They discovered that this “journal of record,” contributed to the accounting literature by addressing the essential issues and identifying “who’s who” of governmental accounting.
Previts et. al. (1994) discussed their work with the Jenkins Committee and their analysis of sell-side analyst reports. The Jenkins Committee, established by the American Institute of Certified Public Accountants (AICPA), invited this team to assist in determining information which would meet financial statement user needs, focusing upon consumers of business information. Previts et. al. examined the reports of 479 sell-side analysts. They performed both manual analysis of reports, and computer-aided techniques of word-count, which was new to accounting research. Their findings identified that analysts base their recommendations on company income, emphasize core earnings, and extensively consider non-financial information such as inherent company risk, market position and the management team.

Abrahamson and Amir (1996) note that many studies have examined the information content of individual disclosure items within corporate financial statements such as earnings, financial ratios and earnings disclosures; however, few studies examine the accounting narrative provided by management in the letter to the shareholders. They argue for the examination of “softer” information contained in the disclosures provided by management. In this study, they obtained over 2,600 shareholder letters from the Compact Disclosure database for the years 1987 and 1988. The letters were analyzed by software developed by the authors to identify the preponderance of “negative” words. They compared the level of negative language against the market performance of the firm before the disclosures and found that poor performance was noted before the release of negative performance in the shareholder letter.

Hyland (1998) analyzes the CEO letter of annual reports to see how CEOs attempt to influence readers and create a positive image of the corporation. The author
analyzed 137 CEO letters of Hong Kong companies to attempt to identify metadiscourse in the letters. Metadiscourse is a pattern of linguistic technique used by an author to frame an argument for the audience. The author believes corporate management uses the CEO letter to create a positive image of the company, and research into metadiscourse may improve the understanding of how management uses the CEO letter to communicate to investors.

Previts and Samson (2000) explore the contents of the annual reports of the Baltimore and Ohio Railroad (B&O). They obtained access to a complete series of annual reports for the B&O from its origin in 1827 to its acquisition by the Chessie System in 1962. The study examines the annual reports from 1827 to 1856, and records the communication and financial disclosure practices of one of the early technological and capital-intensive organizations. Their research identified many financial reporting innovations by the B&O organization, but cited as one of the most important findings, “. . . that the B&O accounting system was oriented to producing financial statements as opposed to the accounting practice of the period which emphasized record keeping as the objective of the accounting system.”

With a grant from the Financial Executives Research Foundation, Grant, et. al. (2000) examined the financial disclosures techniques of sixteen Fortune 500 companies. They were searching for non-financial performance measures in such corporate disclosures. The study compared the companies’ 1992 financial disclosures, their 1997 financial disclosures, and highlighted company themes, level of detail, report structure, uniqueness of content, and orientation.
From 1999 to 2001, the Business Reporting Research Project attempted to examine the influence of the Jenkins Committee recommendations toward encouraging broad, non-mandated disclosures in publicly-held corporations. There were multiple working groups examining different financial reporting functions. The group reports included:

1. Electronic Distribution of Business Reporting Information
2. Improving Business Reporting: Insights to Enhancing Voluntary Disclosures
3. GAAP-SEC Disclosure Requirements

The Electronic Distribution group focused upon the “investor relations” websites of Fortune 100 companies to examine their depth and content for the time. The group attempted to codify best practices and record a model for on-line financial reporting. The GAAP-SEC working group examined redundancies between GAAP and government-mandated accounting information by the SEC requirements for the 10-K and how to eliminate them.

*Improving Business Reporting* details the findings of seven different working groups assigned to examine the reporting practices and particulars of distinct industries by identifying selected publicly-available corporate financial information and noting what non-mandated financial disclosures were made. The work of one working group was performed at Case Western Reserve University (CWRU) and focused upon the automotive and textile industries. The working group analyzed all publicly available information (annual reports, factbooks, and analyst reports) for six major companies in each industry. They identified that each industry voluntarily disclosed information about the “value drivers” of the industry. In the automotive industry, these value drivers included production advancements, environmental practices, and labor relations. The
Jenkins Committee’s ten-point model was utilized as a framework, and the report concluded that companies were independently disclosing useful voluntary financial information, which has not been mandated by financial standards.

The GAAP-SEC Disclosures Group explored redundancies between “GAAP and SEC disclosure requirements and ways to eliminate them as well as other observations that the SEC is encouraged to consider in future rule-making activities.” The working group identified numerous redundancies, including income tax disclosures, contingencies, and related party transactions. They detailed amendments to the existing regulation which would eliminate redundancies in these requirements. To prevent further redundancies, the group recommended steps to make the regulatory process more efficient between the FASB and the SEC, such as greater cooperation between the SEC and FASB staffs.

Smith and Taffler (2000) examine the content of the chairman’s letter as a predictive model for corporate performance. The paper evaluates “the classificatory power of statistical models, based both on the words employed in the chairman’s statement and the underlying themes apparent, to explain company failure.” In this initial pilot, they looked at the chairman’s statements of 33 failed and successful companies on the London Stock Exchange from 1978-1985. Their study found there was a high degree of discrimination between the language in the chairman’s statement of failing versus successful firms.

Sysderff and Weetman (2002) revisit the potential for content analysis in accounting narratives to support predictive models. They employ DICTION, and apply a transitivity index to accounting narratives. The transitivity index is a measure of the
number of passive constructions in a text. This can be used to examine if companies use different qualities of language during times of differing economic performance.

DICTION advances this study by analyzing text based upon verbal tone in five master variables: certainty, optimism, activity, realism, and commonality. In addition, DICTION has the capability to expand the dictionary and create personalized variables to test on the accounting narrative. The authors tested this method on 26 “positive” and “negative” performance firms, and found it offers potentially useful alternative methods of investigation into accounting narratives.

Hutajulu (2002) examines the annual reports of Texaco, Inc. from 1928 to 1999 with an agency theory approach. He studies the evolution of discretionary disclosure over the life of the company with specific attention paid to the company’s management and the audience for their corporate information.

Sivakumar and Waymire (2003) revisit turn of the century financial reporting and analyze the effect of new government regulations on the railroad industry and management’s use of conservatism and income smoothing techniques. Their study did not find much evidence of income smoothing, but found some significant evidence of increased conservatism by the railroad management after the regulations were enacted.

Fogarty and Rogers (2005) examined 187 analyst reports, randomly selected, from publicly-traded companies from July 1, 1993 to June 30, 1994. They were researching the sources for analyst report information and analyst’s predispositions to past performance and forward looking information. In addition to latent content analysis techniques, the authors utilized content analysis softwares, NUD*IST and DICTION 5.0 to analyze the text of the analyst reports. Their results indicate that the work of financial
analysis cannot be completely understood without analyzing the institutions which influence the final work product by analysts.

Archambault and Archambault (2005) analyzed the 1915 Moody’s Analyses of Investments to test whether regulated firms disclosed more income statement information than unregulated firms. They contend that corporate reporting orientation has shifted over time from the balance sheet toward the income statement. They conclude that the regulated firms presented more income statement information because the government needed income related information to set rates and tax the income of the regulated firms.

Flesher et. al. (2006) study the annual reports of the Illinois Central Railroad from 1851 to 1861. The authors found that the Illinois Central’s annual reports were more detailed than those of other corporations of the time due to the requirement to provide corporate financial information for two distinct audiences: the American public and European bankers. First, the authors indicate that the Illinois Central had a “social contract” with the American public because the land for the development of the railroad was acquired through a revolutionary (and controversial) idea of governmental land grants. To justify the seizure of public lands, the railroad must prove to the public that the investment was producing economic gains for the areas from which the land was acquired. Second, the development of the railroad was funded by an issuance of bonds, primarily to European investors. The land granted to the railroad was the collateral on the bonds, but the investors required accurate financial reports to further assure their investment decisions. As a result of these two situations, the Illinois Central prepared more extensive financial reports than other companies and railroads of the period.
Richardson (2006) examines the pattern of auditor switching among Canadian firms during the Great Depression. The author examined over 1,300 financial statements from before and during the Great Depression. The study found that prior to the Great Depression many Canadian firms switched from small audit firms to large international auditing firms, but during the Depression switched back to smaller, more regional Canadian firms.

Bryer (2006) performs a longitudinal analysis of the accounting records of Carron Co. from 1759 to 1850. He utilizes Marxian theory to examine how the corporation used extensive financial and managerial accounting practices to control the managers and workers of the company and increase their profitability.

Holder-Webb et. al. (2009) explore corporate websites and press releases to examine the levels of corporate social responsibility disclosures. They contend that companies are providing more social responsibility disclosures to enhance their corporate image. They note much of the “impression management” literature has concentrated on European and Australian firms. This study focuses upon the 2004 disclosures of 50 publicly-traded firms.

2.3.3 Content Analysis: US Steel

Lough’s textbook, *Corporation Finance* (1913), was a leading corporate finance textbook through the 1940s. The text was designed to educate “business men of all stations and degrees” to the advantages and superior methods of the corporate form. In this edition, he utilized US Steel as a “case study” in stock promotion and corporate formation. Lough walks the reader through the formation of US Steel from a corporate finance perspective. He addresses the history of preceding steel consolidations; methods
of stock promotion; initial prospectus of the corporation; original capitalization; and the expected financial changes for the firm. Lough provides a detailed discussion of the watered stock issue as it relates to US Steel, and the differences between the Company’s valuation of the firm, and the government’s valuation. This is an insightful and significant observation. Lough notes that the difference between Schwab’s valuation and the government’s valuation of the company is the future value of unmined coal and ore.

Here are Lough’s conclusions, based upon the profits of US Steel in its first seven years:

In what has been said it has been assumed that the proper way to value a property is to arrive at the probable cost of replacing it. But there is another method of valuation which is more popular among business men, and, to the writer’s mind, more scientific. This method is to capitalize earnings power.

Based upon his calculations, US Steel earned nearly 10% returns, based upon the $1.4 billion capitalization, established by Schwab, which was a fair rate of return on any investment. – Lough, 1913, pg. 217

Claire (1945) assesses the progress of corporate reporting through the first 40 years of the 20th century through examination of the annual reports of US Steel. Claire reports “Some managements . . . will bend every effort toward making their annual reports attractive, easily understood documents which will not only tell the stockholder the story of results of stewardship, but will also ‘sell’ the company to employees and the general public.” Claire viewed the corporate reports of a company as a communication tool for management with numerous audiences. He finds that US Steel’s reports were superior to any other company’s at the time. In addition, he notes, “The ‘circulation’ of the report, so to speak, has been increased in a commendable way of making it attractive and appealing to all interested parties, including employees and the general public as well as stockholders.” One interesting observation by Claire about the reports of US Steel is that in 1939 the reports ceased detailing plant, property, and equipment (such as hearths,
mills, and mines) and their production capacities. This technique, known as “taking stock” of the corporation, has been important to companies in documenting the assets of the company. Claire’s findings suggest that in 1939 US Steel’s annual report undertook a critical change and may provide an early example of a change in orientation and, perhaps, ideology.

Vangermeersch (1970) explores the institutional forces in America which have influenced financial reporting from the turn of the century to the late 1960s. The author concluded that since US Steel (1901) was one of the largest companies in America, their annual reports would be of concern to these institutional forces, and thus would “closely parallel the developments of financial reporting in the United States” during this time period. Vangermeersch asks the question, “Whose statements are they?” This question guided his search for influences upon and audiences for US Steel’s annual reports, and in general, all financial reporting. He identifies seven institutional forces as influencing the reports of US Steel during its history to include US Steel management, financial services and writers, the federal government and “accounting forces,” such as standard setting bodies and accounting member groups.

Holmes (1989) employs a critical perspective in analyzing the differences between historical cost depreciation methods and replacement cost depreciation. She examines the depreciation data in the annual reports for US Steel from 1939 to 1987. Using two valuation models—Net Asset Ratio and Annual Replacement Index—she compares the different standardized calculations between historical cost and replacement cost. Holmes concluded, “When prices are changing and/or new technology emerges, the use of replacement cost numbers to value current services obtained from property, plant
and equipment and to estimate any remaining future service potential will more rapidly convey subtle changes in productive physical capacity and more accurately predict future reductions in acknowledged physical capacity."

Vangermeersch (1992) examined the annual reports of US Steel from 1901 to 1985 to see if investors use earnings per share (EPS) or book value in setting the price of common stock. He ends the analysis in 1985, which is the year US Steel changed its name to USX Corporation. The author collected additional data on adjusted market value at year end, adjusted EPS, multiple, adjusted book value of common stock, adjusted market value minus adjusted book value of common stock, and percentage of adjusted market value to adjusted book value. The study finds that US Steel lagged behind the Dow Jones in most years, except for two time periods, 1908-1930 and 1955-1960.

2.3.4 Content Analysis: Tone of Corporate Communication

Gibbons et. al. (1990) designed a study to examine corporate disclosure practices and attempts to determine who is responsible for corporate disclosure policies and the roles of external parties (analysts, auditors, etc) in the disclosure process. In the study, the researchers had research assistants examine the letter to the shareholders for observable characteristics. Each of these characteristics was coded as to the tone (positive, negative or neutrally descriptive) of the disclosures. This aspect of the disclosure was designed to identify where the disclosure practice was determined or managed.

Lang and Lundholm (2000) examine corporate disclosure practices around equity offerings and their relationship to stock prices. They want to discover whether these disclosures are informative or simply performed to “hype the stock” before the offering
occurs. To determine the qualitative nature of the financial disclosures, they categorized
the tone of the financial disclosures as “optimistic,” “neutral,” or “pessimistic.” They
found that firms which maintained consistent “tone levels” maintained consistent market
returns; however, firms that may have “hyped” their stock suffered negative returns over
time.

Davis et. al. (2008) use content analysis software, DICTION 5.0, to analyze
corporate press releases to identify management’s linguistic style, and examine whether
managers use optimistic or pessimistic tone in their press releases regarding future firm
performance. The study examined over 23,400 earnings announcements from 1983 to
2003. The language is analyzed to see if the market responds to the optimistic or
pessimistic tone of the press releases. They find that investors react to management’s
tone regarding the firm’s future earning potential.

Feldman et. al. (2008) study the Management Discussion and Analysis section of
a company’s 10-Q and 10-K reports to see if they contain incremental information
content beyond the traditional measures of earning announcements, accruals, and cash
flows. Based upon the methodology utilized in a working paper from Kothari and Short
(2002), this study also utilizes the software program, General Inquirer, to analyze the tone
of the MD&A disclosures. In this study, they measure the level of positive and negative
words in the MD&A to measure the tone change of specific MD&A disclosures
compared to previous filings.

Kothari et. al. (2008) use content analysis to examine all disclosure reports by
management, analysts and the financial press to assess their impact on the cost of capital
effects on the firms. They utilize the Harvard-developed content analysis software,
General Inquirer (GI), to determine whether the language in the disclosure report is “positive” or “negative,” and what effect these disclosures have on the firm’s cost of capital. The GI software “maps” words in the text against a pre-determined dictionary of “positive” and “negative” terminology. The study finds that negative information is strongly weighted by the market, but positive information is tempered by the market as management may have alternative reasons for presenting positive information.

2.3.5 Content Analysis: Conclusion

Content analysis has been used as a research tool by a variety of disciplines for many years. In business research, it has been applied to numerous areas, companies, and ideologies. It has proven to be an effective and appropriate tool to study historical progress in accounting techniques. A content analysis of US Steel’s reports may produce additional insights into the developments of financial reporting. In addition, the use of a model-based application—unavailable to early scholarly efforts such as those of Claire or Vangermeersch—may augment traditional content analysis and improve discovery of patterns in language or identify keywords the management of US Steel employs to communicate to investors over time, suggesting a basis for improving our understanding of the process.

2.4 The Development of Managerial Ideology

Zeff’s (1962) dissertation proposed the concept of an “orientation postulate” in financial accounting. He suggested this related to whether the firm espouses a proprietary or entity view. He analyzes this postulate by discussing whether the central activities of the firm should be focused upon the owner or the enterprise, and whether the reported results of the firm be reported with regard to the owner or the enterprise. To
explore these concepts, Zeff analyzed the writings and ideas of key accounting theorists from Paton (Entity Theory) to Vatter (Fund Theory) to Staubus (Institutional-Entity Approach) to Bedford (Residual Equity Approach). Zeff recognizes the challenges (or impossibility) of creating financial statements which would provide useful information to all interested parties; however, by determining the orientation of the firm, he assert that the appropriate information will be properly derived.

May (1961), who championed the concept of stewardship in accounting and asserted that the obligation of a corporation was to provide information to stockholders and regard their investments worthy, hailed the value of the 1902 US Steel annual report by stating, “All authorities will probably agree that the first full report of the United States Steel Corporation, which was for the year ending December 31, 1902, was a landmark in the history of this development.”

Grady (1962), in writing May’s memoirs, documents that as a consulting accountant, May originally stated in the following letter to J. B. M. Hoxley, on the Committee on Stock List of the New York Stock Exchange in 1932:

_The balance sheet is essentially the production of the technical accountant, not at all well adapted to the needs of the investor. Nothing could be more inaccurate than Professor Ripley’s description of it as an “instantaneous photograph.” As a matter of fact, it is heterogeneous in character—conventions, history, present value, are all bases upon which or upon a combination of which the items appearing in it are stated. This fact is fairly well understood by a limited number of financial and statistical people, but is certainly not at all generally appreciated by the investing public._

_The income account is a more significant statement; but here again there is a very general misunderstanding because of the disposition to treat the income account as equally significant as an historical statement and as an index of earning capacity, and hence of value._ – Grady, 1962, pg. 59-60.

This speech was delivered to the Controller’s Institute of New York in 1943. He used the speaking event to advance the stewardship concept that the corporate annual report should be a vehicle of communication to all stakeholders in the modern corporation. In describing the role of the corporate controller in this address, he said:

“We are just American citizens charged with the management of properties which usually belong to others. The point that I want to make is that our stewardship is not discharged unless we report our doings in such fashion that the basic social function of our enterprises is clearly portrayed—only then will business be held to the highest degree of responsibility for what it can and should do and not be hampered by being asked what to do if it is not in its power to do. The annual report is one of the most effective methods of presenting the simple facts to the public.” – Voorhees, 1971, pg. 31

Voorhees was a ranking executive and director of US Steel from 1938 to 1959. His text, *Financial Policy in a Changing Economy* (1970), is a compilation of his writings during his tenure at US Steel. They vary from testimonies before the Finance Committee of the United States Senate to excerpts from US Steel Annual Reports. Voorhees published these “disconnected” stories in the hope of educating the public about “the true meaningfulness of accounting concepts and numerical aggregates, of their relevancy to the great social problems encountered, and of corporate income realities.”

Voorhees’ essay entitled, “As the Nation Goes . . . So Goes Unites States Steel,” was an excerpt from the 1955 US Steel Annual Report where it is argued that historically the gains of the U. S. economy doubly enhance the financial performance of US Steel, and the declines of the U. S. economy doubly affect them due to the presence of steel throughout the U. S. economy. These are not excuses for their industry, but examples of how the general business climate or governmental policy influences the welfare of US Steel.
Bird, et. al. (1974) discuss the treatment of external transactions under the guidelines of Accounting Principles Board Statement #4: Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprises. They contend that accountants need to agree upon a managerial orientation before external transactions may be recorded. They argue that until an organization understands whether owner’s equity is considered an obligation to the shareholders/owners (proprietary theory) or considered a residual liability to those same owners, then external exchanges cannot be recorded properly.

Stewart (1989) extends Zeff’s research on the “orientation postulate” and argues that an “orientation postulate” should be included in the accounting financial reporting framework. Zeff concluded the orientation postulate could be applied to the income statement or the balance sheet, where prior research only applied it toward the balance sheet. Using this stance, Stewart argues that goals of financial reporting cannot be completely defined unless a decision has been made as to which financial statement corporate reporting is based upon.

Kaufman and Zacharias (1992) discuss how the emergence of the large corporate structure in the early 20th century sparked a need for professional management which created a social problem of owner’s ceding control over their assets. They note how early scholars began justifying this managerial profession as one which would be taught “standards of trusteeship” and given their fiduciary responsibilities the managerial profession would be rigorous in their responsibilities. However, they recognize conflicting arguments regarding management’s ability to operate under a contract model, whereby the responsibilities of management were no greater than those of any other
citizen, and this situation would require a response from the government to curtail managerial discretion over the property of the owners.

Davis et. al. (1997) examine two alternative models of man (management): agency and stewardship theory. They describe agency as an economic approach to management which treats subordinates at individualistic, opportunistic, and self-serving. Stewardship is a more sociological and psychological approach to management where the managers are collectivists, pro-organizational, and trustworthy. The authors contend that a stewardship theory of management will maximize the performance of the firm and should be studied further.

Kaufman and Englander (2004) review the changing views on managerial ideology, especially after the market effectiveness of the 1990s. They argue that the era of corporate social responsibility, which emerged during the 20th century due to the fiduciary responsibilities of management to the owners of the firm and market regulation, had been supplanted in the 1990s by managerial greed into corporate social indifference. During this period, management ignored their capture of a “disproportionate share of the new wealth” in the name of market efficiency.

O’Connell (2007) argues against the IASB/FASB decision to exclude “stewardship” as a financial reporting objective in the converged Conceptual Framework. He contends that for centuries, and currently in the United Kingdom, stewardship is viewed by standard setting bodies as one of the main financial reporting objectives. He calls for more stewardship focused research in the accounting literature, especially in the empirical research realm. An interesting aspect of this study is how the mention of “stewardship” has disappeared from The Accounting Review and the Journal
of Accounting Research. In The Accounting Review, studies about stewardship peaked at 42 in the 1960s, but declined to 13 in the 1990s. In the Journal of Accounting Research, stewardship articles totaled 27 in the 1980s and fell to 10 in the 1990s. The author contends that stewardship should not be eliminated from the discussion of appropriate financial reporting goals.

2.5 Conclusion

While this literature review is, of necessity, a representation not an exhaustive listing, it provides examples useful in designing a research study of the US Steel annual reports, developing appropriate hypotheses and considering research questions. Additional areas which may require attention, such as content analysis matures as a form of study, include: 1) further information about the steel industry, such as possible studies about other major steel companies (Bethlehem in Pennsylvania or Inland in Illinois); 2) additional studies using content analysis in business history and general business research; and, 3) a line of research for an underlying theory by which to guide questions.

This chapter has provided insights useful to a study of the content of US Steel’s annual reports and in developing research questions and hypotheses. First, Krippendorff’s emphasis on communication theory and content analysis parallel Bedford and Baladouni’s communication theory and accountancy. This connection requires further exploration and development. Second, Claire’s argument that the 1939 annual report for US Steel demonstrated a critical change in emphasis for their financial reporting lends credibility to both the development of an orientation postulate and/or to a greater need to consider managerial ideology as it relates to disclosure. Finally, software and computer technology for content analysis may provide richer and more
comprehensive analysis of US Steel’s annual reports beyond the degree which Claire and
Vangermeersch were able to perform, leading to a scope of research and study which
may contribute to the literature.
Chapter 3: Traditional Content Analysis

3.1 Introduction

This chapter will provide a traditional, descriptive analysis of the content for the period of a century of annual reports of US Steel. This is an archival, labor-intensive method of review of the primary material, defined as the display, content and tone of the US Steel annual reports. Previous studies have noted distinct changes and discerned interesting content in the US Steel reports (Claire, 1945; Vangermeersch, 1970). However, no study has attempted to analyze the complete century of annual reports (1902-2006), observing changes in reporting format, documenting the use of graphical information, noting unique disclosure practices, and identifying potentially useful influences upon the evolution of the content material of these primary documents, the annual reports. Analysis of US Steel’s reports is important because it has been regularly asserted that US Steel has been a leader in corporate disclosure over its history. Previous research has supported this view; however, no previous study has had access to a complete set of US Steel’s annual reports in hardcopy and in PDF form and text files. This access allows for more careful examination of these reports through manual analysis of printed copies, and a model-based search for specific content. This chapter provides analysis by using the former method; the following chapter will use the latter.

Traditional content analysis of the US Steel reports is a focused systematic process designed to permit the selection of specific characteristics in corporate reporting which may not be apparent through casual observation or less structured methods. Traditional content analysis, while selective, is useful in detailing specific developments in the primary documents, and informs inquiry as to the motivations for changes in a
company’s corporate reporting display, content and tone strategy in support of improving understanding about “why” these reports “take their current form.”

This chapter develops five distinct eras of US Steel’s corporate reporting practices, based upon an assessment of the descriptive statistics of the primary documents—a dataset developed uniquely for this study—and changes noted in the content and composition of the reports. The content of this chapter will detail the disclosures and patterns discovered in these reporting eras. Internal and external factors which are identified to have contributed to US Steel’s corporate reporting during each period are also examined and discussed. The remainder of this chapter will detail the descriptive statistics of the reports’ contents during the era, identify disclosure pattern and practices, and propose a structural interpretation of the historical significance of the findings.

3.1.1 Analysis of the Annual Reports

Traditional content analysis of US Steel’s annual reports employs two approaches. The first is to quantitatively code the reports to annotate their attributes, and the second is a review of each report seeking out patterns and/or unique disclosures.

The reports were reviewed multiple times to code and format properties, such as total page length of the report, and then the page numbers of each distinctive section of the report by year. The recording of the page numbers provided an information content identifier for each section of the report. This highlights which sections of the report provide the largest quantities of information as well as areas upon which company management focuses, and permits consideration of a feature or emphasis developed. In addition to recording the volume of information provided in the reports, a second analysis
of the reports was completed to discover whether the medium employed was text or visual imagery. This was done in a page by page analysis of the reports for the period of study to determine what percentage of each page contained text or graphics. Thereafter graphical images were analyzed to determine whether the image was in tabular (e.g. chart or table) or graphic form (e.g. photograph or graphic diagram). Finally, graphical information was identified as financial or non-financial. Methodology of this type was employed in a research study for the Financial Executives Research Foundation examining the reporting practices of companies with regard to non-financial disclosures and operating measures (Grant, et. al, 2000).

The data provided by this analysis allows one to note and evaluate patterns in the company’s disclosure levels over long periods of time and identify if there are discontinuities in levels of disclosure. First, studying archival disclosure levels allows one to assess what information was deemed most important by management over time and evaluate changes in disclosure. Second, by analyzing the use of text or graphics, one may relate whether subject matter areas involved may have changed over time and assess what audiences are served by the information. Finally, by studying the disclosure of non-financial data, one can attempt to understand what performance measures other than financial are important to the reporting entity.

The second approach to analyze the reports follows a traditional research method to identify exceptional disclosure practices or to observe distinct changes in the format of the reports as in prior research on US Steel (Claire, 1945; Vangermeersch, 1970). This supports identifying less common but potentially important disclosures, which would not be detected except by patient and thorough content review. This approach is very time
consuming, but a necessary fundamental exercise, and has a potential to uniquely contribute to our understanding the content being examined.

3.1.2 Purpose and Method

A complete set of US Steel annual reports (1902-2006) has been manually reviewed numerous times as part of this project to assist in establishing patterns of disclosure.

Five reporting eras have been proposed and identified for directing this traditional analysis of the firm’s reports:

1. The Gary Years (1901-1926)
2. The Transition Years (1927-1937)
3. The Voorhees/Tyson Years (1938-1969)
5. The Cost-Effective Years (1992-2006)

These eras have been established after a careful review of both the company environment and the content and are based upon the attributes of the reports, changes in content patterns of disclosure, as well as leadership, events and related unique disclosures which appear as report content in each era. The identification of these five eras is affected by various conditions such as changes in leadership, labor contracts, economic and political circumstances, and changes in capital providers. The Gary Years are defined by the amount of disclosure, the nearly unchanged disclosure format pattern during the period of leadership provided by Elbert Gary. The Transition Years are represented by the gradual changes from the format established by Gary, where the content is deemed to be more concerned with changes in leadership, the impact of the economy, i.e., the Great Depression, and how the company reorganized itself and the growing need to communicate about and to recognize labor unions. The
Voorhees/Tyson Years are represented by further notable changes in the Gary format, increased emphasis on reporting earnings rather than assets, the use of photographs and color graphics to inform users, and the use of the annual report as a public relations document to counter emerging federal government policies. The Evolution Years are distinguished from previous eras. At this time, the annual reports begin to take on modern attributes and form such as Management Discussion and Analysis and, a formal cash flow statement, reflecting the vast changes US Steel was making in its business model to address the challenges of the steel industry in a globally competitive market. The Cost-Effective Years are differentiated when US Steel made a unique change in reporting style. In 1992, the company introduced its “Cost Effective Annual Report” eliminating all pictures, graphs, and color materials. It was also printed on less expensive paper. Essentially, the report is an SEC Form 10-K. Although the explicit use of a 10-K \textit{per se} did not begin until 2004, it is a forerunner for the current practice by many corporations to satisfy their annual reporting process to shareholders by issuing a “wrap-around” document where they “wrap” three to four pages of company public relations information around the 10-K.

The remainder of this chapter will explain how these conditions reflected changes in US Steel’s disclosure practices. As with any historical study, one must be aware of “present-mindedness,” defined as “the habit of reading into the past our own modern ideas” (Barzun and Graff, 1977). The study attempts to understand what was influencing the firm’s practice during its own time period. A potential benefit of traditional content analysis is to assist in achieving such historical objectivity.
3.1.3 Summary

This chapter will identify disclosure patterns of US Steel reports, uncover unique disclosure practices, and attempt to explain why the reporting practices of US Steel have changed over the period. Contrasting at the extreme, the first report in 1902 and the 2006 report demonstrate differences in content and approach. To identify and understand the eras of this repeating evolution, differences and patterns will be recognized and explained.

3.2 Enhanced Financial Reporting: The Gary Years (1901-1926)

The Gary Years era is defined by the man for whom it is named: Judge Elbert Gary. He was one of the dominant forces behind the formation of the company and served as Chairman of the Board throughout the era. Explaining the first annual report’s disclosure policies, Gary said, “corporations cannot work on a principle of locked doors and shut lips” (Greidinger, 1950, pg. 4). Knowing that the size of the US Steel merger would garner public scrutiny, Gary directed US Steel to provide a more complete example of corporate performance information.

3.2.1 Format of Report and Descriptive Statistics

The initial report for the fiscal year 1902 is exemplary, setting a pattern in terms of comprehensiveness, length, and detail. The first report, at forty pages, consists of the following sections:

- List of corporate directors and corporate officers
- Letter to the Shareholders of the Company
- Audit Certificate
- Financial Statements of the Corporation
  - Condensed Balance Sheet
  - General Profit and Loss Statement
The organization of these early reports was consistently maintained throughout the era. In 1903, an additional one-page section was added which detailed the expenditures on construction projects and replacement equipment; this addendum was included in each report, except for a brief omission between 1918 and 1923.

Another distinctive section of the era’s reports was the “letter to the shareholders.” In 1902, it spanned nineteen pages, and comprised more than half of the report. This section contained extensive detail about the operations of the firm. It is much more descriptive than contemporary 21st century “letters.” The letter contained information such as:

- Discussion of Income for the Year
- Discussion of the Undivided Surplus (Retained Earnings)
- Quarterly Profit Information
- Capital Expenditures
- Depreciation Schedules
- Corporate Owned Bond Schedule
- Description of the Balance Sheet
- Sales Volume
- Production Volumes
- Inventories
- Capital Stock
- Corporate Issued Bonds and Mortgages
• Short-Term Liabilities
• Property, Plant and Equipment
• Purchase of Union Steel and Sharon Steel Companies
• Employees and Payroll
• Employee Subscriptions to Preferred Stock
• Number of Stockholders
• Production Orders
• Corporate Organization

The chairman’s letter was the predominant section of the annual reports during the Gary Era. The letter averaged 24 pages, and was as long as 31 pages. The letter essentially maintained the same sections in the era with some adjustments; however, the key aspects upon which the letter was focused were: 1) earnings potential; 2) productivity; 3) capital structure; 4) inventories and long-term assets; 5) depreciation and future capital expenditures.

Another important aspect of the Gary era reports is the use of charts and tables to display information about the firm rather than narrative text. There are no photographs or pictures within the reports of the era. In 1902, photographs were supplied in a twenty-two page appendix entitled, “Views of Representative Properties,” which displayed images of subsidiary factories, ore mines and milling pits, ore docks, and railroad cars. Even though they had the ability to produce imagery, all of the reports were limited to presentations in either text or tables which discussed the performance of the company.

As noted in Table 1 below, it appears the report’s narrative style seemed to meet the needs of a dominant individually owned shareholder community. In these early years, individual shareholders dominated the equity class. Institutions owned less than 25% of.
the outstanding shares. Table 1 summarizes the format “norm” for these Gary Era reports:

[Insert Table 1 here]

During this era, the annual report was as long as 56 pages, and averaged approximately 52 pages. Comparable companies did not provide such lengthy or detailed comprehensive reports. General Motors’ reports were between 14 and 18 pages in length. DuPont’s reports ranged between 9 and 12 pages, but balloon to 30 pages in 1918. The National Biscuit Company’s reports during this era were less than ten pages each. The reports for Sherwin Williams between 1910 and 1919 were each three pages. Finally, Standard Oil (of California) had a one page annual report in 1911 containing an eight line balance sheet, and in 1919 the report expanded to 2 pages with a balance sheet and one page of narrative discussing the activities of the firm.

Furthermore, US Steel used extensive charts and tables to discuss the financial condition of the firm rather than narrative. They included extensive charts on the plant assets of the firm, detailed financial statements (including an income statement and statement of working capital), and constantly used quantitative information to support the explanations in the President’s letter.

3.2.2 Distinctive Features of the Reports

US Steel appears to have established a higher level of public disclosure by providing monthly sales disclosures in trade publications. They also advocated a model of a fully consolidated 1902 annual report combining parent and individual company
reports into the total amount for the consolidated entity. Often others disclosed only the parent company amounts.

The sheer consolidated size of US Steel raised public concerns. Many declared that the company’s capital structure consisted of “watered stock,” that is, that stock was nominally overstated and more shares were issued than were equal to the “value” of the firm. President Theodore Roosevelt, an announced trust buster, had already attacked Morgan’s railroad trust in the Pacific Northwest. Roosevelt’s attorney general, Philander Knox, may have been able to use his knowledge of the company, having been the general counsel for Andrew Carnegie, to assist US Steel to develop patterns which would satisfy public concerns. Gary has attempted to counter these concerns about public and government scrutiny. He felt one of his proudest accomplishments was “helping to introduce the present system of candid publicity into corporate affairs.”

(Apelt, 2000) In one of his last interviews, Gary said:

“The people have a right to know how the people’s business is being carried on. And the more they do know about it, the better it will be for business. Big business, like human life, cannot thrive properly in the dark.” Apelt, 2000 Pg. 132

His concern was verified by the disclosure in the 1911 annual report at the end of the Chairman’s Letter that US Steel was being prosecuted as an illegal trust by the United States government. US Steel was vindicated by the United States Supreme Court in 1920.

The “First Annual Report of the United States Steel Corporation” appeared for the fiscal year ended December 31, 1902. The construction and audit of these financial reports for the company were likely overseen by Arthur Lowes Dickinson of Price, Waterhouse & Co. (PWC) Dickinson detailed the reporting for large-scale multi-
divisional firms in his paper, “Profits of the Corporation,” presented at the 1904 World’s Fair in St. Louis, Missouri.

This consolidated report is one of the very first to provide the financial returns of a consolidated firm. Previously, trusts would report on the individual performances of each company within the combined organization. However, given its size and the public scrutiny, US Steel presented the financial performance of the entire firm to represent its economic earning power to their shareholders.

Throughout this era, the Letter to the Shareholders is the signature element of the Gary reports. The letter extensively details the annual affairs of the company, and remained consistent in content and form throughout and usually closed with a version of the following statement:

“Grateful appreciation is expressed for the loyal and efficient services during the year of the officers and employees of the Corporation and of the several subsidiary companies.”

Another distinctive development and feature in these reports was the publication of a certified audit report from PWC. This six paragraph letter stated:

“We (PWC) examined the books of the US Steel Corporation and its Subsidiary Companies for the year ended December 31, 1902, and certify (emphasis added) that the Balance Sheet at that date and the Relative Income Account are correctly prepared therefrom.”

PWC also examined the “Properties Account,” and the provisions for depreciation and bad debts, the inventory value, analyzed the cash accounts, and certified the balance
sheet and the income statement are fair and show the correct financial position of the firm. This level of auditor assurance appears to be unprecedented for U. S. companies.

In addition to providing a balance sheet in the financial statements, US Steel was one of the few companies during this period to produce an income statement for each year of its existence (Vangermeersch, 1979). Most companies provided the balance sheet; however, a statement of income was not yet customary. US Steel emphasized the earnings of the entire firm, and thereby provided support that the purchase price for the assets had not been excessive, and the stock was not “watered.”

Along with inclusion of the income statement in 1902, US Steel produced a report entitled, “Summary of Financial Operations of All Properties,” which resembles the Statement of Working Capital later to be followed in corporate reporting. This statement would eventually evolve into a statement of cash flow for US Steel, as in future years, the company would attempt to emphasize corporate cash flow as an additional signal of corporate performance along with earnings.

3.2.3 Previous Acknowledgments

As noted above, the criticism of the capital value of the firm was a public concern. To counteract it, George Perkins, the first Chairman of the Finance Committee, began to publish monthly sales data in business trade publications, such as The Wall Street Journal, providing public and timely information about the firm’s earning potential and productivity, and thereby its value. This was applauded in the business press. The editors of The Wall Street Journal observed US Steel’s leadership role as follows:

“The United States Steel Co. is one of the industrial corporations which has adopted the practice of giving monthly reports of profits, and it recently published an excellent statement covering its income account for six months. . . The policy of the company in this respect is
important, not only in its bearing upon stockholders of the Steel Co., but as showing that the largest industrial corporation in the world is able to compile a statement of profits within a reasonable time after the end of each month. If the Steel Co. with its enormous businesses can do it, it is absurd for smaller corporations to say that they cannot.” -- The Wall Street Journal, November 27, 1901.

The company enhanced this practice when they distributed their first annual net earning announcement to trade publications on April 1, 1902. The Wall Street Journal published the monthly sales for the entire first year of US Steel’s existence from March 1st, 1901 to February 28th, 1902. In the first year of operations, the company reported over $111 million in revenues. This amount was much greater than the predictions by critics and a skeptical public. One article projected the combined revenues of the new company, based upon the previously reported sales of the individual companies would approach $77 million (The Wall Street Journal, March 2, 1901). US Steel’s performance seemed to justify J. P. Morgan’s investment, and Charles Schwab’s belief that a unified, vertically integrated firm could generate more revenues and profits than multiple firms competing in the same arena.

George O. May, then emerging as the successor to Dickenson at PWC, also felt that the level of corporate disclosure demonstrated by US Steel was important to corporate responsibility to its shareholders. He wrote, “All authorities will probably agree that the first full report of the United States Steel Corporation, which was for the year ending December 31, 1902, was a landmark in the history of this development.” (May, 1943, pg. 54)

Rosen and DeCoster (1969) cite US Steel’s Summary of Financial Operations report as was an important influence on the future works of popular text author, Harry A. Finney, and a model for corporate funds statements produced thereafter.
3.2.4 Conclusion: The Gary Years

US Steel’s corporate reporting practices were path breaking. They expanded the financial reporting practices of the time for what appear to be pragmatic, as well as, socially-responsible reasons. While it may be that US Steel provided information to deflect public criticism, it is also important to recognize the motivation from the sound ethical value of stewardship which Elbert Gary brought to the firm. He believed it was the obligation of the company to provide full disclosure to the shareholders of the firm. His ethical beliefs, which he entitled “The Gary Rules”, are still observed within US Steel today. The Gary Rules are as follows:

- I believe that when a thing is right, it will ultimately and permanently succeed.
- The highest rewards come from honest and proper practice. Bad results come in the long run from selfish, unfair, and dishonest conduct.
- I believe in competition . . . that the race should be won by the swiftest, and that success should come to him who is most earnest and active and persevering.
- I believe that no industry can permanently succeed that does not treat its employees equitably and humanely.
- I believe thoroughly in publicity. The surest and wisest of all regulation is public opinion.
- If we succeed as businessmen we must do it on principles that are honest, fair, lawful and just.
- We must put and keep ourselves on a platform so fair, so high, so reasonable, that we will attract the attention and invite and secure the approval of all who know what we are doing.
- We do not advocate combinations or agreements in restraint of trade, nor action of any kind which is opposed to the laws or to the public welfare.
- We must never forget that our rights and interests are and should be subservient to the public welfare, that the rights and interests of the individual must always give to those of the public. (Apelt, 2000, pg. 53)

It seems appropriate to conclude that this era of financial reporting was defined by a belief in stewardship as espoused by Gary to communicate to the individuals who constituted the vast majority of shareholders. (See Table 1)
3.3 Regulatory Financial Reporting: The Transition Years (1927-1937)

Judge Gary had been the chairman of the board since 1903 and chair of the finance committee since 1906. While his death in 1926 affected the firm, the legacy of his practices would continue to guide the company. After Gary’s death, “Jack,” the son of J. Pierpont Morgan, emerged as the chairman of the board; however, the company would be most influenced during this period by Myron Taylor, who initially assumed the chairmanship of the finance committee, and became chairman of the company in 1932.

During this era, the reporting practices of US Steel tended to follow the practices established under Gary. However, the firm, also was in transition, coping with the crisis of the Great Depression, answering demands for union organization, and examining the internal structure of the firm and its production processes.

3.3.1 Format of Report and Descriptive Statistics

As stated, the annual reports maintained much of the same structure as under Gary. Additional information provided included a listing of the products provided by the subsidiary companies of US Steel. In the first few years of disclosing this information, the section was four pages of text listing the approximately 100 product lines from their fifteen subsidiary firms. However, when Taylor took over as chairman, this section was reduced to a one page “advertisement” with a new font and the added appearance of the US Steel logo.

Graphically, the reports stayed true to the text and chart formats established under Gary, with a few exceptions. In 1931, double lines were added to the cover as a border. In 1932, a US Steel logo was included on the cover, and a new font type and size was introduced, and in 1937, the cover included a three-lined border around the entire cover, a
new font, and the US Steel logo. Table 2 describes the average format of the reports during this era as well as the composition of institutional shareholders in the firm:

[Insert Table 2 here]

As Table 2 demonstrates, the largest change in the format of the annual reports in this era from the Gary Era is the decrease in the average length of the reports from 52 pages to 40 pages. This change is due to the increased use of charts and tables to present financial information rather than text. While US Steel did introduce a visual component, such as a logo, they continued to rely upon text and tables to present corporate information rather than using photographs or graphical images to convey their message.

3.3.2 Distinctive Features of the Reports

Despite the loss of Gary’s leadership, the company carried on his stewardship orientation of robust corporate reporting and using the same annual report formats to the majority of individual shareholder constituents. (See Table 2) The reports contained the same key sections, and detailed the same types of information in the President’s Letter. The leaders during the period—J. P. Morgan, Jr. and Myron Taylor—dedicated their efforts to internal reviews of the company’s operational structure, rather than changing the company’s external reporting function.

However, minor amendments were made over the period. As noted, some were cosmetic changes. In the 1931 annual report, they added a border to the cover of the annual report, and in the 1932 report, they changed the font for the first time in thirty years, and added the US Steel logo to the front cover of the report.
During the years of the Great Depression, the reports became shorter in length perhaps to save costs, and in the 1935-1937 reports, graphics were used on the last page of the reports to highlight the company products.

Possibly in response to the Securities Acts of 1933 and 1934, which introduced another complete set of reports required of publicly traded companies, the covers of 1936 and 1937 reports contained a disclaimer, which read:

The following report has been prepared and is distributed solely for the purpose of furnishing financial and statistical information. It is not a representation, prospectus, communication or circular in respect to any stock or other security of the United States Steel Corporation or any other corporation. It is not distributed in connection with any sale or offer to sell or buy any stock or other security now issued or hereafter to be issued, or in connection with any preliminary negotiation for such sale. – US Steel Annual Report, Cover, 1936

Filings with the SEC would be at first a compliance experience, reporting to the government, in contrast to the thirty-year tradition of management communicating with individual owners. However, these parallel reporting regimes would, over time, begin to both compete and complement one another as the type and amount of capital providers changed.

Due to the effects of the Depression, Taylor was very concerned about controlling costs and also modernizing the operations of the firm. He hired consultants to examine all aspects of the firm from production facilities through and including the levels of management. Beginning with the 1933 report at the end of the President’s letter, Taylor mentioned:

While present indications point toward a larger volume of business in 1934 than in 1933, the problems which confront the industry call for careful planning and united cooperative effort by the entire organization. The Corporation is appreciative of the fact that its personnel in the
administrative, sales and operating branches of the business are cooperating to the fullest extent in the effort to bring about a return of more prosperous conditions. – US Steel Annual Report, 1933, pg. 12

However, it was not until 1935 that Taylor acknowledged that a consulting firm had been engaged in the analysis of the company’s organizational and operational structure. In the 1935 report, he discloses:

In order to reassure itself with the results of these investigations and plans, the Corporation engaged Ford, Bacon & Davis, Inc., and a number of other specialists, to cooperate along broad lines with the staffs of the Corporation and subsidiary companies. This work is being energetically pursued in order that the management and the stockholders may be assured that the Corporation will be in a position most fully to realize its opportunities in the period of general business expansion which is anticipated for the future. – US Steel Annual Report, 1935, pg. 12

Beyond the rationalization of the company’s operations, Taylor’s other major challenge during this period was managing the company’s relations with the workers. Under Gary, US Steel strived to maintain effective, positive and proper relationships with the workforce based upon the Gary Principles; however, the company never recognized the collective bargaining power of the unions. To counter criticisms over unfair labor practices, US Steel had a long history of disclosing employee and payroll information. US Steel disclosed workforce information such as number of employees, the total payroll, the level of pension contributions, employee group life insurance policies, accident protection expenditures, and housing and welfare relief. In the 1937 report, US Steel acknowledged the work force’s right to bargain collectively with US Steel. Under the Employe(e) Relations section of the 1937 report, this was announced as official US Steel policy:

The Company recognizes the right of its employees to bargain collectively through representation freely chosen by them without dictation, coercion or intimidation in any form or from any source. It will negotiate and
contracts with the representatives of any group of its employees so chosen and with any organization as the representation of its members, subject to the recognition of principle that the right to work is not dependent on membership or non-membership in any organization and subject to the right of every employee freely to bargain in such manner and through such representatives, if any, as he chooses. – US Steel Annual Report, 1937, pg. 7

3.3.3 Previous Acknowledgments

The reports from this era have not been studied or noted as extensively as the reports of the previous era. However, Claire (1945) and Vangermeersch (1970) both identify notable changes in the reports from 1937 to 1938 to 1939 in reporting style and orientation, and changes which signal the departure from the model established by Gary. Both writers note the use of color and pictures in future reports after this era, and note the change in report orientation from a balance sheet to an income statement orientation.

Other writers identify a significant part of this era with the contributions made by Myron Taylor and his leadership during this turbulent time. His decision to bring in the consultants—known by all US Steel employees as “the engineers”—to analyze every aspect of the business has been recognized as helping pull the company through the Great Depression. The consultants billed the company $3 million; however, the cost savings from their decisions were estimated to be $7.7 million annually (Apelt, 2000).

Taylor’s last speech at the shareholder’s meeting before retiring described the challenges US Steel had faced in the last decade he had been involved with the management team. Apelt described the speech as:

His last message to shareholder’s came in the form of an extraordinary document, a summary of Taylor’s stewardship and the company’s activities during his 10 years at the helm. It was a showcase for Taylor’s talents as a communicator—an engrossing history of US Steel during the Taylor decade, and a remarkably lucid lesson in economics. – Apelt,
3.3.4 Conclusion: The Transition Years

This era is characterized as another period of stockholder stewardship reporting continuing on from the long service period of Elbert Gary through the turbulent times of the Great Depression to the emerging era brought about by consultants’ studies and a new labor relations environment. The constant force through this era was the leadership of Myron Taylor, first as the Chairman of the Finance Committee, and finally as the Chairman of the Board. His leadership and foresight to streamline and modernize the operations of US Steel brought the company through the Depression and prepared the firm for the upcoming demands of world war. One of his final contributions to US Steel was to bring a brilliant financial mind from competitor Johns-Manville by the name of Enders Voorhees. Voorhees became chair of the finance committee the next year, and would become one the most influential leaders in the history of US Steel (Apelt, 2000).

3.4 Progressive Financial Reporting: The Voorhees/Tyson Years (1938-1969)

This era is defined by a significant turn from the legacy reporting practices established under Gary, and continued by Taylor, as the chairmen of the finance committee and the board. While there were prominent chairmen of US Steel during this era, e.g. Irving Olds, Benjamin Fairless, and Roger Blough, the annual report format and content represent the leadership and values of the two chairs of the finance committee—Enders Voorhees and Robert Tyson.

Voorhees established (and Tyson continued) progressive financial reporting practices in the company’s annual reports. The reports of this era are exemplified by an increased use of photographs and graphical images to present the firm’s performance, the
introduction of color, and following the proposals of the National Association of Manufacturers (NAM) study, to make annual reports *more understandable as communications to the average shareholder* (emphasis added). It became the annual financial summary of the firm written by the finance chair and was used as a the “bully-pulpit” for the company to present the proprietary/stewardship views of the business to contrast government and union policies.

### 3.4.1 Format of Report and Descriptive Statistics

The first year of the Voorhees era, 1938, the report did not change much from previous years; however, in 1939, US Steel’s annual reports undertook a dramatic and distinctive change in structure and appearance. In response to the NAM study’s call for the personification of annual reports, US Steel embraced the study’s recommendations fully. Starting with the color cover of the report, US Steel changed the appearance of its corporate reports. The fonts were larger and included cursive italics. Sketches were used as highlights on pages to represent the topics being discussed, e.g., drawings of factories when discussing production levels, images of books and gavels when discussing taxes, or stock certificates when discussing stock ownership. Table 3 highlights the change in communication emphasis in US Steel’s reports and the relative proportion of share ownership:

[Insert Table 3 here]

While the number of pages and the use of text versus visual presentation remained equivalent, the manner of presenting visual information was altered. US Steel had
previously employed visual formats to present information; however, it was predominantly through detailed charts.

Following the NAM recommendations, the company began to present the firm through photographs to show corporate properties and colorful graphic images describing firm performance. In addition to visual content changes, the structures of the reports also were changed. First, the tradition of providing pages of charts detailing the companies’ plants, mines and railroads was ended. Second, in 1943, notes to the financial statements were first provided. Third, and most importantly, Voorhees (with Tyson continuing) redirected financial information about the firm from the chairman’s letter to a report from the finance chairman. These reports were initially titled “Financial Highlights,” then “Financial Summary,” and finally, in the last years under Tyson, “A Message from US Steel.” Regardless of the title, these sections were a distinctive change in the structure of the US Steel annual reports.

3.4.2 Distinctive Features of the Reports

The most significant change in the reports appeared with the adoption of the NAM recommendations regarding best practices in corporate reporting. Drawings were used to detail the different sections of the report. Also, sketches depicting the steel making process were used to illustrate the process in “plain language.” The NAM study insisted that corporate reports needed to be oriented to the employee-workers and small investors. That study concluded that most annual reports were a collection of long narratives and complicated charts which were only understandable to the preparers at companies that created them. NAM called for more personable reports which utilized simple charts and graphics which could be understood by all investors. Also, given that
this report was developed during the Depression, companies which seemed to be prospering while so many were suffering drew added public scrutiny. NAM recommended that the charts clearly show where the monies collected by revenues were distributed, especially to workers in the form of wages and the government in the form of taxes. US Steel (and Voorhees) adopted these recommendations. Throughout Voorhees’ service as the chairman of the finance committee, his reports used charts and graphs demonstrating how many people US Steel employed as well as how much the company paid in taxes to the government. Tyson continued this practice under his tenure and the graphs were made more professional looking, while remaining clear and understandable.

Another graphical advancement made during this era was the use of glossy photos both in the report and on the cover. The 1941 report made intentional use of a photograph on the cover and also within the body of the report. Photographs would become more prominent through this era. Photos of workers, new products, new plants, and production methods were used to highlight the investment in the American worker and to the infrastructure of the country. The images expressed the strength and vitality of the company and its importance to America.

By the 1945 report, Voorhees (and Tyson afterward until 1969) had altered the structure of the reports from the Gary format. The sections of the Voorhees-Tyson reports were:

- Table of Contents
- President’s/Chairman Letter
- Financial Statements
- Notes to the Financial Statements
- Independent Auditor’s Report
- Management Information
While the President’s/Chairman’s Letter was still a significant part of the report, averaging over nineteen pages and containing key information about the company, Voorhees and Tyson used the Financial Summary as their vehicle for detailing the financial activities of the firm. These sections were used by them as economic lessons for the investors and as a sounding board to confront continuing criticism from the growing voice of the labor unions and the federal government. The sections would often start with a “splash page” which contained a table or graphical chart detailing an aspect of US Steel’s costs and revenues, and then the essay would address matters of public interest regarding US Steel. Through these essays, Voorhees and Tyson attempted to explain the real costs of the firm (for example wage increases through real and benefit plan costs) and the flat level of revenues due to government price controls.

In these essays, war and post-war topics such as rising labor costs, accelerated depreciation, price controls, replacement costs, and benefit spending were discussed. They expressed US Steel’s concerns about government policies which reduced the investment performance of the firm, and the consequences to the steel industry if these issues were not addressed. These essays were an attempt to reach out to the shareholders and the investing public to explain US Steel’s version of the financial performance of the firm, and warn of concerns about current government industrial policy. US Steel’s management felt the company (and the steel industry) were vital to the American economy, and that this industry was threatened by cost structures and inflation—focusing upon a new interpretation of nominal versus real earnings.
In addition to detailing the potential troubles from rising costs and fixed revenues (due to price controls), Voorhees and Tyson attempted to explain the differences between net income and cash flow to the firm. In the 1949 report, Voorhees wrote an essay entitled, “The ‘Pot of Gold’ Fallacy.” Voorhees dispelled criticism that since US Steel made “profit” that they could afford higher pay scales for labor. He began this essay by stating:

There is a basic misconception of the meaning of accounting terms that is serious and widespread. Thus many people have been led to believe that the amount by which corporate income exceeds dividends—so-called undistributed profit—represents a stagnant pool of cash purchasing power, a “pot of gold,” that has been “siphoned off” from the public. This is not true. It is a myth. The myth, nevertheless, becomes the basis for supporting there is some sort of social responsibility to get the supposed “pot of gold” restored to the country’s purchasing power flows.—US Steel, 1949 Annual Report, pg. 23

To highlight this misconception, Voorhees utilizes a direct-method cash flow statement (possibly the first “modern” cash flow statement to appear in a corporate annual report), to demonstrate that while US Steel generated $84.6 million in profit, the company actually had a cash operating deficit for the year of $44.1 million which was met by the sale of $29.1 million in government securities and a decrease in their cash accounts by $15 million. US Steel was constantly engaged in educating key constituencies and addressing the lack of understanding about profit and funds that have already been reinvested in the business throughout the year.

For the 1953 essay entitled—Shareholders Report the Facts—US Steel surveyed their approximately 280,000 shareholders (nearly 140,000 shareholders responded) to discover if the shareholders paid state and/or federal income taxes, what federal tax rate they paid, their range of family income, and other demographic information. This survey
was conducted to explain to their shareholders about the “double taxation” of dividends paid by corporations and their shareholders. In the essay, Voorhees describes the effects of double taxation on dividends:

In 1953 US Steel, in order to have 41 cents of income, had to pay 59 cents in Federal income taxes. In other words, out of each dollar, potentially available for dividends, 59 cents went to income taxes. The remaining 41 cents, when paid out in dividends, was then subjected on the average, as previously noted, to a personal income tax diminution of 21 per cent, equivalent to 9 cents. This left a net of 32 cents out of the original dollar. By this process of double taxation the Government, therefore, claimed 68 cents of the potential dividend dollar. – US Steel 1953 Annual report, pg. 24

The reason US Steel considered taxation on dividends of great concern was that a significant majority (56%) of their shareholders made less than $5,000 per year, whereas only 10 percent of their shareholders made more than $25,000. These dividends represented a significant income stream for their shareholders, and through their taxing policies, the government had the potential to eliminate the incentive for shareholders to invest the much needed capital in corporations such as US Steel.

In the 1958 annual report, Tyson also utilized a form of the direct method cash flow statement at the beginning of his financial summary. In his essay entitled “Profits—Their Function,” Tyson detailed how US Steel employed their “profits” by reinvesting into the business throughout the year in the form of new facilities and repairs, by dividends to investors, and how inflation affects profits. His cash flow statement was an eleven year (1948-1958) description of the cash flows of US Steel. His report details that during the period US Steel had $41.344 billion in revenues, but had an overall cash deficiency of $730 million over the same time. This deficiency was met by $750 million in proceeds from sales of US Steel bonds, common stock, and property.
Tyson closed his essay by comparing the American economy and the Russian economy. He stressed the values of capitalism and the competitive decisions of free men. He said:

Our system rests on its provisions of opportunity for free men to benefit themselves by saving and investing, but only if in so doing they serve the public’s economic interest. If the benefits from doing so are removed, then progress must stop, unemployment arise and government compulsion replace the voluntary decisions of free men.

A profit and loss system can be practiced only by free men. They cannot sacrifice that system without sacrificing their freedom. – US Steel, 1958 Annual Report, pg. 29

In 1968, his last year, Tyson discussed what he believed to be the biggest challenge to be faced by US Steel in the coming years—International Competition. He challenged the virtues of “free trade” and its ability to be an economic ambassador for peace. He did this to highlight the point that while America was practicing free trade, the rest of the world still had vast protectionist trade policies and significant advantages over domestic firms, especially in wage costs.

He describes international competition as an iceberg. On the surface, international trade did not appear to be significant when compared to rising domestic business. However, under the surface, international trade—especially with foreign aid and military expenditures abroad—has a growing net trade deficit since 1949.

In Tyson’s view, the greatest reason for the increase in international competition in the steel industry was labor costs. He describes the rapidly rising wage costs in the United States that created an ever-widening wage gap between U.S. and international firms, such that in 1967 the average U. S. employment costs were $3.75 per hour, while
in Western Europe the costs averaged $1.60 per hour, or a gap of $2.15. Based upon this information, Tyson stated on behalf of US Steel:

   Therefore, US Steel believes that **nothing lasting will be done about import competition in America until something lasting is done about wage inflation in America.** (emphasis author’s) – US Steel 1968 Annual Report, pg. 36

   This was another way of expressing the stewardship view for which the management of US Steel believed they were accountable, as leaders in a strategic industry.

   Also, during this era, US Steel became an early advocate of two new accounting practices designed to address inflationary circumstances: last-in, first-out (LIFO) inventory valuation and a replacement cost depreciation method for plant assets. In 1941, US Steel first applied LIFO to some of their inventories. This method was later expanded to all facilities in 1947.

   Due to high inflation, especially following World War II, US Steel regarded accelerated depreciation as an appropriate method for allocating the cost of long term assets due to their significant replacement costs. Even though accelerated depreciation was not an accepted practice by the federal government for tax purposes, US Steel argued for its use in the presentation of their annual reports. In the 1947 report, the note for “wear and exhaustion of facilities,” included this disclosure:

   Wear and exhaustion of facilities of $114,045,483 includes $87,745,483 based on original cost of such facilities and $26,300,000 added to cover replacement cost. The added amount is 30 per cent of provisions based on original cost, and is a step toward stating wear and exhaustion in an amount which will recover in current dollars of diminished buying power the same purchasing power as the original expenditure. – US Steel, 1947 Annual Report, pg. 33
In the 1947 independent auditor’s report, Price Waterhouse’s policy differences were expressed as to both the increased use of LIFO by US Steel, and the application of replacement cost depreciation. The last paragraph of the audit opinion letter stated:

In our opinion, except as set forth in the preceding paragraph, the accompanying consolidated statement of financial position and related statement of income, together with the notes thereto, present fairly the position of United States Steel Corporation and its subsidiaries at December 31, 1947, and the results of the year’s operations in conformity with generally accepted accounting principles. Except as indicated in the two preceding paragraphs, [Author Insert: The two preceding paragraphs discussed US Steel’s LIFO and depreciation disclosures.] the accounting principles were applied during the year on a basis consistent with that of the preceding year. – Price Waterhouse, 1947 US Steel Annual Report, pg. 34

Both the accelerated depreciation and the LIFO applications by US Steel further differences between book and taxable income for the company.

3.4.3 Previous Acknowledgments

In his research, Claire (1945) first noted the shift in orientation in the 1939 US Steel annual report from their previous reports. He noted a change in the target audience from only shareholders to shareholders and US Steel employees due to the “use of color, increased attention to layout, and more vivid presentation.” Claire said this new style of report was “something everyone could understand and something in which both owner and employee had an interest.” US Steel streamlined the presentation of their income statement to emphasize the earning potential of the firm, and they eliminated many extemporaneous details from the balance sheet, such as detailed information on their plant assets. He concluded that the changes US Steel made to their reports and financial statements after 1938 improved the “clarity and understandability” of the reports “by eliminating unimportant detail and by avoiding terminology which was often confusing.”
Vangermeersch (1970) highlighted the influence of the NAM study on the reports of US Steel and their attempts to “humanize” their reports and emphasize the distribution of corporate funds to workers and in taxes.

Inglis (1974) wrote about his years as the engagement partner on the US Steel account for Price Waterhouse (PWC), reflecting his confrontation with the PWC Accounting Procedure Committee over US Steel’s desire to use supplement depreciation methods in 1947. He says:

I had a fight on my hands on that subject with May, Brundage, Grady and several other partners for many years, but we remained good friends and agreed to disagree. I believe they regarded me as a rather thick-headed person who could not or would not see their point of view.—Inglis, 1974, pg. 111

3.4.4 Conclusion: The Voorhees/Tyson Years

During this era, the US Steel reports changed from the Gary model of balance sheet focused stewardship reporting to an earnings and shareholder advocacy approach. The adoption of the NAM recommendations “humanized” the reports and provided corporate information in a more personable style that could be easily understood by the general public, and the Voorhees and Tyson financial summary essays which exposed what they believed to be the poor public policy decisions of labor unions and the federal government were indicative of their stewardship beliefs. The reports of this era advocated a shareholder view as to US Steel practices and policies. In this era, the reports were focused upon educating the broad investing public rather than deflecting the government’s concerns over the size and power of US Steel within the U.S. steel industry.
Additionally, the company’s emphasis on earnings potential and cash flow proposed to explain an alternative way to analyze the firm. Even though under the Gary model an income statement was always included, the reports also were oriented toward the plant assets and properties of the firm. In Voorhees/Tyson era, the company gave primary focus to the earning potential of the firm and how much the company distributed to its workers through salaries and fringe benefits, to the government through taxes and to the economy through investment in new facilities. The essays by Voorhees and Tyson addressed the company’s position regarding competition internationally, rising costs and issues regarding covering the cost of capital. Rising labor costs and price controls raised concerns about the company’s ability to cover the cost of capital. Lacking sufficient capital US Steel was not able to reinvest in new technologies which rebuilding European and Japanese firms were able to do. As a result, US Steel’s long-term productivity was harmed during this period due to these factors. These reports thus also advocated the benefits investment in US Steel provided to the American economy and its importance to labor and to the country.


During the 1970s and 1980s, US Steel as a firm continued to adapt and change. It was facing lower sales due to increased competition from foreign steel producers, rising labor costs and declining production efficiency. These transition concerns were presented in their annual reports. After the retirement of Tyson, the annual reports were once again subjected to new format and content. They began to develop into a “modern” form of a standardized annual report, decreasing the significance of the President’s letter, emphasizing the specifics of mandated filings such as Management Discussion and
Analysis (MD&A), providing increased emphasis on cash flow rather than income, and emphasizing the firm’s performance across multiple segments of business rather than as a steel producer.

3.5.1 Format of Report and Descriptive Statistics

Beginning in 1969, the annual reports of US Steel begin to assume the form of a general public relations document rather than a report and a tool for the shareholders. The most dramatic change was the curtailing of the Chairman’s letter. Since the beginning of US Steel, the Chairman’s letter averaged nineteen pages, but in 1970, US Steel introduced a Chairman’s letter containing two pages. Table 4 indicates how US Steel utilized graphics to communicate the performance of the firm and the average and growing composition of institutional shareholder groups:

[Insert Table 4 here]

These reports expanded the use of graphics to present the financial condition of the firm, and greatly expanded the use of photographs to highlight different aspects of the firm. This is what contemporary investors regard as a corporate annual report—a glossy, publicity document highlighting the positive aspects of the firm through visual imagery and limiting much of the financial information to common styled-traditional tables and pie charts. Another change in this era of reports was their length. The average length appears much greater than the prior period. This increase is due to the length of the annual reports after the 1981 acquisition of Marathon Oil during the company’s “expansion” period. The annual reports only had an average length of about 43 pages from 1970 to 1981; however, from 1982 to 1990, the average length of the reports
expanded to more than 62 pages. Much of the additional information in these pages reflects mandates from authoritative standards which were addressed in the Notes to the Financial Statements and increased reporting of Segment Information both of which represent the increased use of non-numerical language to supplement the financial statements, which beginning in the 1980s, were “packaged” identically whether in the annual report or the SEC Form 10-K filing. The acquisition of Marathon (and later Dehli Gas Pipeline Corporation) added complexity to the reporting in the notes. The growing priority of the oil and gas businesses in a now “conglomerated” company caused US Steel to begin focusing more upon these other businesses and their financial performance rather than the traditional core steel business.

3.5.2 Distinctive Features of the Reports

Much of the detailed information which was formally contained in the President’s letter was now presented in a financial summary or “Year in Review” section which resembled today’s contemporary Management Discussion and Analysis (MD&A). This format was maintained until 1977 when US Steel began to describe this information in a section entitled Management Analysis of Segment Information. It was officially labeled as MD&A in the 1981 report. It could be noted however that US Steel had been disclosing such information throughout the century, but it had not been given the modern title, MD&A.

US Steel continued to place an emphasis on working capital. Throughout this era, they published a statement which focused upon working capital; however, it resembled (and began to evolve) into a statement of cash flows. In 1970, it was called the Summary of Financial Operations, and then in 1975 it became the Statement of Change in
(Consolidated) Financial Position. It was called this until 1988 when it was entitled a Statement of Cash Flows. However, even in 1984, US Steel began organizing the financial statement into the now familiar categories of operating, investing and financing activities. By their early and continued emphasis on working capital and cash flow, US Steel was identifying characteristics of these categories and on its reports, suggesting its awareness of the importance of such data to institutional investors, a rising force in the capital provider community.

While the essays of Voorhees and Tyson were no longer included in the reports from 1971 to 1977, US Steel voiced concerns about environmental costs, ceilings on steel prices, influx of international steel imports, and corporate capitalization costs. These commentaries would include two pages of graphics detailing the problems and text explaining what the government needs to accomplish for American businesses (and US Steel) to thrive. These essays were not as “blunt” as those under Voorhees and Tyson, but they were clearly advocating a position. This practice ended, however, in 1978, as the reports became more standardized, that is they presented increasingly a focus on mandated financial results of the firm.

During this era of reporting, as steel became less important to the company, the emphasis on the other segments of the firm took on importance. After the Marathon acquisition, the cover of the annual reports highlighted segments in steel, oil and gas, chemicals, resource development, fabricating and engineering, manufacturing, and domestic transportation. US Steel was no longer a steel company, it had evolved into a multi-divisional conglomerate. This transformation was signaled in 1986 when the
company changed its name to USX, and on the cover of the 1987 report, an oil-rig was solely featured.

3.5.3 Previous Acknowledgments

Most research studies examining this period focused upon the financial results of US Steel overlooking its corporate reporting policies. Perhaps this is unfortunate in that during this time, US Steel, it could be argued, also was establishing a pattern for 21st Century corporate reporting with the development of MD&A and their emphasis on segment information in their reports, in a manner responsive to the institutional investor community, which was taking on the dominant equity provider role. (See Table 4)

3.5.4 Conclusion: The Evolution Years

US Steel began this era as a large steel company struggling with steel prices, great influxes of international steel, and the growing call for better environmental practices. It ended the era with a new name (USX) and by being a small part of a large, multi-divisional conglomerate focusing upon oil and chemicals, as part of the entity which would take the company into the next century. Not only was the company evolving, but so were its corporate reporting practices. The company became more focused upon reporting to institutional investors as capital providers, using mandated general language and formats, as if to meet expected or standard disclosures which were mandated in the new financial reporting “standards” mode. This signaled a departure from the stewardship model of Gary-Voorhees/Tyson. During this change US Steel remained a leader in developing corporate reporting practices with their emphasis on working capital (cash flow), providing detailed information on segments, all en route to a more contemporary form of information which reflected not only statements but important
explanatory notes providing details to institutional and professional capital providers as users.


The final era in the history (1992-2006) of US Steel’s financial reporting practices is marked by further change in their disclosure was characterized by providing as its principal content mandated financial materials. In the 1992 annual report, US Steel introduced its “cost-effective annual report” presenting the financial reports of the conglomerate spanning the industries of the steel, oil and gas, and chemicals. The reports from this era were devoid of photographic images, graphs or charts and mirrored required and mandated information for submission to the Securities and Exchange Commission. In this manner, US Steel may yet again have been a harbinger of corporate reporting practices to come, in the fact that these reports resemble the “wrap-around” documents which are an emerging practice in the 21st Century where the company produces a few pages of public relations material about the company, and “wraps” them around their SEC Form 10-K filing document. This practice has gained greater acceptance by companies in recent years. In 2007, 55 companies, and in 2009, 64 companies, which comprise the Fortune 100 provided the 10-K or a wrap-around 10-K as the primary reporting tool for investors. By comparison, in 1992, there were three.

3.6.1 Format of Report and Descriptive Statistics

This era is also distinguished by a change in the company’s organizational structure. At the 1991 shareholder meeting, a break up of the USX shares into two distinct class of stocks was approved: steel (USS) and energy (Marathon and Dehli). This was a pre-arranged resolution to allow corporate investor, Carl Ichan, to sell out his
stake in USX (Apelt, 2000). Chairman Richard Corry supported this strategy for USX because of shareholder concern over the poor performance of the steel division compared to the energy divisions of the conglomerate.

The 1992 Annual Report was the first to reflect the new corporate structure. This report contained no graphical images or pictures. It was entitled “a cost effective annual report” to detail the financial performance of the three separate groups of USX: US Steel Group, Marathon Group and Dehli Group. Table 5 highlights how this new reporting style eliminated the use of graphics for tables and charts to report the financial condition of the firm and notes the institutional ownership composition for this era:

[Insert Table 5 here]

These reports had no photographs or images except for occasional small corporate logos placed in the reports. A majority of the content is expressed through financial reports and tables. There is limited non-mandated narrative to describe the financial condition of the firm. These reports resemble the information USX provided separately to the Securities and Exchange Commission in the Form 10-K filing, and further resembled the 10-K with regard to the average length of these reports in this era, increasing to over 88 pages from 51 pages in the Evolution Years Era.

3.6.2 Distinctive Features of the Reports

The greatest change in these reports was the disappearance of all photographs and graphical charts which had been a staple of the US Steel reports since 1939. The report consisted entirely of text and tables, a format consistent with SEC filings. On the second page of the report, US Steel declared the identity of this reporting era as follows:
A COST EFFECTIVE ANNUAL REPORT

Now that USX has three classes of common stock, we are publishing separate annual reports for the US Steel Group, the Marathon Group and the Dehli Group. Publishing three traditional reports with color photos and heavy paper would greatly increase the cost of our shareholder communications. Instead, we are achieving substantial savings by publishing three reports printed on light, recycled paper without photos. – US Steel, 1992 Annual Report, pg. i

While cost savings was a viable reason for the change in reporting, there is also an added plausible reason, i.e., the fact that given US Steel issued multiple classes of stock, the percentage of institutional investors had increased dramatically to over 80% of the common stock. This was a watershed event, a major shift in the composition of the company’s capital providers from individuals to institutions (See Table 5). Institutional investors were unlikely to show interest in glossy photos and heavy paper. They benefited from the mandated financial information provided by the 10-K and little else seemed likely to be cost effective to them, especially since the basic financial package of the 10-K and the separate annual report now were identical.

From 1992 to 2000, the reports maintain a constant format of providing two large sections. One section focused on the results of the US Steel Group (USS), and the second section presented the financial results of USX. The USS sections maintained the format of:

- Table of Contents
- The President’s/Chairman’s Letter
- Management Discussion and Analysis
- Financial Statements
- Notes to the Statements
- Management’s Report on the Financial Statements
- Independent Auditor’s Report
The USX conglomerate’s reports maintained the same format except for the exclusion of the table of contents and the President’s letter, and the addition of shareholder contact information at the end of the section.

In 2001, US Steel was spun-off from USX, and began reporting again as a separate company—US Steel. With this change, color photos reappeared on the cover and elsewhere; however, the same common sections of the reports were maintained. In 2003, US Steel made a change and published a true “wrap around” document as its annual report.

The interesting fact of this change in reporting style is that the new format resembled what is today becoming a common practice of producing a “wrap around document” to fulfill a company’s financial reporting requirements. As noted above (pg. 37), major corporations today have begun to use this wrap around more widely to cut down on financial reporting costs, just as US Steel had begun to do in 1992. Perhaps more importantly, this practice seems to be orienting its reports toward the need for impersonal, mandated material of a type suited for generic purposes, away from the NAM and stewardship models for reporting—previously employed to communicate with individuals as the predominant capital provider group.

3.6.3 Previous Acknowledgments

There has been little attention paid to the reporting of US Steel during this era, possibly due to the company’s poor financial performance in the 1990s and early part of
the 21st Century, and its diminished reputation as a fundamental corporation in the American economy.

3.6.4 Conclusion: The Cost-Effective Years

The production of the cost-effective report may have been done for cost savings; however, focus on standard mandated content is a recognition of the fact that the needs of US Steel’s ever growing community of institutional investor shareholders were, more likely and equally, met by such information as found in the 10-K, supplemented by some incidental cover material. Since the mid-1980s, institutional investors have been an increasing source of capital for US Steel and with the splitting of USX stock into three classes of stock, that number grew even more. US Steel was no longer an investment for its work force and the general public, but an element in the diversified and rapidly turned over portfolios of large institutional investors.

3.7 Summary and Conclusions

As has been detailed in the preceding sections of this chapter, five eras of US Steel’s financial reporting practices have been identified. The Gary Era was defined by the issuance of the first consolidated annual report and the extensive level of disclosure in the reports. Due to potential scrutiny from the public and the federal government, Gary believed the best response was open publicity. As a result, US Steel provided extensive amounts of performance information about the firm. However, even though the reports contained extensive information, the reports have become viewed as unchanging, "boilerplate" as they maintain a consistent format throughout this era. Table 1 contains the descriptive statistics for the annual reports during the era.
Additionally, this era is marked by a low concentration of institutional ownership of the company's stock. US Steel had a dispersed level of ownership during the era with an average of over 50,000 shareholders owning slightly more than 5,000,000 of the outstanding shares.

The Transition Years are marked by two great challenges facing US Steel: the death of Elbert Gary and the Great Depression. For much of this period, the company is led by Myron Taylor, either as chairman of the finance committee or chairman of the board. There is very little diversion from the Gary model of corporate reporting style, the reports did become condensed during the Depression and began limited use of graphics and provided some font changes. The most significant events of this period for US Steel was Taylor's reorganization of the corporation's operations and the recognition of organized labor. Table 2 demonstrates that the format of the annual reports during this era is not much different than the reports of the Gary Years. The reports are slightly shorter due to the Depression; however, they are dominated by text, and only contain charts and tables to display financial information.

This next era (See Table 3) is marked by an increased level of institutional ownership of their stock, and by US Steel issuing over 3.6 million shares. It was highlighted by a change from the Gary model of corporate reporting which contained extensive information reported in text and tables. In response to the NAM study, the reports of this era reported the financial performance of the firm through pictures and graphs with clarity intended for the small shareholder. Additionally, Voorhees and Tyson used the reports as a corporate public relations document to counteract public criticism from labor unions and the federal government. They utilized financial essays in each
report to educate their shareholders (and the public) about matters which they considered appropriate to public policy.

This period began with an increased level of institutional ownership which decreased to 30% in 1950, but slowly grew to 41% by the end of the period. US Steel issued over 45 million new common shares of stock to maintain adequate investment during the postwar period of expansion. US Steel continued to emphasize the interests of "small owners" in their reports. However, during this period, the annual reports of US Steel began to evolve into the "modern" form of an annual report. The report was reorganized to de-emphasize the President's letter, and focus upon the discussions from individual divisions' management. The steel company now wanted to be recognized as multi-divisional corporation, especially after their acquisition of Marathon Oil. The reports used more visual information to report the performance of the firm through graphs and pictures, and there was an increased emphasis on working capital and cash flow.

The level of institutional ownership steadily increased throughout the Evolution Years, and culminated in 1986 when the firm changed its name from US Steel to USX, and the number of outstanding shares of common stock doubled to 260 million shares (Table 4).

In 1992, US Steel revealed its "Cost Effective Annual Report" which eliminated all photographs and color graphs. Since the company had divided its corporate stock into two classes of stock representing the steel and energy groups, it seemed too costly to produce multiple reports. These reports contained the essential financial disclosures mandated by the Securities and Exchange Commission. They resembled the SEC Form
10-K. The company maintained this level of disclosure until 2004 when the firm produced the modern "wrap-around" document which takes a few pages of corporate information, and "wraps it around" the 10-K. This practice has increased among more firms during the present period--55% of the 2007 Fortune 100 supply the 10-K as the primary form of communication to their shareholders--and US Steel appears to have been a harbinger for this practice (Table 5).

While the cost of disclosure due to the multiple classes of stock is a valid reason for changing their corporate reporting practices, another plausible reason may have been the high level of institutional ownership of their stock. By the end of the era, US Steel has a very concentrated level of ownership with approximately 25,000 shareholders controlling 123 million shares of US Steel common stock. These "sophisticated" users of financial information did not require the NAM orientation or the use of publicity to photographs or graphic material to inform their analysis and investment decisions. US Steel was focused upon compliance with minimal discretionary items, fulfilling more of a legal/contractual or mandated reporting responsibility.

The next chapter of this research will undertake a model-based content analysis and develop hypotheses to test features of the reports as represented by the President’s Letter and the format of the reports throughout the series of annual reports from 1902 – 2006. Subsequently in Chapter 5, the findings of Chapter 3 and Chapter 4 will be evaluated relative to both the traditional analysis and the model-based testing of the annual reports in order to establish a basis for concluding this study of US Steel’s contributions to financial reporting, as to a plausible explanation which relates the managerial ideology of the company to the disclosure practices over time.
Chapter 4: A Model-Based Method of Content Analysis: Hypotheses, Methodology, and Results

4.1 Introduction

Chapter 3 provided results derived from traditional, archival-based descriptive content analysis. The value of the results is important in that they provide a chronological record of the attributes associated with the corporate external reporting process of US Steel over the period of a century. Chapter 4 once again develops a focus on a question framed by Ross Watts, namely “Why do financial reports take their current form?” (Watts, 1977, 2006). To consider this question, Chapter 4 proposes to examine the reports of US Steel by use of an original and unique model-based method of content analysis utilizing structured equation modeling (SEM) and software applications (DICTION) in order to identify and analyze qualities which may not be readily subject to traditional content analysis. Qualities (or properties) are identified as either dependent or independent variables. It will be hypothesized that attributes and patterns of disclosure not revealed in traditional content analysis will be explained and demonstrated through testing of a model and related available data fitted to the model by means of digital content analysis of identified variables.

Previous US Steel studies [Claire (1945), Vangermeersch (1970), Vangermeersch (1979), Reed (1989)] have examined specific time periods and financial reporting concerns. However, this longitudinal study is unique, as it uses the firm’s reports for the period of over a century (1902-2006) as the basis for examining the reporting and disclosure properties such as those observed by May (1961) and Allen (1993) over briefer time periods. Also, this study employs proprietary digitized versions of the annual reports developed as the database for this project. Previous studies have performed
extensive temporal longitudinal analysis (more than 70 years) of Texaco (Hutajulu 2002),
or of multiple companies [(Murphy 1970), Vangermeersch (1979), Edwards (1984)].
However, no prior study has performed analysis using a database which is as
comprehensive as that employed here.

The chapter is organized as follows. First, the model is described and the
dependent variables are introduced. Next, specific hypotheses will be proposed to test
which independent variables may affect the content, the display and the tone of the
annual reports. Third, the results will be presented, and finally, conclusions and
implications of the chapter’s analysis will be discussed.

4.2 Development of Model

In order to utilize new technology and the digitized data derived from US Steel
reports, a model will be developed. (See Figure 1) The model contains dependent
variables observed from physical characteristics of the annual reports, and independent
variables which represent outside forces which potentially influenced these
characteristics.

[Insert Figure 1 here]

4.2.1 Dependent Variables

This section identifies and describes three dependent variables in the annual
reports: 1) the content of the annual reports; 2) the display of the annual reports; and 3)
the tone of the annual reports. Manual coding of the content analysis will be used to
identify changes in the content of the US Steel annual reports. Content is defined to
include the physical inventory of the reports, the subject matter discussed in each report,
and the development of graphical representations of facts within the reports.
### 4.2.2 Dependent Variable: CONTENT

*Content* is the first dependent variable defined as the type of disclosure observed in the report (CONTENT). In SEM analysis, all variables need to be defined by at least two different measures. CONTENT will be defined by several variables namely: 1) what percentage of the annual reports contain a managerial narrative about the risks, productivity and financial condition of the company (MGTDIS), 2) financial statements, reports and notes to the statements (FIN), 3) reports on products and facilities which the company owns and manages (PNF), and 4) other content in the report such as intentional blank pages, a table of contents and the cover (OTHER). The percentage of pages related to the variables represent the quantifiable properties which permit these visual display charts. Chart 1 demonstrates the changes in these variables over the century which comprises our study.

[Insert Chart 1 here]

As demonstrated in Chart 1, MGTDIS is a significant portion of the report throughout the period; however, by the end of the period, US Steel begins to rely much more upon the use of financial reports, rather than the managerial narratives. One of the significant changes in reporting information occurred with the PNF variable. For the first thirty-six years of the company, the annual reports focused a major portion of the reports (20-35%) on listing the plant assets and facilities which the company owned; however, in 1937, these pages of information were eliminated as the company began to emphasize the income statement and the financial performance of the firm rather than the asset base of the company.
4.2.3 Dependent Variable: DISPLAY

The second dependent variable is the display mode of the annual reports (DISPLAY). This variable is measured by: 1) the percentage of non-textual information which is included in the report (NONTEXT), and 2) whether this non-financial information is presented as charts/tables or by graphics and photos (VISUAL). Chart 2 compares the amount of text versus non-text information contained in the annual reports. At the beginning of the period, the reports relied mostly upon charts and tables (approximately 90%) to present the information to the shareholders. By the middle of the century, the use of visual information and text were nearly equal to each other. The gap was variable through the 1960s and 1970 but has narrowed again in the most recent years.

[Insert Chart 2 here]

Chart 3 details how much of the non-financial information is visual, and whether the visual information is presented as: 1) charts and tables or, 2) graphic information.

Per Chart 3, all of the graphical non-financial information was presented in charts and tables until the late 1930s when US Steel began to use photographs and graphical images to present its non-financial information. The reports became more dynamic and attractive to the users of the annual reports. This change has been credited to US Steel heeding the suggestions of the NAM study on effective disclosure practices.

[Insert Chart 3 here]3

3 The first Annual Report (1902) contained a supplemental report entitled: “Views of Representative Properties Owned by Subsidiary Companies of United States Steel Corporation.” This document contained 21 pages of photographs and artistic renderings of plants, properties, and equipment of the
4.2.4 Dependent Variable: TONE

The third dependent variable is the “tone” of the President/Chairman’s letter (TONE). This is measured by the five master variable outputs as defined by DICTION 5.0 which are certainty (CERT), optimism (OPTIM), activity (ACTIVE), realism (REAL), and commonality (COMMON).

Using the digitized reports, electronic content analysis attempts to identify the tone of management in the President’s Letter. Tone is defined by the DICTION 5.0 master variables. Electronic content analysis has been utilized in accounting research in the past for counting words and text. (Previts, et. al., 1994; Rogers and Fogarty, 2004) However, while the communication sciences have been analyzing communication and speech for many years, the content analysis technology has only recently been applied to the accounting narrative. Sydserff and Weetman (2002; 2004) have called for the application of content analysis software, DICTION 5.0, to study the accounting narrative and bring richer empirical analysis to accounting research in this area. DICTION software presents new opportunities in this research application. Chart 4 demonstrates the variability in the five tone variables in the President/Chairman’s letter over the history of US Steel:

[Insert Chart 4 here]

If Chart 4 is examined by the defined eras in Chapter 3, it is noticeable how consistent the tone variables were during the Voorhees/Tyson era, and how erratic the Corporation. However, this document, being a supplement, was not included in the DISPLAY analysis of the US Steel annual reports.
data appears for the Evolution Years and the Cost Effective Years. One concern regarding the data set is this limited variability between the five data points. As most of the data points range between 45 and 55 on this scale, the data may not prove to be an effective measure of tone as a factor, and in future research, each master variable of tone may need to be examined separately.

All three dependent variables have been defined by observed qualities in the annual reports, and, as previously described, each page of the annual reports has been coded to secure this information. These variables represent the disclosure properties of US Steel and the type of disclosure, the use of graphics to convey information, and the tone of management communication over the period. An improved understanding about management’s reporting applications and their disclosure motivations is an expected result, provided the analytical processes, the model, and the data are sufficient to support an operational application of this methodology in this unique single-entity setting.

4.3 Independent Variables and Hypotheses

Previous research has explored partial periods or topics of the disclosure practices of US Steel (Claire, 1945; Vangermeersch, 1970). However, no previous study has examined the company’s disclosure practices comprehensively over a century of activity. Such an examination will be developed now using a series of hypotheses related thereto, involving five independent variables. Five independent variables—concentration of ownership, profitability, leverage, management team, and historical milestones—were arbitrarily developed as part of the dissertation proposal process, with input from core group of faculty.
4.3.1 Independent Variable: CONCENTRATION OF OWNERSHIP

Upon formation, US Steel was unique in its capital formation, as Chernow contends in a 1998 *American Heritage* article:

The $1.4 billion price tag surpassed the accumulated national debt and was nearly triple the size of that year’s federal spending. Morgan fielded a giant syndicate of three hundred underwriters to market the securities. . . . In time, the shares of US Steel and other companies would be widely dispersed among the individual and institutional investors . . . – Chernow, 1990, pg. 12

US Steel initially involved ownership of the company by a vast array of individual investors, many of whom were employees. In 1937, the percentage of US Steel’s common stock that was held in large blocks (more than 500 shares) was less than one percent of the issued common shares. (Goldsmith, 1940) By the turn of the 21st century, over 90 percent of US Steel’s stock was held by institutional investors. The independent variable—Concentration of Ownership (CONC OWNER)—which represents the common stock ownership of the company is portrayed by two variables: the average number of common stock shares held by shareholders (AVGSHARE), and a general category level of ownership control (SHARELEV)—low, medium or high which are coded as a 1, 2, or 3. Level 1 of ownership control is categorized as the average shares per shareholder of less than 100 shares; Level 2 is categorized as average shares between 100 and 500 shares; and Level 3 is categorized as average share ownership of over 500 shares per shareholder. In Chart 5, the average shareholder ownership of US Steel common shares is presented. At the beginning, the average shareholding is low, but after 1950, the average share number begins to rise, and in the last quarter century, the average share level has risen substantially, with a sharp increase in the late 1990s.

[Insert Chart 5 here]
Given these shareholder characteristics, hypotheses can be developed:

**H1A:** The content of US Steel’s annual reports is related to the change in shareholder concentration in the company

**H1B:** The display of US Steel’s annual reports is related to the change in shareholder concentration in the company

**H1C:** The tone of US Steel’s annual report President’s letters is related to the change in shareholder concentration in the company

### 4.3.2 Independent Variable: PROFITABILITY

US Steel was the dominant steel company through much of the 20th century; however, along with the country, the company has experienced significant highs and lows in the history of the corporation’s business cycle. Profitability is a potential influence upon the actions and communications of corporations, and may affect their reporting practices. Companies may be more optimistic and use an active voice in profitable years, while being more realistic and passive in less profitable years. The independent variable—Profitability (PROFIT)—will be defined as profit margin (MARGIN) and return on assets (ROA). Chart 6 demonstrates the changes in profitability of US Steel as reported in their annual reports over the period of this study. US Steel was extremely profitable during the earlier part of the century until they faced great challenges and large losses during the Great Depression of the 1930s. During the Tyson/Voorhees years, the company enjoyed relatively stable profit levels; however, in the last two identified eras in US Steel’s history, the company has experienced significant volatility in its ability to earn profits. These different level of volatility may be associated with changes in its corporate reporting practices as seen through the primary documents—the annual reports.
As a result, with regard to corporate profitability, hypotheses can be developed:

**H2A:** The content of US Steel’s annual reports is related to the change in profitability of the company

**H2B:** The display of US Steel’s annual reports is related to the change in profitability of the company

**H2C:** The tone of US Steel’s annual report President’s letters is related to the change in profitability of the company

### 4.3.3 Independent Variable: LEVERAGE

Similar to changes in profitability, changes in the debt structure of a firm may alter the corporate communication strategies of the management. Firms may take on new debt to cover their losses, or due to mergers which change their corporate structure. These actions may alter the company’s corporate reporting practices and the tone of management’s communication to the shareholders. The independent variable—Leverage (LEVER) will be defined as debt to assets (DEBTASST) and times interest earned (TIMEINT). Chart 7 shows US Steel’s debt to assets ratio over the century and how the company’s leverage, with regard to debt to assets, changed over the century. As seen below, US Steel maintained moderate levels of debt (less than 40%) until the Depression era, and Myron Taylor’s measures to lower the debt of the company below 20% to save money. Debt levels grew moderately through the war years; however, they began to expand rapidly in the late 1970s and 1980s due to poor economic conditions and the merger with Marathon which altered the corporate organization greatly.
As a result, with regard to corporate leverage, hypotheses can be developed:

**H3A:** The content of US Steel’s annual reports is related to the change in leverage of the company

**H3B:** The display of US Steel’s annual reports is related to the change in leverage of the company

**H3C:** The tone of US Steel’s annual report President’s letters is related to the change in leverage of the company

### 4.3.4 Independent Variable: MANAGEMENT TEAM

Research has suggested that disclosure practices of firms change due to the change in leadership (Hutajulu 2002). While US Steel has been an organization for more than 108 years, in that time, it has had only fifteen CEOs—with an average tenure of 8.75 years (max of 25)—and thirteen CFOs (or chairs of the finance committee, as this position was known for most of US Steel’s history)—with an average tenure of 8.15 years (max of 21). The independent variable—Management Team (MGMT TEAM)—is represented by the CEO and CFO variables and identifies principal leaders of the organization and potentially their disclosure practices. The CEO variable (CEO) will be coded as 1 through 15 over their term years, and the CFO variable (CFO) will be coded as 1 through 13 for their respective terms. Qualitative analysis suggests that each of these individuals has left their mark on the firm. As a result, hypotheses are developed:

**H4A:** The content of US Steel’s annual reports is related to the management team of the company

**H4B:** The display of US Steel’s annual reports is related to the management team of the company

**H4C:** The tone of US Steel’s annual report President’s letters is related to the management team of the company
4.3.5 Independent Variable: HISTORICAL MILESTONES

The first independent variable—historical milestones (HISTMILE)—is defined by three different measures which are represented by a 0 or 1 to indicate whether it was or was not a significant event in the year. The three different measures (ECONOMIC, WARYEAR, COMPSPEC) are employed to assess whether the year was significant. A historical timeline produced by the Dow Jones Industrial Average and highlighted certain years and events throughout the century was used as a proxy to determine whether a specific year was in economic recession (ECONOMIC) or in a war year (WARYEAR). The book, *The Corporation*, a detailed history of the company, was utilized to determine if there was a significant event (COMPSPEC) for the company such as strikes, plant closings, reactions to government policies, and changes in leadership due to death. To that end, hypotheses are proposed which assert:

H5A: The content of US Steel’s annual reports is related to historical events

H5B: The display of US Steel’s annual reports is related to historical events

H5C: The tone of US Steel’s annual report President/Chairman’s letter is related to historical events

4.4 Proposed Model

The above model is now ready to be tested by examining the hypotheses described with regard to the relationships between dependent and independent variables deemed to affect US Steel disclosure practices (See Figure 1). In summary, the model uses three dependent variables which have been identified in the analysis of the reports.
The variables represent the content of the reports, the display of the reports and the tone of the President/Chairman’s letter. Additionally, five independent variables have been identified which are subjected to analysis in an attempt to identify their influence upon the dependent variables. The variables are: historical milestones, institutional ownership, management team, profitability, and leverage. A visual depiction of the model and the possible hypotheses/regression paths is presented in Figure 1.

4.5 Methodology

The model and the hypotheses will be tested through structured equation modeling (SEM) employing AMOS software, which provides a graphical interface and an advanced statistical analysis capacity to support SEM. SEM is an attractive method of analysis for this study as it permits the examination of complex relationships and models, especially over the times-series data in this study. In addition to observing direct relationships between independent and dependent variables, SEM allows for the inference of unseen relationships between the variables, similar to factor analysis.

Specialized content analysis software will support statistical tools and increased consistency of methodology as a basis for conducting this study of the information provided by these reports. With increased access to historical annual reports, developing a methodology to test the information content of these reports may advance the understanding of corporate reporting practices. Content analysis is an accepted method of exploring accounting narrative, yet researchers have sought additional technology-enhanced measures to leverage it (Sydserff and Weetman, 1999). The software, NUD*IST, has been used in studies by Hutajulu (2002) and Rogers and Fogarty (2004), for word counting and readability scales. The software, DICTION, was utilized Sydserff
and Weetman (2002) to develop a transitivity index for an accounting narrative in the management discussions of twenty-six companies.

First, the US Steel reports were coded manually to record the descriptive statistics of each report. Data gathered was report length, identification of significant sections of the reports, the length of each section, and the page numbers of each section in the reports. This information allowed for identifying disclosure patterns in the reports, and highlighting changes in disclosure practices over the period.

Next, each page of the reports was coded for three different levels of information. Initially, the pages were coded for the percentage of text versus non-text information provided. Then, the non-text information was coded to determine if the information was in the form of tables and charts or if the information was a graphical image. Finally, the non-text information was coded to determine if the information was a financial or non-financial disclosure. These levels of coding permit the analysis of US Steel’s disclosure patterns over the period with regard to the level of disclosure, the nature of these disclosures, and what may have influenced the disclosure properties over the period.

Electronic content analysis was employed to analyze the “tone” of the President/Chairman’s letter over the period using the software DICTION 5.0. Recent studies have analyzed the tone of corporate communications (e.g., MD&A, press releases) using DICTION 5.0 and other similar content analysis software (Davis, 2008; Feldman, 2008; Kothari, 2008). However, those studies focused only upon one factor of tone—optimism—in the corporate communication. This study will analyze the “tone” of the President/Chairman’s letter using five factors of tone available through the DICTION software: certainty, optimism, activity, realism, and commonality. This approach
expands the definition of “tone” in the literature, and provides a richer definition of
“tone” given new content analysis software techniques.

Given previous research, this study of the annual reports of US Steel’s practices
throughout the 20th century, and the application of newly available electronic content
analysis capabilities with a focus upon the President/Chairman’s letter should assist in
improving our understanding of disclosure practices and in relating it to external
variables. If the model is capable of indicating what external forces influence the tone of
the President’s/Chairman’s letter, analysts and information intermediaries may be able to
better understand the condition of the firm which may not be explicitly stated in the
letters, but tacitly said through the tone of the letter. Additionally, how the display and
content of the reports is influenced by these external variables may provide additional
insights.

4.6 Results

4.6.1 Test of Initial Model

Based upon the initial model presented in Figure 1, an initial structural model was
developed in AMOS 17.0 to observe the interactions among the variables (See Figure 2).
The model contains all of the paths between the independent and dependent variables and
their residual error terms. Each path between the independent variables and the
dependent variables represents each of the individual hypotheses presented in the
previous section. Table 6 contains the Pearson correlations for all variables in the model.

[Insert Figure 2 here]

[Insert Tables 6a and 6b here]
Each test result for the model will be measured for overall fitness by examining four key criteria: 1) the $\chi^2$ (chi-square) goodness-of-fit statistic; 2) the Tucker Lewis Index (TLI); 3) the Comparative Fit Index (CFI); and 4) the Root Mean Square Error of Approximation (RMSEA). Byrne (2001) emphasizes CFI and RMSEA along with the $\chi^2$ (chi-square) statistic. Al-Kazemi (2009) cited that scores greater than .90 on TLI indicate a good fitting model. Marcoulides and Hershberger (1997) recommend a RMSEA score less than .05 to indicate goodness-of-fit and CFI over greater than .90. Similarly to Al-Kazemi (2009), this study, the fitness of the model will be assessed across all four statistics.

Upon the first run of the initial model in Figure 2, the goodness-of-fit statistics showed that the model was not optimal ($\chi^2 = 1,407.888$, df$=# 197$, $p < .001$, TLI = .358, CFI = .500, and RMSEA = .243). As a result, the least significant regression path (HIST MILE $\rightarrow$ DISPLAY) was removed from the model, and prepared to be run again.

After the second run of the model, the goodness-of-fit statistics again showed that the model was not optimal ($\chi^2 = 1,607.342$, df$=# 198$, $p < .001$, TLI = .257, CFI = .418, and RMSEA = .262). As a result, again, the least significant regression path (HIST MILE $\rightarrow$ TONE) was removed from the model, and prepared to be run again.

With the third run of the model, the goodness-of-fit statistics showed that the model was not optimal ($\chi^2 = 1,624.022$, df$=# 199$, $p < .001$, TLI = .252, CFI = .412, and RMSEA = .262). As a result, the least significant regression path (PROFIT $\rightarrow$ DISPLAY) was removed from the model, and prepared to be run again.

The fourth run of the model, the goodness-of-fit statistics showed that the model was not optimal ($\chi^2 = 1,625.959$, df$=# 200$, $p < .001$, TLI = .255, CFI = .411, and
RMSEA = .262). As a result, the least significant regression path (LEVER → CONTENT) was removed from the model, and prepared to be run again.

The fifth run of the initial model, the goodness-of-fit statistics again showed that the model was not optimal ($X^2 = 1,653.283$, df# = 201, $p < .001$, TLI = .245, CFI .400, and RMSEA = .264). As a result, the least significant regression path (MGMT TEAM → TONE) was removed from the model, and prepared to be run again.

On the sixth and final time the model was run, the iteration limit was reached and the model was described as unidentified. Table 7 summarizes the results of the analysis.

[Insert Table 7 here]

4.7 Observations and Conclusions

This attempt at a model-based method of content analysis was not successful in identifying significant relationships between the disclosure practices of the corporation and identified outside influences on the corporation. The possible reasons for the lack of significant results are numerous.

There were several limitations in the construction of this model and the development of the hypotheses. One of the biggest limitations is the use of one company as the sample size for the study. SEM and other full estimation methods traditionally depend upon on data with large sample properties (Anderson and Gerbing, 1988). Implementing it for a data set from one entity did not prove to be a suitable approach. However, going forward, there may be ways to utilize this research method in historical data sets, for example an industry-wide historical study of similar longitudinal data.
Another limitation in this model was missing data points. The model was developed to identify certain external forces which may have affected the disclosure practices of US Steel; however, some of the envisioned data was not available. A great discrepancy existed with regard to institutional ownership in the common stock share in US Steel. Originally, the model was developed to included a variable which measured the percentage of common shares held by institutional owners. Contemporary research is accustomed to databases which contain multiple data points on institutional control of corporations. However, with historical research that data is extremely limited. With US Steel, institutional shareholder data was provided by the Corporation for the period of 1940 to 1986. After 1986, this information was derived from modern stock databases. However, after extensive research in newspapers and periodicals of the time, it was not possible to identify institutional ownership in US Steel from 1902 to 1939. When requested, US Steel, itself, was unable to provide reliable data. As a result, for one defining variable, institutional ownership, a dummy variable needed to be created.

An additional methodological concern in this study was the issue of identifying changes over the life of one company. It became apparent how difficult it is to analyze changes in reporting practices and statistically determine which external forces may have impacted the changes. With regard to the independent variables, there may be a certain lag time between an event and the reaction which changes the disclosure practices of the firm or it may take a number of years for a management team to establish and influence the tone of the annual reports.

No known research study has attempted to analyze a single company’s annual reports for the period of over a century, and implement a model-based research analysis
of the disclosure practices. Ultimately the model-based approach to content analysis, an ambitious approach to historical research in both scope and methodology, failed to assist in a determining fashion. Additionally, the analysis of the tone of the President/Chairman’s letter was an attempt to advance methodology in historical research using contemporary statistical methods. While this was not successful, the attempt to further the methodology of historical research aided in appreciating the complexity of variable specification and awareness as to developing the data for the independent and dependent variables. The process of developing the analytical data provided insights about the company which may have not been developed without such an examination of the company’s financial reports.
Chapter 5: Findings, Limitations and Future Research

5.1 Introduction

This chapter summarizes the analysis and findings of Chapters Three and Four where the parameters are examined by two different approaches to evaluating the annual reports of US Steel, with the outcome that both contribute to understanding what was reported and why the reporting was done as it was. A scholarly interest in a motivating question raised earlier, i.e. ‘Why do Financial Statements take their current form?’ (Watts 1977, 2006) has been important in providing guidance for this study of the content and form of US Steel’s annual reports to shareholders over the past century. What this research explores and documents, and attempts to explain, is what content changed, how the change was undertaken in terms of specific content modification, and how to improve our understanding of ‘why’ change occurred. What this study has undertaken to exhibit and assess is what changes have occurred in the form of the annual reports to shareholders, not the financial statements alone. As these reports have changed, this study has examined key variables both in the general economic and political environment as well as in the leadership and operations of the company to identify possible influences upon changes in content.

In the previous chapter, an attempt to relate hypotheses about the influence of observed external variables upon financial reporting practices undertaken in order to improve our understanding of ‘why’ financial statements take their form, proved insufficient. However, the outcomes of our traditional content analysis from Chapter Three remain useful and promising.
5.2 Examination of Managerial Ideology

The US Steel annual reports were originated for and addressed to the individual shareholders of the company. However, the salutation “To our shareholders or stockholders...” has not been used regularly after the mid 1980s. Today the report is markedly different in form and content from what began in 1902 as the “First Annual Report to the Stockholders of United States Steel Corporation.” Today, the report is not specifically addressed to a single group, suggesting more of a ‘stakeholder’ orientation, that is, including a broader community as well as the workforce of the company in the audience of the report. The report itself has also changed dramatically, changing from a communication from managers to shareholders—reflecting a stewardship model—to a generic—regulatory based—form of government mandated disclosure in Form 10-K, abiding by a legal or contractual view.

The possible explanations, about ‘why’ the changes occurred, are manifold. In Chapter Three, a number of format innovations which are contained in the earliest reports remain constant as the form for the period of a particular senior management’s administration. Thus leadership and management are important at face value.

Over time the marked shift from a shareholder report to a 10-K suggests contributing factors. A single explanation is fraught with risk, and yet as we explore the changes in the capital structure and the capital provisioning one substantial change is noticed. The sources of capital provided in 1902 are remarkably different from 2006. To the extent that financial statements take their current form to provide information to capital providers, there is clear evidence that the type of capital provider has changed
dramatically from individual investor to institutional investor over the five eras of reporting portrayed and studied in Chapter Three. These eras as described below in Table 8 will be related to examples of changes in the primary documents, i.e., the annual reports. Content, display and tone as constituted will be examined with the changing managerial ideology as related to disclosure policy from stewardship to contract.

Moving from an individual to an institutional source of equity capital funding provides a plausible explanation for eliminating references to ‘shareholders’ and substituting instead the regulatory Form 10-K in the early 1990s, supplemented with four to six pages of color photos and narrative to provide a ‘wrap around’ plain Securities and Exchange Commission’s filing.

The changing content of the report from a management communication to individual shareholders to a ‘wrap around’ document supplied to an institutionally dominated market is also consistent with the governance literature which asserts that there has been a shift from a ‘trust’ or fiduciary model of governance to one which is more contractual in nature. This means that the candid and unique disclosures which directed the forming of the early reports under each of the five administrations is sensitive to the providers of capital and to the public’s expectation about what constitutes a response to those expectations.

As noted in earlier writings, the notion of managerial ideology as espoused by Kaufman and Englander (2004) is a useful view to frame our discussion of US Steel’s
managerial ideology with regard to our central question, namely, “Why do Financial Statements take their current form?”

Also as noted earlier, a variety of writers in history, both in general historical work and in specific accounting history writings advise those undertaking historical studies to be careful about the phenomenon of present-mindedness or the ‘habit of reading into the past our own modern ideas and intentions” (Fleischman and Radcliffe, 2003). This form of bias can produce unfortunate misunderstandings of historical materials if not properly recognized and mediated to the extent possible.

The risk of present-mindedness also has a counter point. All historical study is uniquely contemporary at the time it is completed, and, as such, new attempts continue the process of re-interpretation which is an element of historical investigation which cannot be avoided. History is in part interpretation, based upon analysis and assessment of factors deemed to be most important to the question being examined. The quality of historical investigation may be seen as how well an investigation encourages debate and disagreement over the findings of the effort. Major historical questions such as “What were the principal causes of the American Revolution, or the American Civil War?” lead to nearly endless debates. Indeed history can be an argument without end. Thus this study should be judged on its ability not to ‘resolve’ the question of ‘Why do Financial Statements take their current form,’ but rather how well established are the elements of the analysis.
5.3 Summary of Research Findings

This section revisits the five eras identified in Chapter Three. It seeks to identify how the disclosure attributes of each relate to the “managerial” ideology as explained in the writings of Kaufman and Zacharias (1992) and Kaufman and Englander (2004) facilitating the resolution of research questions about the attributes of content, display and tone of the reports. The results from Chapter 4 (Figure 1) were not significant in that form of analysis. These three attributes, however, appear to be aligned to the notion of managerial ideology as involving a change from a trust/stewardship to a contract approach to disclosure. Building upon Figure 1, a model for managerial ideology is proposed in Figure 3. It is asserted that the content, display and tone of the US Steel annual reports changed between eras as the managerial ideology of the firm evolved as the mix of capital providers changed. Management may have altered their corporate disclosure policies to adjust to the changing needs of their capital providers.

[Insert Figure 3 here]

5.3.1 The Gary Years (1902-1926)

“The people have a right to know how the people’s business is being carried on. And the more they do know about it, the better it will be for business. Big business, like human life, cannot thrive properly in the dark.” -- Judge Elbert Gary to Forbes magazine’s Charles W. Wood (Apelt, 2000)

US Steel was originally capitalized through the significant investment of bondholders (including Carnegie) and a diverse population of shareholders. Due to public scrutiny of the substantial level of capitalization during the formation of the company, the management of US Steel recognized the need for increased disclosure of the company’s financial performance to address the high level of public investment and
public interest. They wanted to protect the interests of the parties who invested in this new firm, and to protect from prosecution by a presidential administration known for attacking and breaking up large industries if they participated in unfair business practices (Apelt, 2000).

US Steel countered accusations that they were controlled by the Morgan money trust. It issued shareholder information to the public through the media such as The Wall Street Journal. The company’s substantial financial disclosures in their annual report and communication in the media were performed to protect the interest of the owners of the company—the shareholders. Gary understood the trust the shareholders had bestowed in him, and he took the responsibility very seriously. His stewardship of the company during this time was coordinated to protect the interests of the company and its shareholders. His Gary Rules guided the management and the employees of the company to ethical business decisions to enhance the value of the firm and to serve society and the company’s shareholders. In 1921, when the Supreme Court ruled that US Steel was not a monopoly or a trust, his view was confirmed.

Gary understood the company was financed by a diverse group of individual investors and his decisions to disclose extensive information on the financial performance of the company helped prevent the government from breaking up the company, and to serve the interests of the true stakeholders in the company.

The content of the reports was very consistent throughout this period and emphasized both the assets (through the balance sheet and extensive charts about individual plants and properties) and the earning power of the firm with an income statement and a statement of working capital in the reports. The content of the reports
was dominated by three key areas: 1) the President’s Letter, 2) the financial statements, and 3) the charts on plant and facilities.

The display of the reports during this era was very stark. They only used charts and tables to display information, and the font was very small in the President’s letter. If a reader wanted to find information, they would have to read through large amounts of text or be able to understand the accounting reports to obtain the desired information.

The tone was business-like and direct. It was thorough and concise, yet it covered a vast amount of information. Essentially, US Steel’s management was presenting as much information about the firm as they could to their capital providers, including bankers, bondholders and shareholders.

5.3.2 The Transition Years (1926-1937)

“The great vitality of this nation is only awaiting the assurance that it is safe to begin the next great cycle in the development of an enjoyment of our national resources. The forward movement already begun is plainly gathering impetus, and it should . . . sweep away all unsound policies which our great prosperity in the past has engendered and many quack notions which have been born of our adversity. . . . The lines of interest of the corporation considered as a whole and the public considered as a whole must run parallel—for the corporation cannot exist except as it serves the public.” -- Myron Taylor at the 1935 US Steel shareholder meeting, (Apelt, 2000)

After the passing of Judge Gary, J. P. Morgan, Jr. and Myron Taylor were the next chairmen of US Steel. They managed the company through the dire conditions of the Great Depression, and began to realign the operations of the firm to survive the Depression and handle increased government regulation of the financial reporting of the firm due to the Securities Acts of 1933 and 1934. They maintained the financial reporting format established under Gary. While the reports were reduced in length during this period, they contained much of the same information provided in the previous era.
During this time, the management attempted to streamline the operations of the organization, and they tackled the demands for union organization which Gary opposed during his tenure. Taylor formally recognized the workers’ right to organize in 1937.

US Steel’s leadership continued to reflect Gary’s stewardship ideology in the company. They succeeded in bringing the firm through the Great Depression, and managed to protect the needs of the employees and the shareholders during this period.

Additionally, the number of shares outstanding grew from 5,083,025 in 1926 to 7,116,235 in 1927-1928 and to 8,703,252 in 1937, representing mostly small individual shareholders. During the same period, the number of shareholders expanded from 86,601 to 164,442 at the end of 1937 suggesting that the control of the company became more dispersed during this period.

The content of the reports during this period followed the same format as the Gary Years; however, the report decreased in size. The President’s Letter was reduced from an average length of twenty-four pages under Gary to an average page length of twelve. This lessening of content may have been due to the fact that Taylor reduced the long-term debt of US Steel from nearly $500 million to just over $100 million during his tenure, while increasing the number of shareholders. Perhaps, the new shareholders were not expecting as much detailed content in the reports.

The display also maintained the same look in this period, except in 1931, minimal graphics began to appear on the report’s cover. Additionally, the tone of the reports was similar to that in the reports under Gary.

5.3.3 The Voorhees/Tyson Years (1938-1969)

“We are just American citizens charged with the management of properties which usually belong to others. The point that I want to
make is that our stewardship is not discharged unless we report our doings in such fashion that the basic social function of our enterprises is clearly portrayed—only then will business be held to the highest degree of responsibility for what it can and should do and be hampered by being asked to do what is not in its power to do. The annual report is one of the most effective methods of presenting the simple facts to the public.” -- Enders Voorhees before the Controller’s Institute of America, New York, NY, September 21, 1943 (Voorhees, 1970)

This era is defined by the stewardship of management and their advocacy on behalf of the individual shareholders of the company. Voorhees drastically altered the financial reporting style of the annual report established by Gary, but maintained the managerial ideology of stewardship. In response to an industry study by the National Association of Manufacturers (NAM), Voorhees redesigned the annual report to be more useful to individual shareholders by lessening the narrative, utilizing more graphical content, and emphasizing the distribution of income to the workers, the national economy, and to the shareholders. During the Depression, many firms were criticized when they appear to have amassed “profits” while the nation suffered high levels of unemployment. The NAM study encouraged manufacturing firms to explain in plain language how a company enhanced the national economy through their endeavors (NAM, 1938).

During this period, Voorhees, and later Tyson, embraced the recommendations of the NAM study as the US Steel annual reports increased their presentation of financial information through graphic images, and promoted the firm through photographic images. The essays written by Voorhees and Tyson emphasized the economic benefits US Steel provided to the country, addressed constant criticism from labor unions and the federal government.
Additionally, they emphasized the benefits to the large group of individual
shareholders who depended upon the dividends provided by US Steel to compensate for
their risk and investment. During this period, the number of outstanding common shares
increased significantly due to the company’s need for cash to cover the expenses of post
war expansion and the development of new facilities and technologies (US Steel Annual
Report, 1958). While US Steel increased the amount of outstanding shares in the firm,
the shares were widely distributed among an increasing pool of individual shareholders as
the institutional holding of stock in US Steel dropped and the average number of shares
held per shareholder maintained its historically low levels.

In this era, the content of the reports diverted from the format established under
Gary. The company eliminated the reports on plants and facilities, and expanded the
information on where revenues were allocated. Some may suggest this is an indication
of Zeff’s orientation postulate that was a shift from a balance sheet to an income
statement orientation; however, it may be more plausible to view it as a shift consistent
with the spirit embodied in the NAM study.

The display of the report also changed extensively. Tables and charts were
replaced with photographs and illustrations to present information and describe the firm.
The audience was not bankers and other accountants. It was the workers, shareholders
and the general investing public.

One of the biggest changes was in the tone of the reports. Not only were the
reports more readable and accessible, using easy-to-grasp language, the two finance
chiefs of this period (Voorhees and Tyson) used the reports as their “bully-pulpit” to
argue the rights of the corporation and its shareholders. Beyond the President’s letter,
they wrote additional essays which opined on the current economic affairs of the company, especially the battles between US Steel and the government and labor unions. These essays clearly defended the practices of US Steel as fair and were designed to help justify the small shareholders expectation to earn a return on their financial investment.

5.3. 4 The Evolution Years (1970-1991)

“I was never a financial man. I was never in general accounting. I’ve never been in a treasury department, an audit department, a tax department—never a comptroller of anything. All my accounting exposure, all my background, was analytical. I analyzed businesses. That’s what I did.” — former US Steel Chairman, David Roderick, to Brian Apelt in an interview for The Corporation (Apelt, 2000)

After the retirement of Tyson, the management of US Steel changed and so did the appearance of the US Steel annual reports. The format maintained by Voorhees and Tyson for thirty years was changed and the reports began to evolve toward the corporate reporting format of today. The Chairman’s Letter was reduced to two pages. US Steel was beginning to further diversify its operations and holdings. Segment reporting became more relevant to understanding the financial performance of the firm. Also, during this period, the regulation of financial reporting became more standardized with the establishment of the “basic information package” by the SEC and the mandate of MD&A in the annual reports.

Another change for US Steel during this period was the growing influence of institutional investors in the ownership of the firm. During the 1970s, the average number of common shares held per shareholder began drastically to rise, reflecting the acquisition of Marathon in 1981. Also the percentage of institutional ownership increased during the 1980s when the company reformed itself into USX Corporation in 1986 when the institutional ownership rose to over 70%. This changing ownership
structure influenced the financial reporting policies of management. US Steel’s management recognized that the needs of their shareholders had changed from previous eras in the company’s history. Gone were the large groups of individual shareholders depending upon dividend payments to enhance their income. They had been replaced by large institutional shareholders (such as mutual funds) and sophisticated takeover investors like Carl Ichan. This class of investors had different information expectations and capabilities of analysis and sophistication not previously known or identified with smaller individual investors in prior periods. They also had different time horizons and different objectives for investing. As a result, US Steel’s management began to present the report of the firm in a manner consistent with this more sophisticated group of institutions.

The content of the reports of this era was less discussion oriented than in prior eras. As mentioned, the President’s/Chairman’s letter was reduced to two pages, the reports began to focus upon the multi-divisional aspects of the company, and other financial information was presented in a US Steel summary, especially after the Marathon acquisition.

The display of the reports began to develop into the then modern interpretation of the annual report. High glossy photos dominated the reports; however, the financial information reverted back to charts and tables rather than illustrations or graphics.

The tone of the reports was professional and neutral. While some reports discussed regulatory issues facing the firm—especially the growing environmental regulations—it was not a confrontational tone, as in the previous era.
5.3.5 The Cost Effective Years (1992-2006)

“A COST EFFECTIVE ANNUAL REPORT: Now that USX has three classes of common stock, we are publishing separate annual reports for the US Steel Group, the Marathon Group and the Delhi Group. Publishing three traditional reports with color photos and heavy paper would greatly increase the cost of our shareholder communications. Instead, we are achieving substantial savings by publishing three reports printed on light, recycled paper without photos.” -- Disclaimer on the inside cover of the 1992 USX Annual Report

In 1992, US Steel introduced their “cost effective annual report” which was a forerunner to the contemporary “wrap-around” annual report which includes a few pages of glossy content from a company and is wrapped around the 10-K. The management of US Steel recognized that their institutional shareholders did not require glossy photos of plants or their employees to inform their financial decision about their investment. Their shareholders mainly consisted of large institutional holders who management believed would be well served with the basic financial information required by the 10-K. Institutional investors were “contract investors” who were not regarded as proprietary stock holders. If they felt the company was not worth their investment, they would ‘punt or sell’ the stock from their portfolio of investments (Anonymous, 1990).

As a result, US Steel chose to focus their disclosure on the legally necessary information to their capital providers, because—as one investor relations professional noted—these experienced investors were short-term investors who turned over their portfolios annually, based upon their own analysis and investment targets (Hartman, 2009).

The reports became much longer than in previous years, as they more closely resembled the SEC-mandated 10-K, and reported on the conglomerate firm of USX and
the US Steel division separately. The reports eliminated all photographs and graphical images. They were dominated by narrative text and tables of financial information. The only discussion by management was the mandated MD&A.

Reflecting their large percentage of institutional investors, US Steel foresaw the current trend in financial reporting eliminating a separate glossy annual report. They simply provide investors with the information that is a legally mandated compliance document. By the end of the study period, it only provided the required SEC information with little additional information, as provided through a “wrap-around” set of pages.

The display of the reports eliminated photographic information, and reverted to presenting the reports on inexpensive, white paper. Excepting the “wrap-around,” the high color glossy paper that the company had previously used was eliminated.

The tone of the report was stark and professional. The annual report contained the legally required information, and seldom discussed substantive issues beyond those which were related to the financial performance of the firm.

5.4 Conclusion

This study supports the assertion that the financial reporting style of US Steel has evolved over the century from a stewardship to a contract model of corporate reporting; however, this change in reporting style is not a reflection upon the perspective of the management of US Steel. This study contends that the management of US Steel has maintained a constant level of stewardship of the firm in order to serve the needs of the equity owners of the firm—the shareholders. This change from stewardship reporting to
contract reporting in their annual reports is a reflection of the management of US Steel’s view of the cost/benefit information needs of their shareholders.

Figure 4 demonstrates the evolving makeup of US Steel’s ownership expressed as the average common shares held in the firm and selected share prices throughout the century. During the first half of the century, the average common shares per holder was routinely less than 200. However, the average began to increase greatly during the 1970s and continued to rise to the 2006 average of almost 5,000 shares per holder.

The needs of the shareholders have also changed. Under the stewardship model, they required the management to fully explain the operations of the firm in a manner to satisfy proprietary, long-term investors, detail the financial return, and provide user friendly information for their limited knowledge of business operations. However, as the equity investor mix of the firm became more sophisticated, the reporting model of US Steel changed to a contract model of financial reporting. Under this model, the firm anticipated shorter term institutional investor horizons by providing a commoditized set of disclosures, i.e. a mandated level of information for them to make the decision regarding as to whether to stay invested in the firm. However, small individual shareholders with limited financial literacy skills no longer represented a key audience. US Steel recognized this change in investor needs and altered its financial reporting strategies accordingly.

[Insert Figure 4 here]

5.5 Limitations

In Chapter Three, the annual reports’ dataset developed specifically for this study served as the primary documents to assist in the analysis of the content, display and tone
characteristics of the reports. This activity identified significant trends and activities of US Steel, which has informed the conversation about the managerial ideology of US Steel as to disclosure. However, with traditional content analysis, one must be wary of present mindedness and ascribing today’s views to the corporate reporting of prior generations.

In Chapter Four the reporting practices were evaluated by means of a number of unique software applications. The model developed was an original and initial attempt to perform a statistical analysis of the influences on corporate reporting practices. While the attempt was not successful, the data development process provided additional insights into the company and its practices. One limitation discovered was the lack of certain data. Given the longitudinal aspects of this study, it proved difficult, for example, to find institutional shareholder data prior to 1939. The original model included a variable measuring the percentage of the common shares which were held by institutional shareholders; however, after communication with the company and searches through *The Wall Street Journal* and other periodicals of the years 1902 to 1939, it was not possible to develop a suitable data set to represent this variable, and as a result, it was replaced in the model.

### 5.6 Future Research Questions

This study has the potential to inspire additional research opportunities. First, with improved data sets, the model-based method of content analysis may be enabled to produce some statistical significance in variables related to financial reporting practices. Additionally, the model-based method may be utilized comparably among multiple
companies over a common period of history to identify different or unique discoveries as common practice.

Another line of research may focus upon statistically analyzing the individual eras identified in Chapter 3 to determine patterns in these shorter segments of time.

The company’s treatment and response to federal taxation policies over time may warrant a study of its own. For as to annual report disclosures, it is difficult to assess the impact of taxation, although it became a new issue for US Steel and other corporation upon the passage of a Federal excise tax in 1909, and subsequently following constitutional concerns, the passage of the Corporate Federal Income Tax in 1909.

Over the coming decades, the difference between the tax liability for income determined according to tax regulations and income presented in the financial statements would result in changes in liability and balance sheet treatments to reflect the result of reconciling taxable income and book income. The company’s treatment of taxes began in 1902 may reflect liabilities due but not yet paid. In the annual report for 1909, the accrued tax liability was described as “Accrued Taxes not yet due, usual taxes including a provision for corporate excise tax” noting the new federal excise tax. This terminology (‘taxes not yet due’) reflects a deferral element, i.e. not just current taxes due but unpaid. Subsequently, in the 1913 annual report the language is “Accrued taxes not yet due, including provision for federal income tax.” Later in the 1960s, for example, following complex investment tax legislation of the Kennedy era, the word ‘deferred’ with relationships to taxes was used explicitly. Further, in 1968, narrative materials and tables were used to provide specific information about how the investment tax credit laws were applied and its affect on income.
The discovery of US Steel’s use of a direct-method cash flow statement in the 1949 annual report to highlight the “Pot of Gold Fallacy” raised the question if this was the first use of a cash flow statement in annual reports. A study could be performed on historical annual reports to discover the first use of a cash flow statement in financial reporting.

As the analysis of the *tone* of corporate communication becomes more popular in the accounting literature, the work in this study may assist in the analysis of this characteristic. Future studies could explore the individual aspects of the DICTION 5.0 tone master variables, rather than tone as only one discreet factor. Further discussion of managerial ideology and the influence of capital providers on corporate disclosure practices may be further explored.

Finally, future historians may become interested in an analogous question to that of Watts (1977, 2006) which motivated this study, namely: “Why do annual reports take their current form?” With the development of ProQuest’s historical annual report database, this has become easier than when this study began.
# TABLE 1

**Descriptive Statistics of the US Steel Annual Reports:**

**The Gary Years (1902-1926)**

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<td>Charts, Graphs, Tables</td>
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Pearson Correlations

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<th>OPTIM</th>
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N=105
TABLE 6b

Pearson Correlations

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N=105
### TABLE 7

**Goodness-of-Fit Indices**

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<th>$X^2$</th>
<th>df</th>
<th>$p$</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
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<td>0.358</td>
<td>0.500</td>
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<td>0.000</td>
<td>0.257</td>
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<td>2 HIST_MILE $\rightarrow$ TONE</td>
<td>1624.02</td>
<td>199</td>
<td>0.000</td>
<td>0.252</td>
<td>0.412</td>
<td>0.262</td>
</tr>
<tr>
<td>3 PROFIT $\rightarrow$ DISPLAY</td>
<td>1625.95</td>
<td>200</td>
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<td>0.255</td>
<td>0.411</td>
<td>0.262</td>
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<td>4 LEVER $\rightarrow$ CONTENT</td>
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<td>0.264</td>
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<tr>
<td>5 MGMT_TEAM $\rightarrow$ TONE</td>
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*The model is unidentified.*
TABLE 8
Comparative Summary of Five Eras of US Steel Annual Reports

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<td>Institutional Ownership</td>
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<td>25%-40%</td>
<td>36%-41%</td>
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</table>
CHART 1

Disclosure of US Steel Annual Reports
CHART 2

Text Versus Visual Information in US Steel Annual Reports
CHART 3

Graphical, Non-Financial Information in US Steel Annual Reports

Chart

Picture
CHART 4

Tone Variables for the US Steel President/Chairman’s Letter
CHART 6

Profitability of US Steel over the 20th Century
CHART 7
Debt to Asset Ratio for US Steel
FIGURE 1

Explanatory Content Analysis Model for Changes in US Steel Annual Reports
FIGURE 2

Initial AMOS Structural Model
FIGURE 3

Model for Managerial Ideology in US Steel Annual Reports
FIGURE 4
US Steel’s Average Common Shares per Holder

The Gary Years (1902 - 1926)
The Transition Years (1926 - 1937)
The Voorhees/Tyson Years (1938 - 1969)
The Evolution Years (1970 - 1991)
The Cost-Effective Years (1992 - 2006)

Year

Avg. Shares per holder
2005: $49.44 per share, 114.5M outstanding shares
1995: $35.62 per share, 380.0M outstanding shares
1985: $27.13 per share, 123.4M outstanding shares
1975: $47.25 per share, 54.2M outstanding shares
1965: $53.00 per share, 54.1M outstanding shares
1955: $80.88 per share, 53.5M outstanding shares
1945: $60.25 per share, 8.7M outstanding shares
1935: $37.00 per share, 8.7M outstanding shares
1925: $135.88 per share, 5.08M outstanding shares

The Gary Years (1902 - 1926)
The Transition Years (1926 - 1937)
The Voorhees/Tyson Years (1938 - 1969)
The Evolution Years (1970 - 1991)
The Cost-Effective Years (1992 - 2006)
BIBLIOGRAPHY


Zeff, S. A. “A Critical Examination of the Orientation Postulate in Accounting, with Particular Attention to its Historical Development,” Published Dissertation, Department of Economics, University of Michigan, 1962.