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Creating a Fog: Can Plain English Be Used to Mislead Investors?

Scott Collins
Claremont Graduate University

Creating a Fog:

Can Plain English be used to Mislead Investors?

by

Scott Collins

A dissertation submitted to the Faculty of Claremont Graduate School in partial fulfillment
of the requirements for the degree of Doctor of Philosophy in Management

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2012

APPROVAL OF THE REVIEW COMMITTEE

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which hereby approves the manuscript of Scott Collins as fulfilling the scope and quality requirements for meriting the degree of Doctor of Philosophy.

James S. Wallace, Ph.D., Chair
Claremont Graduate University
Associate Professor of Finance

Jay Prag, Ph.D., Member
Claremont Graduate University
Clinical Associate Professor

Roberto Pedace, Ph.D., Member
Scripps College
Associate Professor of Economics

ABSTRACT

CREATING A FOG: CAN PLAIN ENGLISH BE USED TO MISLEAD INVESTORS?

BY
SCOTT COLLINS

CLAREMONT GRADUATE UNIVERSITY: 2012

A recent growth in textual analysis research in the accounting and finance literature relies heavily on context to draw conclusions about the readability or sentiment of the text under study. Yet the complexity of the text used in the financial disclosure is also relevant in evaluating readability and sentiment. Experimental results in this dissertation thesis show that a change in annual report complexity is associated with a change in the probability that a subject will comprehend the information being communicated in the disclosure. Specifically, increasing the complexity of an annual report disclosure dampens the probability that a subject will understand good news disclosures and accentuates the probability that a subject will understand bad news disclosures. Experimental results in this dissertation thesis also demonstrate that a change in annual report complexity is associated with a change in the probability that a subject will be optimistic about the nature of the news being communicated in the disclosure. Specifically, an increase in the complexity of an annual report disclosure reduces the probability that a subject will be optimistic about neutral news disclosures, decreases the probability that a subject will be optimistic about good news disclosures, and increases the probability that a subject will be optimistic about bad news disclosures. Further, experimental results show that subjects utilize the Financial Statements, Management's Discussion and Analysis, and Business Data sections of the annual report more frequently than the Notes to Financial Statements section of the annual report. These results should be of interest to regulators, public corporations, and readers of annual report disclosures.

DEDICATION

This work is dedicated to my wife, Kathy Collins, who graciously stuck with me through two separate coast-to-coast relocations, and who lovingly supported me during the long process of pursuing a doctoral degree. Now to enjoy the next phase of our lives together!

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FIGURE 1 – Project Map

Experiment #1: How Investors Locate Information Within an Annual Report	**Experiment #2:** Can Investors be "Fooled" by Altering the Readability of an Annual Report disclosure?
Discourse Analysis: Historical Annual Report Readability and Factor Analysis	**New Index Proposal:** A Readability Index for SEC Disclosures

The accounting and finance literature have recently seen a growth in research related to the textual analysis of financial disclosures. This existing textual analysis research tends to fall into two broad categories: 1) analysis of the mood or sentiment associated with a particular financial disclosure; and 2) analysis of the readability or complexity of a particular financial disclosure. Conclusions drawn in the current body of research rely heavily on the choice of measures employed by the researcher. Critical to the interpretation of any conclusion that has been drawn in the extant literature is the context of the text under study. Research in the broad category of mood or sentiment typically begins with the comparison of a textual sample against a wordlist (either a preexisting wordlist or one created by the researcher), with the goal of

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measuring the percentage of words that are associated with a particular mood or sentiment that has been pre-assigned to each word in the wordlist. Research in the broad category of readability or complexity typically begins with the analysis of a textual sample using one of many preexisting readability indices. In this second broad category of textual analysis research, most of the readability measures employed in the accounting and finance literature enjoy broad acceptance as a measure of readability in a general (non-disciplinary) context.

However, the nature of a typical financial disclosure is more context-specific than the setting in which the existing measures of readability were developed. In fact, the language of accounting and finance is heavily laden with jargon and terminology, a lot of which may be interpreted differently in various contexts. For example, consider the word "outstanding." In the context of a disclosure providing information about the number of common shareholders who currently hold company stock, the word "outstanding" might be interpreted as having a neutral meaning (i.e., neither positive nor negative in nature). However, in the context of a disclosure providing information about the results of operations for a particular year, the word "outstanding" may be used to convey the positive sentiment of management (e.g., "The results for the year were outstanding."). Conversely, in the context of a disclosure providing information about the number of employee stock options that remain unexercised or have not yet expired, the word "outstanding" may have a slightly (if not more) negative connotation. In all three cases, however, most preexisting wordlists used in measuring the mood or sentiment of a particular textual sample would likely interpret the word "outstanding" to be positive. Thus, in the context of financial disclosures, most preexisting wordlists have flaws that could impede accounting and finance research.

Existing readability indices have similar problems with interpreting the discourse used in most financial disclosures. For example, consider the words "management, "division," and "company." In some popular readability indices, these multi-syllable words would be considered "complex" and would increase the readability scores of the textual sample. However, most investors (either sophisticated investors or non-sophisticated investors) would likely correctly interpret the meaning of these words in almost any financial disclosure. Thus, in the context of financial disclosures, most preexisting readability indices also have flaws that could impede accounting and finance research.

The primary objective of this thesis is to reconcile the effects of observed differences between the information disclosed in a company's annual report and recommendations made by the Securities and Exchange Commission (hereafter, "SEC") in its "Plain English" disclosure rules. This dissertation thesis is part of a bigger project that will be completed in multiple stages, portions of which will be accomplished outside of the scope of this thesis. In all, four goals will be fulfilled during the completion of the overall project: 1) Experiment #1, an experiment to gain insight into which sections of an annual report are most-often utilized when investors locate particular information within a company's annual report to its shareholders (hereafter, "annual report"); 2) Discourse Analysis, an examination of annual report readability through the lens of existing readability indices, as well as an analysis of factors contributing to changes in readability scores over time; 3) Experiment #2, an experiment to determine if investors can be "mislead" by altering the readability of annual report disclosures; and 4) New Index Proposal, the proposal of a validated readability index that will more specifically address the readability of corporate disclosures. This overall project is motivated by the purported inadequacy of existing

textual readability indices in measuring the complexity of corporate disclosures provided to stakeholders by companies registered to sell securities in the U.S. capital markets under the auspices of the Securities Act of 1933 and the Securities Exchange Act of 1934.

This thesis makes several contributions to the extant literature. In the second chapter of this thesis, I demonstrate that subjects utilize key sections of the annual report with a frequency that displays a preference for certain sections of the annual report over other sections. I also find that subjects with more prior annual report experience are more often correct about where they feel they *should go* to locate requested information in an annual report, and subjects with more prior annual report experience are more often correct about where they *did go* within the annual report to locate requested information. Subjects with more prior annual report experience also more often report the same responses for where they feel they *should go* to locate information in an annual report and where they *actually did go* to locate the requested information. In the third chapter of this thesis, I demonstrate that a change in annual report complexity is associated with a change in the probability that a subject will comprehend the information being communicated in the disclosure. This effect appears to reduce the probability that a subject will understand good news disclosures and increase the probability that a subject will understand bad news disclosures. I also find that a change in annual report complexity is associated with a change in the probability that a subject will be optimistic about the nature of the news being communicated in the disclosure. This effect appears to dampen the probability that a subject will be optimistic about neutral news disclosures, reduce the probability that a subject will be optimistic about good news disclosures, and accentuate the probability that a subject will be optimistic about bad news disclosures.

1.2 Scope of Dissertation Thesis

FIGURE 2 – Scope of Dissertation Thesis

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┌─────────────────────┐      ┌─────────────────────┐
│  Experiment #1:     │      │  Experiment #2:     │
│                     │      │                     │
│  How Investors      │─────▶│  Can Investors be   │
│  Locate Information │      │  "Fooled" by Altering│
│  Within an Annual   │      │  the Readability of an│
│  Report             │      │  Annual Report      │
│                     │      │  disclosure?        │
└─────────────────────┘      └─────────────────────┘
   ┌─────────────────────┐      ┌─────────────────────┐
   │  Discourse Analysis:│      │  New Index Proposal:│
   │                     │      │                     │
   │  Historical Annual  │      │  A Readability Index│
   │  Report Readability │      │  for SEC Disclosures│
   │  and Factor Analysis│      │                     │
   └─────────────────────┘      └─────────────────────┘
```

It is important to note that I am proposing to limit the scope of this dissertation thesis to Experiment #1 and Experiment #2. I will thus leave the Discourse Analysis and New Index Proposal components for future research. A particular focus of this thesis will be placed on measuring how differences in the readability of a given annual report disclosure may impact the ability of an investor to correctly (and confidently) interpret the intended disclosure information. This thesis will also seek to investigate whether (or not) an average investor might be "mislead" into believing that the information presented in a given annual report disclosure is either more positive or less negative than intended when the readability of the disclosure is manipulated.

1.3 SEC's "Plain English" Disclosure Rules

The laws and rules that govern the securities industry in the United States derive from a simple and straightforward concept: *all investors* [emphasis added here and below], whether large institutions or private individuals, should have access to certain basic facts about an investment prior to buying it, and so long as they hold it. To achieve this, the SEC requires public companies to disclose *meaningful* financial and other information to the public. This provides a common pool of knowledge for all investors to use to *judge for themselves* whether to buy, sell, or hold a particular security. Only through the steady flow of timely, *comprehensive*, and accurate information can people make sound investment decisions. (SEC 2012, Under "Introduction")

Since the enactment of the Securities Act of 1933 and the Securities Exchange Act of 1934, a key component of the SEC's mission has been to "maintain fair, orderly, and efficient markets…" (SEC, 2012). Over time, a portion of this mission has been directed at the complexity of dialogue used by companies that file registration statements with the SEC. The SEC's historical and recent efforts in targeting the complexity of these filings appear to be consistent with the objectives listed in the excerpt above: 1) to provide private individual investors and larger institutional investors with the same access to the same information about an investment, so they may evaluate the information in their own manner; and 2) to demand that information provided to the public by a company in an SEC filing is both comprehensible and meaningful to investors.

This sentiment has been echoed by ranking SEC staff members in speeches delivered to public sector agencies and private sector organizations. In 1997, SEC Chairman Arthur Levitt offered a $250 U.S. Savings bond to the SEC employee who could "find the worst piece of 'gobbledygook' [from either an SEC-generated document or a document submitted by a public filer] and transform it into plain English" (SEC, 1997). In justifying the award, Chairman Levitt added "What is the point of disclosure if the people who need it most don't understand it?" (SEC, 1997). Chairman Levitt concluded his challenge by declaring that "…communicating in plain English is the best way to serve investors…Gobbledygook must go!" (SEC, 1997). In a 2007 address to the Center for Plain Language, Chairman Christopher Cox delivered a satirical example of how a famous (and succinct) movie quote might appear if it were communicated in a typical public filing that did not adhere to the SEC's Plain English guidelines:

Remember Clint Eastwood's classic role in *Dirty Harry*? One of the most famous scenes from the movie has the wounded bad guy trying to decide if he should draw his gun on Inspector Harry Callahan, or if Callahan might have one shot left. Harry Callahan just squints at him, steely-eyed, and says:

"I know what you're thinking. Did he fire six shots or only five? Well, to tell you the truth, in all this excitement, I've kind of lost track myself. But being as this is a 44 Magnum, the most powerful handgun in the world, and would blow your head clear off, you've got to ask yourself one question: Do I feel lucky?"

Not much question that Dirty Harry got his point across. In fact, if those same lines of dialogue were to appear in your average prospectus or proxy statement, they'd probably sound more like this:

"I imagine that you are harboring significant uncertainty concerning the precise number of times that the hammer of this particular multi-shot firearm was cocked, its cylinder was advanced, the hammer was then released at the rear of its travel, the round in the chamber was fired, and the cylinder was then advanced once again — and specifically whether the exact figure is six, or possibly only five. Indeed, given the ambient commotion, my preoccupation with the need to make multiple, simultaneous and consequential decisions with alacrity, the surrounding high-decibel acoustic percussion, and the substantial ramifications of the firearm having already been discharged multiple times, I myself am experiencing difficulty in quantifying the discharges with exactitude. But inasmuch as the instrument in question…it is appropriate that you pursue a specific and directed line of inquiry and self-examination: *viz.*, in view of all the facts and circumstances, and giving due weight to the relevant risk factors, is it your considered judgment that you are more likely than not to be relatively fortunate?" (SEC, 2007).

SEC actions mirror the goal that information provided in public SEC filings be communicated in a way that is both comprehensible and meaningful to investors. In 1967, the SEC formed a Disclosure Policy Group (dubbed the "Wheat Commission" for then Commissioner Francis M. Wheat) to investigate various disclosure-related issues, including the complexity of text used in prospectus filings with the SEC. Among other findings, the resulting 1969 "Wheat Report" highlighted a problem with the length and complexity of prospectus filings and warned that the verbose language being used in prospectuses could impact an average investor's ability to understand the information being disclosed. The Wheat Commission further suggested this impact could minimize the intended benefit of the SEC prospectus requirement.

In 1996, the Division of Corporate Finance launched a "Plain English Pilot Program," in which more than 75 participating companies received advice from SEC staff members about how to rewrite SEC disclosure documents in plain English. In 1998, based in part on lessons learned from the Plain English Pilot Program, the SEC adopted plain English disclosure rules and published "A Plain English Handbook: How to Create Clear SEC Disclosure Documents," which aimed to provide companies with guidance about how to use "well-established techniques for writing in plain English to create clearer and more informative disclosure documents" (SEC, 1998). The plain English disclosure rules adopted by the SEC included Regulation C Rule 421(d), dubbed the "Plain English Rule." The Plain English rule required companies "to write and design the cover page, summary, and risk factors section of their prospectuses in plain English…[using] short sentences, everyday language, [an] active voice, [a] tabular presentation of complex information, no legal or business jargon, and no multiple negatives" (SEC 1998, under "Executive Summary"). The plain English disclosure rules adopted by the SEC also included a revision of Regulation C Rule 421(b), dubbed the "Clear, Concise, and Understandable Prospectuses Rule," which was amended to integrate the plain English requirements noted above.

However, it is important to note that excluded from the SEC's Regulation C Rule 421(d) are two prominent (and required) sections of a company's annual report to shareholders: 1) Notes to Financial Statements; and 2) Management's Discussion and Analysis. Accordingly, these two sections of a company's annual report will become source material for the scenarios presented in Experiment #2 below.

1.4 Measuring the Readability of Text

Interest in measuring the readability of a block of text can be traced back to the work of Edward Thorndike in the behavioral psychology field. Thorndike's theory of "connectionism" described an association between stimuli and responses and resulted in a general theory of learning that included a study of specific words that were considered to be appropriate for instruction in various educational subjects (Thorndike, 1921). The specific words chosen by Thorndike were based on a frequency analysis of words used in the English language (Thorndike, 1921).

Following Thorndike's lead, other researchers have sought to identify factors that may affect a reader's ability to understand the text being communicated. Bertha Lively and S.L. Pressey created an index formula that measured the difficulty of a particular block of text by counting the number of words in that were not on the Thorndike list and by simultaneously counting the number of different words used in each 1,000-word section of the block of text being analyzed (Lively & Pressey, 1923). Mabel Vogel and Carleton Washburne created an empirically-derived formula based on ten different factors that included criteria such as the difficulty of words used in the text, average sentence length, and phrases used in the text (Vogel & Washburne, 1928). William S. Gray and Bernice Leary followed with an empirical study of 228 different factors that affect readability. These 228 elements were consolidated into four groups: 1) content; 2) style; 3) format; and 4) organization. Gray and Leary found that factors of content most impacted a reader's understanding of a particular block of text, followed closely by factors of style. But the authors also found that it was difficult to accurately measure the content

of a block of text. Accordingly, the authors included only significantly-correlated factors of style in their readability formula (Gray & Leary, 1935).

One of the most widely publicized readability formulas was created by Rudolf Flesch in his doctoral thesis entitled "Marks of a Readable Style" (Flesch, 1943). Flesch derived his readability formula from a reduced set of significantly-correlated factors to provide a less complicated approach to measuring readability. Flesch followed up with an even simpler formula, dubbed the "Reading Ease Formula," that relied on only two factors for any given 100-word sample in a block of text being measured: 1) the average number of syllables per word; and 2) the average number of words per sentence (Flesch, 1948). In 1976 the U.S. Navy commissioned a study that modified the Reading Ease formula to yield a grade-level score (Kincaid, Fishburne, Rogers, & Chissom, 1975). This widely-used modification, known as the "Flesch-Kinkaid Reading Ease Formula," is the formula embedded in most word processing programs as the primary measure of readability.

Another widely publicized readability formula was created by Robert Gunning as a product of research conducted by his R. Gunning Clear Writing Institute in consultation with several widely circulated daily newspapers and magazines. Gunning published an easy-to-use readability formula, dubbed the "Gunning Fog Index," that relied on two factors for any given 100-word sample in a block of text being measured: 1) average number of words per sentence; and 2) total number of "hard words" (Gunning, 1952). The formula was quickly embraced for its simplicity and high correlation to existing reading comprehension measures. The Gunning Fog Index returns a grade-level score to confirm the text can be read by the intended audience.

Of course, the use of a formula to measure the readability of a particular block of text is not without fault. For one, the precision of any given formula is in question, as each individual measurement of readability seems to yield a slightly different result. The most obvious cause is the difference in variables employed by each set of researchers when developing each individual measure of readability. A less obvious cause is in the criterion used to calculate the correlation coefficients used to validate the measure. Validation is typically achieved by evaluating the formula's ability to predict the grade level required to understand the information being communicated. In this type of analysis, the predicted grade level (based on a formulaic interpretation of the block of text being evaluated) is correlated with grade level achievement (based on the percentage of correct answers returned by a subject on a reading test about the block of text). However, different inclusion criterion have historically been used in determining whether (or not) a particular subject has "successfully" understood the information being communicated. With respect to the two formulae being used in this study, the Flesch-Kinkaid Grade Level Index considered a subject to have understood the block of text if the subject correctly answered 75% or more of the multiple-choice questions being asked about the nature of the information being communicated in the block of text. By comparison, the Gunning Fog Index used a score of 90% or more as the inclusion criteria. Accordingly, the Gunning Fog Index tends to predict higher grade level results than the Flesch-Kincaid Grade Level Index.

1.5 Textual Analysis of Corporate Disclosures

Textual analysis has a longstanding presence in the research of various disciplines within the social sciences. Textual analysis research is found in the disciplines of law, economics, marketing, organizational behavior and management, to name a few. Extant textual analysis literature in the disciplines of accounting and finance, which has seen a recent growth, is not without precedent. In 1964, Soper and Dolphin compared the readability of 25 randomly-selected public company annual reports in the years ending 1948 and 1961. The authors found that the readability of annual reports, as measured by the Flesch Reading Ease Formula, did not significantly change over the testing period. The authors also concluded that the Flesch Reading Ease Formula provided a useful rating of reading ease for corporate annual reports (Soper & Dolphin, 1964). In a similar study conducted in 1995, Courtis randomly samples 32 annual reports for Hong Kong public companies in the years ending 1986 and 1991. Within the sample of annual reports, Courtis then randomly selects passages of text from each of corporate chairman's address and financial statement footnotes and measures the readability of those passages using the Flesch Reading Ease Formula, the Gunning Fog Index, and the Lix measure (not described in this thesis) readability indices. Courtis finds no statistically significant improvement in the readability of the annual report samples from 1986 to 1991, but does classify the textual samples as being "very difficult-to-read literature" (Courtis, 1995).

More recent textual analysis studies in the accounting and finance literature have spawned out of a broader body of research that evaluates the information content of qualitative information presented in financial disclosures. This existing accounting and finance research in the area of textual analysis tends to fall into two broad categories: 1) analysis of the mood or

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sentiment associated with a particular financial disclosure; and 2) analysis of the readability or complexity of a particular financial disclosure.

Results in the broad category of mood or sentiment are emerging with the growth in textual analysis studies in the area of financial disclosures. Utilizing a principal components factor analysis, Tetlock applies the General Inquirer (GI) content analysis program (which employs the "Harvard IV-4 TagNeg H4N" wordlist) within the setting of the *Wall Street Journal's* "Abreast of the Market" column from 1984 to 1999 to create a measure of media pessimism and then evaluates the impact of media pessimism on the Dow Jones Industrial Average. Tetlock finds that higher levels of media pessimism accurately predict a decrease in stock market prices that later revert to fundamental prices. Tetlock also finds that abnormal media pessimism is associated with an increase in market trading volume (Tetlock, 2007). In a study designed to focus the underlying logic used to create the existing sentiment construct, Henry and Leone examine a large sample of company press releases announcing the Results of Operations and Financial Condition associated with annual report filings from 2004 (the first full year the SEC required such filings associated with earnings press releases) to 2006. Henry and Leone evaluate the power of three often-used wordlists from existing research (the "FD" list as developed by author Elaine Henry, the "Harvard IV-4 TagNeg H4N" list, and the "Diction" list as built into the textual editing program Diction). Henry and Leone measure the tone (either positive or negative) of each earnings press release and find that the "FD" list is more powerful in predicting cumulative abnormal returns (–1, +1) around earnings announcement dates than the two other lists under study (Henry & Leone, 2009). A working paper by Bonsall, Bozanic, and Fischer examines a similar sample of company press releases announcing the Results of Operations and Financial Condition associated with annual report filings from 2004 to 2008.

The authors create a proxy for the tone of qualitative disclosures ("soft talk") associated with these press release filings (dubbed "net optimism," and measured as the number of optimistic words in the textual sample less the number of pessimistic words in the textual sample, scaled by the total number of words in the sample passage). The authors find that soft talk provides greater information content when the press release does not include explicit quantitative forecasts. The authors also find that the information content of soft talk is augmented when management faces an increase in the risk of litigation and when investors are predisposed to a more favorable opinion of management (Bonsall et al., 2012).

Another recent study challenges an often-used wordlist in textual analysis research. Through a large-sample study of 10-K's from 1994 to 2009, Loughran and McDonald find that the context of the words defined as being "positive" or "negative" by the Harvard Psychosociological Dictionary (i.e., the "Harvard IV-4 TagNeg H4N" file) matters. The authors find that almost 75% of words defined by Harvard as being "negative" are not necessarily negative in a financial context. The authors then propose several dictionary lists to parse out several tones that persist in 10-K filings (e.g., "positive," "negative," "uncertainty," "litigious," "modal strong," and "modal weak"), and link these word lists to 10-K filing returns, trading volume, return volatility, fraud, material weakness, and unexpected earnings (Loughran & McDonald, 2011). A contemporaneous working paper by Loughran and McDonald utilizes the same data set and finds that the Gunning Fog Index is misspecified in business settings. The authors propose instead to measure readability simply by counting the number of words in an SEC document, and find that 10-Ks with fewer words have lower analyst dispersion (Loughran & McDonald, 2011).

Results in the broad category of readability or complexity are also emerging with the growth in textual analysis studies in the area of financial disclosures. Using both the Gunning Fog Index and the total word count as measures of annual report readability, Li examines the relationship between annual report readability, firm performance, and earnings persistence in a 2008 study. Li finds that firms with longer annual reports and higher Fog Index scores have lower earnings, and that positive earnings for firms with annual reports that are more difficult to read are less persistent. Conversely, Li also finds that firms with annual reports that are easier to read have higher persistent earnings. Li concludes that firms may be attempting to hide adverse information from investors by increasing either the length or Fog Index (or both) of the annual report (Li, 2008). You and Zhang examine a large sample of annual report filings from 1995 to 2005 and bifurcate the sample on the total word count in the annual report. Firms with relatively complex annual reports (more than the median number of total words) are found to have a delayed stock market price reaction, suggesting that investors underreact to the news being conveyed in more complex (i.e, longer) annual reports (You & Zhang, 2009).

In a paper published out of his dissertation thesis, Miller examines a large sample of annual report filings from 1994 to 2006 and finds an association between more complex filings (defined in the study as longer in length and higher in the Gunning Fog Index score) and lower overall trading volume for the company's registered security. Miller finds that small investor trading volume decreases as the complexity of the annual report increases, attributing the decrease in overall trading volume to this association (Miller, 2010). In a study that also employs the Gunning Fog Index as a measure of readability, Lehavy, Li, and Merkley examine a large sample of annual report filings from 1995 to 2006 and find that less readable annual reports are associated with a greater number of "sell-side" financial analysts following a company. The

authors also find that greater information content exists in analyst reports for companies with less readable annual reports. The authors further discover that less readable annual reports are associated with greater forecast dispersion and less accurate forecasts. The authors conclude that investor demand for analyst information is increasing in the complexity of the annual report disclosure (Lehavy et al., 2011).

While significant progress has been made in the area of textual analysis research centering on financial disclosures, accounting and finance researchers have not yet been able to reach a consensus about how to define the critical constructs of sentiment or readability. The overall project described in the "Overall Project Map and Objectives" section of this thesis is thus an attempt to construct a measure of readability that will adequately address the specific context of financial disclosures.

Chapter 2: Experiment #1

2.1 Motivation

Motivation for the first experiment presented in this thesis comes primarily from a 2010 *Journal of Accountancy* article written by Arnold, Bedard, Phillips, and Sutton, in which experimental subjects were tracked with respect to: 1) whether (or not) they used annual report information to make investment decisions; and 2) if they did use annual report information, where subjects went within the annual report to access the information. The authors found that the Business Data, Financial Statements, and Management's Discussion and Analysis (MD&A) sections were the most utilized components in the annual report under study. The authors also found that their "professional" group (i.e., more experienced investors) accessed more items within the annual report than did their "non-professional" (i.e., less experienced investors) group. Finally, the authors found that when the same information was available in multiple locations of the annual report, a location other than the notes to the financial statements was most often used. The authors concluded that retail investors use a smaller set of information to make investment decisions than do institutional investors (Arnold et al., 2010).

The premise of the Arnold et al. study was to determine if variation existed in how different investor groups accessed information in an annual report. One interesting facet of the study came in the measurement of where investors went to access information that was made available in more than one section of the annual report. The annual report under study was made available to subjects on a dedicated website, and a software program was creatively used to track which sections investors visited within the annual report document. However, one key flaw in

the Arnold et al. study is that the authors primarily compared the Notes to Financial Statements and MD&A sections in cases where information was located in more than one section of the annual report. Thus, when faced with a choice of locating information within these two sections, the authors were able to draw a clear conclusion about which section investors preferred (in the Arnold et al. study, when given a choice between the Notes to Financial Statements and MD&A sections, investors preferred the MD&A section in almost all cases). The authors also tested a few instances of the pairing between the Notes to Financial Statements and Business Data sections. However, other pairings were not tested.

It thus became my goal in the first experiment to design a study that more thoroughly tracked where subjects went to locate information within an annual report within a classroom setting. While the basic premise in this first experiment is similar to the Arnold et al. study, several key differences exist: 1) pairings between the Business Data, MD&A, Financial Statements, and Notes to Financial Statements are completely tested; 2) subjects are asked to respond to questions about locating information in such a manner that more accurately measures the section(s) in which they located the requested information; 3) subjects are asked two questions for each piece of requested information, and these two questions are both used when measuring the results; 4) subject responses are also compared to hypothesized search patterns to determine if the search pattern is governing the section in which the information is located; 5) a larger number of subjects were tested; and 6) subjects were comprised of senior-level students in a major east-coast university business program. It is my hope that the approach in this experiment will provide more robust conclusions than are presented in the Arnold et al. study.

2.2 Research Design

2.2.1 Subject Selection

This study employed human subjects enrolled in a required capstone business course at a major east-coast university. Approximately 1,000 subjects were invited to participate in the study. Approximately 45% of the available subjects participated in all instruments. This study utilized a quasi-experimental research design via the administration of two primary instruments: 1) an orientation survey aimed at bifurcating subjects into a control group (subjects who were deemed to be *more experienced* with annual reports) and an experimental group (subjects who were deemed to be *less experienced* with annual reports); and 2) an assessment instrument intended to determine how subjects locate information within an annual report. All three surveys deployed in this experiment are included in their entirety in Appendix A through Appendix C below. Subjects received both extra course credit and "raffle tickets" for participation in the experiment. In an effort to mitigate a subject's temptation to simply "click through" either the orientation survey or the assessment instrument, half of the extra credit points for any given question were awarded for simply answering the question, and the remaining half of the extra credit points were awarded for correctly answering the question. In addition, one "raffle ticket" was awarded to subjects for correctly answering any given question, with gift certificates in the name of a general merchandiser (such as Amazon.com) awarded to subjects via a raffle that was held after the conclusion of the experiment.

In any given semester of the capstone business course employed in this experiment, the available subject pool tends to be split along five primary majors of study: 1) finance; 2) marketing; 3) accounting; 4) supply chain and information systems; and 5) management and

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organization. Peripheral majors of study enrolled in any given semester of this course include majors such as business-economics, management information systems, and actuarial science. Of the subjects who participated in all instruments (445 subjects in total, before eliminating subjects who were deemed to have "clicked through" the survey responses), approximately 23% were accounting majors, approximately 23% were finance majors, approximately 20% were marketing majors, approximately 16% were supply chain and information sciences majors, and approximately 14% were management and organization majors. Approximately 4% of the participants were classified in the "other" major of study category. Eliminating subjects who were deemed to have "clicked through" the survey responses changed this mix slightly, but the exclusion of these subjects did not result in a statistically significant difference between the proportions of subjects in each major. During the semester in which this experiment was conducted, students chose to enroll in one of four lecture sections, with an average of approximately 250 students enrolled in each lecture section. Students also chose to enroll in one of 25 lab sections, with an average of approximately 40 students enrolled in each lab section. Student enrollment in each section of enrollment was assumed to be homogeneous, and thus it was assumed that the lecture and lab enrollment choice of any given subject would not impact any anticipated results. A sensitivity test was conducted to compare the homogeneity of subjects enrolled by lab section. A comparison of final course grades revealed that subjects were determined to be homogeneous across lab sections with respect to their final grade in the course.

2.2.2 Deployment of Research Instruments

Both the orientation survey and assessment instrument in this study were administered via an online course management system that was available to all courses of study at the university in question during the semester in which the experiment was conducted. In an effort to avoid subject fatigue, the various components included in this study were delivered to subjects in three separate testing windows. The orientation survey was delivered to subjects during the first testing window. Two unique assessment instruments were delivered in each of the second and third testing windows. In an effort to mitigate learning effects, three deployment controls were established: 1) the first assessment instrument was administered after a "cooling off period" of approximately one week after the close of the testing window for the orientation survey; 2) the second assessment instrument was administered after a "cooling off period" of approximately one week after the close of the testing window for the first assessment instrument; and 3) the results of both the orientation survey and the assessment instruments were withheld from subjects until after the completion of the experiment. Subjects were provided the opportunity to inquire about the results of any of the instruments after the conclusion of the experiment.

To standardize the presentation of annual report documents, all source document files used by subjects in this study were converted into standardized reports using the Adobe Acrobat® "portable document file" (.pdf) file format. Each question scenario presented subjects with task-specific terminology that was intended to be used by subjects in their search for the information requested in the scenario.

2.2.3 Orientation Survey

The primary purpose of the orientation survey was to provide all subjects with a baseline level of knowledge about the purpose of four key components of an annual report (Business Data, Management's Discussion and Analysis, Financial Statements, and Notes to Financial Statements). A secondary purpose of the orientation survey was to bifurcate subjects into an experimental group and a control group for use in hypothesis testing associated with the first and second assessment instruments. Subjects with relatively "high" prior annual report experience (bifurcated at the median experience level, based on a self-reported prior experience with annual reports) were placed in the control group. Subjects with relatively "low" prior annual report experience were placed in the experimental group. A sensitivity test was conducted to compare results using an alternate bifurcation of subjects by major of study. Accounting and finance majors were placed in the control group and all other majors of study were placed in the experimental group. The results discussed below are robust to this alternative bifurcation. The orientation instrument is included in its entirety in Appendix A below.

2.2.4 Assessment Surveys

The assessment surveys included questions aimed at measuring where subjects felt they *should go* to locate information within an annual report, and the assessment surveys further included questions aimed at measuring where subjects actually *did go* within the annual report to locate the requested information. Two separate assessment surveys were deployed, with each of the two assessment surveys following the same progressive logic in question design. Results from the first and second assessment instruments were used to determine which key sections of the given annual report documents were most-often used by subjects to locate information

requested by a series of scenarios presented in the assessment instruments. After determining the sections that were most utilized by subjects when locating the requested information, results from the first and second assessment instruments were also used to determine if investors followed one of several hypothesized search patterns while seeking out the requested information.

Three questions were posed to subjects for each business scenario presented in the two assessment instruments: 1) given the facts in the scenario, which section of the annual report would the subject most likely utilize in locating the requested information; 2) what was the exact piece of information (either a numerical or text-based piece of information) being requested in the scenario; and 3) on which page of the annual report document did the subject locate the information being requested. The following logic was employed in the answer choices for these three questions:

- The exact piece of information requested was located within *at least two sections* of the annual report document. Ideally, this piece of information was located in only two sections of the annual report document, but in a few scenarios the information was located in more than two sections of the annual report document.

- For the first question, the available answer choices were each of the four key annual report sections being tested (Business Data, MD&A, Financial Statements, and Notes to Financial Statements). The order of answer choices for this set of questions remained static, and thus was not randomized.

- For the second question, the logic for available answer choices was as follows (letters represent each answer choice): a) the actual answer; b) the first number or text string

associated with a logical search string for the main topic of the question, as measured from the start of the annual report, but that was NOT the correct answer (e.g., if the question involved determining the company's "gross margin" for a particular fiscal year, this answer represented the first reasonable – but incorrect – answer choice associated with the search string "gross margin," as measured from the start of the annual report); c) a random number or text string that WAS located in the annual report, but that was NOT associated with the logical search string for the main topic of the question; and d) a random number or text string that was NOT located anywhere within the annual report. The purpose of answer choice (d) in the second question was to determine if subjects were "clicking through" the survey assessment without regard to providing their true intended answers. Subjects with two or more of these (d) answer choices were excluded from the main data analysis for this experiment.

- For the third question, the logic for available answer choices was as follows (letters represent each answer choice): a) the page number corresponding to the first key annual report section where the actual answer appeared, as measured from the beginning of the annual report document; b) the page number corresponding to the second section where the actual answer appeared, as measured from the beginning of the annual report document; c) the page number corresponding to the first number or text string associated with a logical search string for the main topic of the question, as measured from the start of the annual report, but that was NOT the correct answer; and d) the page number corresponding to the random number or text string that WAS located in the annual report, but that was NOT associated with the logical search string for the main topic of the question.

- For questions where the actual answer was located in more than two sections of the annual report document, answer choice c (and, if necessary, answer choice d) mirrored the logic from answer choices a and b). The page number associated with the random number or text string which was NOT located within the annual report was excluded from the answer choices for the third question, as subjects who chose the random answer were likely to have "clicked-through" the first question, and their data would thus be excluded from the data set.

In the two assessment instrument deployments, answer choices for most questions were randomized so that each subject viewed an arbitrary order of answer choices. The only exception to this randomization program was the six questions corresponding to where subjects felt they *should go* to locate the requested information, where the answer choices remained static. For all questions in each of the two assessment surveys, the order of questions presented was standardized across all subjects. The assessment instruments are included in their entirety in Appendix A below.

2.2.5 Cronbach's Alpha Coefficient for Research Instruments

In 1951, Lee Cronbach devised a formula to "estimate the proportion of test variance attributable to common factors among [test] items." The index, which is commonly known as "Cronbach's Alpha Coefficient," has since been used extensively in the literature of multiple disciplines as a measure of internal consistency or reliability of test scores for questions included in a testing instrument. Cronbach himself made no mention of an interpretable scale for his coefficient. Prior research establishes 0.70 or above to be an acceptable measure of internal consistency (Cortina, 1993). Thus, instruments with coefficient values above 0.70 are deemed to

adequately measure the general construct being tested in the instrument. In this experiment, Cronbach's Alpha Coefficient for the orientation survey, assessment survey #1, and assessment survey #2 was calculated to be 0.85, 0.98, and 0.99, respectively. It should be noted that Cronbach's Alpha Coefficient tends to increase as the inter-correlations among questions included in the testing instrument increases. One factor that may drive this increase is the number of test questions included in the testing instrument (Cortina, 1993). The assessment instruments deployed in this experiment include more test questions than the orientation instrument. This phenomenon may explain the higher alpha coefficients for each of the assessment surveys in this experiment.

2.3 Hypothesis Development

The experimental objectives for this study were established to determine: 1) where the subjects in each experience group most often went within an annual report to locate information; and 2) if there was a statistically significant difference between experience groups in terms of where subjects felt they *should go* to locate information within an annual report, and if there was a statistically significant difference between experience groups in terms of where subjects *actually did go* to locate information within the annual report.

2.3.1 Objective #1: Where Do Subjects Most Often Find Information in an Annual Report?

To accomplish the first experimental objective, subject responses from the assessment instruments were tabulated by major of study within each experimental group. In particular, responses related to questions about the section of the annual report where subjects *did go* to locate information were considered in tabulating these results. As described above, one set of questions in the assessment surveys asked subjects to locate information requested in the annual

report. After answering a question designed to test whether (or not) the subject located the requested information, subjects were then asked to report (via a multiple choice response) which page number they utilized in locating the requested information. Recall that the information requested in each scenario was simultaneously located in two different sections of the annual report. Subjects thus made decisions in each scenario about the section in the annual report where they preferred to locate the requested information. Recall also that four key sections of the annual report were tested (Business Data, MD&A, Financial Statements, and Notes to Financial Statements). Six unique pairings of these four sections were presented to subjects in each of two assessment surveys. To mitigate learning effects, subjects were presented with a different annual report (and thus different pieces of requested information) in the second assessment survey than in the first assessment survey. Accordingly, twelve data points were collected for each subject, representing two instances of each pairing.

My motivation for this part of the experiment comes from the Arnold et al. (2010) study, in which the authors found the Business Data, Financial Statements, and Management's Discussion and Analysis (MD&A) sections were the most utilized components in the annual report under study. In my revised version of that study, a static subset of four key annual report sections are presented to subjects, with each scenario asking subjects to demonstrate where they would go to find information that was simultaneously located in two different sections of the annual report. So subjects were presented with all possible combinations of the four key annual report sections. Accordingly, it should follow that subjects would locate information from each of the four sections with equal frequency, unless it could be observed that subjects displayed an inherent bias for locating the information in one (or more) sections of the annual report over the

other annual report sections. The first hypothesis for this experiment can thus be expressed as

follows (presented below in the null form):

H_{1a}:   **Subjects will locate requested information in the annual report with equal frequency across all four of the key annual report sections.**

H_{1b}:   **There will be no difference between control subjects and experimental subjects in terms of how often they utilize each key annual report section.**

2.3.2 Objective #2: Is There a Difference in Where Subjects Feel They Should Go to Locate Information in an Annual Report and Where Subjects Actually Go to Locate the Information?

To accomplish the second experimental objective, subject responses from the assessment

instruments were again calculated by major of study within each experimental group. In

particular, responses related to questions about where subjects felt they *should go* to locate

information in the annual report were considered, and responses related to questions about the

section of the annual report where subjects *did go* to locate the information were also evaluated.

As described above, three unique questions were presented to subjects for each business scenario

included in the two assessment surveys. All three questions included the same business scenario,

but presented subjects with different answer choices. The first of the three questions for each

business scenario measured where subjects felt they *should go* in the annual report to locate

information requested in the scenario. Available answer choices included each of the four key

annual report sections being tested (Business Data, MD&A, Financial Statements, and Notes to

Financial Statements). Recall that the information requested in each scenario was

simultaneously located in two different sections of the annual report. In answering these first

questions about each scenario, subjects made decisions about the section in the annual report

where they preferred to locate the requested information. Again, six unique pairings of these four sections were presented to subjects in each of two assessment surveys. To mitigate learning effects, subjects were presented with a different annual report (and thus different pieces of requested information) in the second assessment survey than in the first assessment survey. Accordingly, twelve data points were collected for each subject, representing two instances of each pairing.

The information requested in each scenario presented to subjects was simultaneously located in two different key annual report sections, so observed subject responses would be correct if either of two different annual report sections where the information was located were utilized by the subject. Accordingly, it should follow that subjects in the experimental and control groups would locate information from either of two correct annual report sections with equal frequency, unless it could be observed that subjects in one group displayed an inherent bias for locating the information in one (or more) sections of the annual report over the other annual report sections. The second hypothesis for this experiment can thus be expressed as follows (presented below in the null form):

H$_{2a}$: **There will be no difference in the frequency with which control subjects and experimental subjects correctly identify one of the sections in the annual report where they *should go* to locate requested information.**

H$_{2b}$: **There will be no difference in the frequency with which control subjects and experimental subjects correctly report one of the sections in the annual report where they *did go* to locate requested information.**

H$_{2c}$: **There will be no difference in the frequency with which control subjects and experimental subjects report the same responses for where they *should go* within the annual report to locate requested information and where they *did go* within the annual report to locate requested information.**

2.3.3 Robustness Tests

Admittedly, some subjects may have been motivated to "click-through" the survey assessments. The motivation for a subject to "click through" the responses may have been related to the award of extra credit offered for participating in the survey responses (recall that 50% of the extra credit points were awarded for simply answering the questions). In an effort to mitigate any "outlier effects" from subjects who may have randomly answered questions when conducting the main data analysis, I set aside responses from subjects whose data set included two (or more) "random" answer choices (as described in the previously-provided logic for assessment instrument answer choices). The exclusion of responses from subjects whose data set included at least one "random" answer choice was also considered. A sensitivity test was performed to determine if any statistically significant differences existed between the two exclusion criteria. The results discussed below are mostly robust to this alternate exclusion criterion.

I also compared the homogeneity of subjects across experimental groups and across majors of study by comparing the final course grades of subjects. As measured by final grades in the course, subjects were determined to be homogenous across these delineations.

2.4 Results

Table 1 provides sample characteristics for the subjects considered for the main data analysis. The ENTIRE SAMPLE grouping in Table 1 represents all included subject responses, regardless of their prior level of annual report experience. Recall that subjects were bifurcated into an experimental group and a control group based on their reported level of annual report experience.

The EXPERIMENTAL QALL grouping in Table 1 includes all subjects who fell into the first and second quartiles of experience (i.e., subjects who had relatively less prior experience with annual reports). The CONTROL QALL grouping in Table 1 includes all subjects who fell into the third and fourth quartiles of experience (i.e., subjects who had relatively more prior experience with annual reports). The ENTIRE SAMPLE group in Table 1 consists of 389 subjects in total, after eliminating subjects who were deemed to have "clicked through" the survey responses. In the ENTIRE SAMPLE group, approximately 24% were accounting majors, approximately 24% were finance majors, approximately 19% were marketing majors, approximately 15% were SC&IS majors, and approximately 14% were M&O majors. Approximately 4% of the participants were classified in the "other" major of study category. Accounting and finance majors together comprised approximately half of the ENTIRE SAMPLE subject pool in Table 1.

This mix of majors changes slightly the other two columns of Table 1. The EXPERIMENTAL QALL group in Table 1 consists of 218 subjects, with the only significant difference between the EXPERIMENTAL QALL and ENTIRE SAMPLE groups being a drop in the proportion of finance majors. Thus, the EXPERIMENTAL QALL group in Table 1 is comprised mostly of majors other than accounting and finance. The CONTROL QALL group in Table 1 consists of 171 subjects, with the proportion of finance majors and accounting majors dominating the group, and with significant decreases in the proportion of marketing majors and SC&IS majors as compared to the ENTIRE SAMPLE group.

Table 2 provides sample characteristics for the subjects included in the main data analysis. For the main data analysis presented in this section, subjects with two or more "random" answer choices were excluded from the data set. These respondents were deemed to have "clicked through" the survey responses. In order to be included in the main data analysis, subjects were also required to participate in all three survey instruments. Response data from 389 subjects in total were available for inclusion in the main data analysis.

It is also important to note that subjects enrolled in the course were "mapped" into one of six majors of study for inclusion in the main data analysis. Figure 3 details subjects' reported majors of study and the corresponding assignment into a major of study for data analysis.

FIGURE 3: MAPPING OF MAJORS FOR EXPERIMENT #1

REPORTED MAJOR	Description	MAPPED MAJOR
ACCTG	Accounting	ACCTG
BAADM	Business Administration	M&O
BSB	Bachelor of Science in Business	OTHER
ECON	Economics	OTHER
FIN	Finance	FIN
IRE	International Relations	M&O
M&O	Management and Organizations	M&O
MKTG	Marketing	MKTG
N DEG	No Degree Declared	OTHER
N/A	No Degree Reported	OTHER
RM	Real Estate Management	OTHER
SC&IS	Supply Chain and Information Sciences	SC&IS

2.4.1 Objective #1: Where Do Subjects Most Often Find Information in an Annual Report?

To test the first experimental objective, survey responses related to questions about the section of the annual report where subjects *did go* to locate information were tabulated and cross-tabulated. Recall that subjects were asked to report (via a multiple choice response) which page number they utilized in locating the requested information in each business scenario. Recall also that the information requested in each scenario was simultaneously located in two different sections of the annual report. Subjects thus made decisions in each scenario about the section in the annual report where they preferred to locate the requested information. A total of twelve data points were collected for each subject, representing two instances of each pairing in each of Survey 2 and Survey 3.

Table 3 reports results for the proportion of subject responses to survey questions aimed at measuring subject utilization of each key annual report section. The proportion of observed responses in each annual report section were compared to the hypothesized level of 25% utilization for each annual report section by employing a Z-test of inferences about two population proportions. Results are organized first by major of study and then by annual report section. Panel A in Table 3 represents responses from Accounting (ACCTG) majors. Panel B in Table 3 represents responses from Finance (FIN) majors. Panel C in Table 3 represents responses from Management and Organization (M&O) majors. Panel D in Table 3 represents responses from Marketing (MKTG) majors. Panel F in Table 3 represents responses from Supply Chain and Information Sciences (SC&IS) majors. Panel E in Table 3 represents responses from peripheral majors of study (OTHER) that are different from the five previously listed majors of study. Panel G in Table 3 represents the combined responses from all majors of study (ALL

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MAJORS OF STUDY). Responses are also split by experience group. The ENTIRE SAMPLE

group represents responses from all subjects, the EXPERIMENTAL QALL group represents the

combined responses from subjects in the first and second quartiles of prior experience with

annual reports (i.e., relatively lower prior experience), and the CONTROL QALL group

represents the combined responses from subjects in the third and fourth quartiles of prior

experience with annual reports (i.e., relatively higher prior experience). The EXPERIMENTAL

Q1 and EXPERIMENTAL Q2 groups represent responses from subjects in the first and second

quartiles of experience, respectively. The CONTROL Q3 and CONTROL Q4 groups represent

responses from subjects in the third and fourth quartiles of experience, respectively.

Given an equal number of opportunities to choose any of the key annual report sections,

H_{1a} predicted that subjects would utilize each of the key annual report sections with equal

frequency. Results from Table 3 Panel G find that subjects actually utilized sections of the

annual report in a frequency that differed from the predicted pattern. All experimental groups in

Table 3 Panel G utilized the Financial Statements section of the annual report significantly more

frequently than the predicted 25% level, and all experimental groups in Table 3 Panel G made

use of the Notes to Financial Statements section of the annual report significantly less frequently

than the predicted 25% level. Results from the other experimental groups in Table 3 Panel G

also reveal significant differences from the predicted level of equal utilization across the various

key annual report sections. While H_{1a} can be rejected across all experimental groups in Table 3

Panel G, a few interesting observations can be made about the results by individual major in the

ENTIRE SAMPLE columns of Table 3 Panel A through Panel F. For example, ACCT majors

made use of both the MD&A section of the annual report and the BUS DATA section of the

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annual report more than the FIN STMTS section of the report, while FIN, M&O, and MKTG

majors made use of the FIN STMTS section of the annual report more than any other section.

All majors of study utilized the NOTES section of the annual report less frequently than any

other section.

Table 4 presents a comparison of the proportion of subject responses to survey questions

aimed at measuring subject utilization of each key annual report section. The proportion of

observed responses in each annual report section were compared across experimental groups via

a Z-test of inferences about two population proportions. Results are organized first by major of

study and then by annual report section.

Panel A in Table 4 represents responses from Accounting (ACCTG) majors. Panel B in

Table 4 represents responses from Finance (FIN) majors. Panel C in Table 4 represents

responses from Management and Organization (M&O) majors. Panel D in Table 4 represents

responses from Marketing (MKTG) majors. Panel F in Table 4 represents responses from

Supply Chain and Information Sciences (SC&IS) majors. Panel E in Table 4 represents

responses from peripheral majors of study (OTHER) that are different from the five previously

listed majors of study. Panel G in Table 4 represents the combined responses from all majors of

study (ALL MAJORS OF STUDY). Responses are also split by experience group. The

ENTIRE SAMPLE group represents responses from all subjects, the EXPERIMENTAL QALL

group represents the combined responses from subjects in the first and second quartiles of prior

experience with annual reports (i.e., relatively lower prior experience), and the CONTROL

QALL group represents the combined responses from subjects in the third and fourth quartiles of

prior experience with annual reports (i.e., relatively higher prior experience). The

EXPERIMENTAL Q1 and EXPERIMENTAL Q2 groups represent responses from subjects in

the first and second quartiles of experience, respectively. The CONTROL Q3 and CONTROL

Q4 groups represent responses from subjects in the third and fourth quartiles of experience,

respectively.

H_{1b} predicted that no significant differences would be observed between experimental

and control groups with respect to their utilization of each of the key annual report sections.

Results from Table 4 Panel G find no significant differences between the response rates for the

EXPERIMENTAL QALL and CONTROL QALL groups. With only one exception in the

utilization of the MD&A section of the annual report (at the 10% significance level), results from

Table 4 Panel G also find no significant differences between the response rates for the

EXPERIMENTAL Q1 and CONTROL Q4 groups. Significant differences in the utilization of

the MD&A and NOTES sections of the annual report did exist between the EXPERIMENTAL

Q2 and CONTROL Q3 groups (at the 10% significance level for the MD&A difference and at

the 5% significance level for the NOTES difference), but overall results in Table 4 Panel G

reveal that H_{1b} cannot be rejected.

Taken together, the results from Table 3 and Table 4 suggest two conclusions: 1) subjects

utilize the key sections of the annual report with a frequency that displays a preference for

certain sections of the annual report over other sections; 2) this pattern does not appear to differ

between experimental groups. More testing may be required to determine if this pattern is driven

by a subject's major of study or other (currently unknown) factors.

2.4.2 Objective #2: Is There a Difference in Where Subjects Feel They Should Go to Locate

Information in an Annual Report and Where Subjects Actually Go to Locate the Information?

To test the second experimental objective, subject response data was coded on a binary

scale with "1" representing an observation that the subject correctly chose one of the two annual

report sections in which the information actually resided, and with "0" representing an

observation that the subject incorrectly chose a section in which the information did not actually

reside. Z-tests were performed as a comparison between proportions of subjects who met the

observation criteria in each relevant grouping.

Table 5 presents a comparison of the proportion of subject responses to survey questions

aimed at measuring the extent to which subjects utilized either of two key annual report sections

where the requested information was located.   The proportion of observed responses in Panel A,

Panel C, and Panel E of Table 5 were compared across experimental groups via a Z-test of

inferences about two population proportions. Panel A of Table 5 represents the extent to which

subjects of all majors of study in each experimental group felt they should utilize either of two

key annual report sections where the requested information was actually located. Table 5 Panel

B represents a frequency count where subjects of all majors of study felt they should go to locate

the requested information. Panel C of Table 5 represents the extent to which subjects of all

majors of study in each experimental group actually utilized either of two key annual report

sections where the requested information was actually located. Table 5 Panel D represents a

frequency count of where subjects of all majors of study actually went to locate the requested

information. Panel E of Table 5 represents the extent to which responses to questions about

where subjects felt they should go to locate requested information were the same as responses to

questions about where subjects actually did go to locate the requested information. Responses in Panel A, Panel C, and Panel E of Table 5 are split by experience group. The EXPERIMENTAL QALL group represents the combined responses from subjects in the first and second quartiles of prior experience with annual reports (i.e., relatively lower prior experience), and the CONTROL QALL group represents the combined responses from subjects in the third and fourth quartiles of prior experience with annual reports (i.e., relatively higher prior experience). The EXPERIMENTAL Q1 and EXPERIMENTAL Q2 groups represent responses from subjects in the first and second quartiles of experience, respectively. The CONTROL Q3 and CONTROL Q4 groups represent responses from subjects in the third and fourth quartiles of experience, respectively. Responses in Panel B and Panel D of Table 5 are organized by key annual report section. BUS DATA represents the Business Data section of the annual report, MD&A represents the Management's Discussion and Analysis section of the annual report, FIN STMTS represents the Financial Statements section of the annual report, and NOTES represents the Notes to Financial Statements section of the annual report.

H_{2a} predicted that no significant differences would be observed between experimental and control groups with respect to their ability to correctly identify one of the key annual report sections where they felt they *should go* to locate the requested information. With only one exception in a comparison between the EXPERIMENTAL Q1 and CONTROL Q4 groups (SCENARIO 3, at the 10% significance level), the results in Table 5 Panel A reveal no significant differences between the frequencies with which subjects correctly chose one of two sections where they felt they *should go* to locate information requested in the various scenarios. While H_{2a} is rejected at the 10% level in a comparison between the EXPERIMENTAL Q1 and

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CONTROL Q4 groups, suggesting that control subjects more often correctly identify where they *should go* in the annual report to locate requested information, H_{2a} cannot be rejected in a comparison between the other two comparison groups. This suggests that weak statistical evidence exists for the overall rejection of H_{2a}. One interesting result can be found in SCENARIO 2, where requested information was simultaneously located in the MD&A and NOTES sections of the annual report. These scenarios asked subjects to locate information about Warehouse Closing Expenses (Costco) and the Net Sales generated from a particular business unit (WalMart). In the aggregation of SCENARIO 2 data from all subjects, the frequency with which subjects correctly identified one of the sections where they *should go* was significantly lower than for other scenarios (at the 1% significance level). All surveys deployed in this experiment are included in their entirety in Appendix D through Appendix F below.

H_{2b} predicted that no significant differences would be observed between the experimental and control groups with respect to their ability to correctly report one of the key annual report sections where they *actually did go* to locate the requested information. Outcomes in Table 5 Panel C reveal no significant differences in a comparison of the EXPERIMENTAL Q1 and CONTROL Q4 groups, but outcomes in Table 5 Panel C do reveal statistically significant differences when evaluating the other two comparison groups. Concerning H_{2b}, it does appear that control subjects more often *actually go* to one of the correct sections in the annual report to locate requested information. It should be noted that while a statistically significant difference does exist in two of the comparison groups, these differences are only significant at the 10% level, and tests of proportions between the EXPERIMENTAL Q2 and CONTROL Q3 groupings

suggests that statistical significance can be attributed mostly to responses from subjects grouped around the median.

H$_{2c}$ predicted that no significant differences would be observed between the experimental and control groups with respect to their ability to report the same response for where they felt they *should go* within the annual report to locate requested information and where they *actually did go* in the annual report to locate the requested information. Results in Table 5 Panel E reveal a moderately statistically significant difference in a comparison between the EXPERIMENTAL Q1 and CONTROL Q4 groups. With respect to H$_{2c}$, it does appear that control subjects more often report the same responses for where they felt they *should go* within the annual report to locate the requested information and where they *actually did go* within the annual report to locate the requested information, but only with respect to responses from subjects in the extreme quartile groups. It should be noted that while a statistically significant difference does exist between the EXPERIMENTAL Q1 and CONTROL Q4 groups at the 5% level, no statistically significant difference exists between the other two comparison groups. Moderate statistical significance exists for the overall rejection of H$_{2c}$ in the extreme quartile groups.

Taken together, the results from Table 5 suggest three conclusions: 1) control subjects more often correctly identify one of the annual report sections where they *should go* to locate requested information; 2) control subjects more often *actually utilize* one of the correct annual report sections to locate requested information; 3) control subjects more often report the same responses for where they feel they *should go* to locate information in an annual report and where they *actually did go* to locate the requested information.

2.5 Summary of Results

Results from the first experimental objective suggest that subjects utilize the key sections of the annual report with a frequency that displays a preference for the Financial Statements, Management's Discussion and Analysis, and Business Data sections of the annual report over the Notes to Financial Statements section, and this phenomenon does not appear to differ between experimental groups. Results from the second experimental objective also suggest that subjects with more prior annual report experience are more often correct about where they feel they *should go* to locate requested information in an annual report, and they are also more often correct about where they *did do* within the annual report to locate requested information. Finally, subjects with more prior annual report experience more often report the same responses for where they feel they *should go* to locate information in an annual report and where they *actually did go* to locate the requested information.

One final note about the generalizability of this study to other investor settings. It should be noted that generalizability is limited in this experiment. Undergraduate seniors are not often accepted by the academic community as adequate proxies for investors, and this is not without cause. While I would argue that the subjects employed in this study were, on average, quite adept at locating the requested information, additional research with retail investors and/or MBA students is needed to lend general support for the experimental objectives in this study.

Chapter 3: Experiment #2

3.1 Motivation

Motivation for the second experiment presented in this thesis comes primarily from a 2010 *The Accounting Review* article written by Miller, in which a large sample of annual report data was examined to determine if more complex filings affected the overall trading volume for certain types of investors. Miller found evidence to support an association between more complex annual report filings (defined in the study as being longer in length and higher in the Gunning Fog Index score) and lower overall trading volume for small (retail) investors. Miller concluded that retail investors have more difficulty processing the information in more complex annual report filings than do institutional investors (Miller, 2010).

The premise of the Miller study was to determine if an association existed between the complexity of an annual report and investor reaction (in the form of trading volume) to that annual report. Miller's study contributes to an emerging body of research in the accounting literature that has used archived data to test a variety of associations between annual report complexity and investor behavior surrounding the release of this (presumably complex) information. However, a search of the extant literature did not yield experimental data to support the extension of this evolving body of research.

It thus became my goal in this second experiment to design a study that provided experimental evidence to support an association between an increase in the complexity of annual report information and a decrease in comprehension by annual report users. The basic research

question in this second experiment is unique to the extant literature, and it is my hope that the approach in this experiment will provide robust conclusions that further the discussion at hand.

3.2 Research Design

3.2.1 Subject Selection

This study employed human subjects enrolled in a required capstone business course at a major east-coast university. Approximately 1,000 subjects were invited to participate in the study. Approximately 31% of the available subjects participated in all instruments. This study employed a quasi-experimental research design via the administration of two primary instruments: 1) an orientation survey aimed at bifurcating subjects into a control group (subjects who were deemed to be *more experienced* with annual reports) and an experimental group (subjects who were deemed to be *less experienced* with annual reports); and 2) an assessment instrument intended to determine if investors could be misled about the nature of news provided in an annual report by changing the complexity of the text used in the annual report. All three surveys deployed in this experiment are included in their entirety in Appendix D through Appendix F below. Subjects received both extra course credit and "raffle tickets" for participation in the experiment. In an effort to mitigate a subject's temptation to simply "click through" either the orientation survey or the assessment instrument, half of the extra credit points for any given question were awarded for simply answering the question, and the remaining half of the extra credit points were awarded for correctly answering the question. In addition, one "raffle ticket" was awarded to subjects for correctly answering any given question, with gift certificates in the name of a general merchandiser (such as Amazon.com) awarded to subjects via a raffle that was held after the conclusion of the experiment.

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In any given semester of the capstone business course employed in this experiment, the available subject pool tends to be split along five primary majors of study: 1) finance; 2) marketing; 3) accounting; 4) supply chain and information systems; and 5) management and organization. Peripheral majors of study enrolled in any given semester of this course include majors such as business-economics, management information systems, and actuarial science. Of the subjects who were included in the data analysis (253 subjects in total, after eliminating subjects who were deemed to have "clicked through" the survey responses), approximately 28% were finance majors, approximately 25% were accounting majors, approximately 19% were supply chain and information sciences majors, approximately 15% were marketing majors, and approximately 10% were management and organization majors. Approximately 3% of the participants were classified in the "other" major of study category. During the semester in which this experiment was conducted, students chose to enroll in one of four lecture sections, with an average of approximately 250 students enrolled in each lecture section. Students also chose to enroll in one of 25 lab sections, with an average of approximately 40 students enrolled in each lab section. Student enrollment in each section of enrollment was assumed to be homogeneous, and thus it was assumed that the lecture and lab enrollment choice of any given subject would not impact any anticipated results. A sensitivity test was conducted to compare the homogeneity of subjects enrolled by lab section. A comparison of final course grades revealed that subjects were determined to be homogeneous across lab sections with respect to their final grade in the course.

3.2.2 Deployment of Research Instruments

Both the orientation survey and assessment instrument in this study were administered via an online course management system that was available to all courses of study at the university in question during the semester in which the experiment was conducted. In an effort to avoid subject fatigue, the various components included in this study were delivered to subjects in three separate testing windows. The orientation survey was delivered to subjects during the first testing window. Two unique assessment instruments were delivered in each of the second and third testing windows. In an effort to mitigate learning effects, three deployment controls were established: 1) the first assessment instrument was administered after a "cooling off period" of approximately one week after the close of the testing window for the orientation survey; 2) the second assessment instrument was administered after a "cooling off period" of approximately one week after the close of the testing window for the first assessment instrument; and 3) the results of both the orientation survey and the assessment instruments were withheld from subjects until after the completion of the experiment. Subjects were provided the opportunity to inquire about the results of any of the instruments after the conclusion of the experiment.

To standardize the presentation of annual report documents, all source document files used by subjects in this study were converted into standardized reports using the Adobe Acrobat® "portable document file" (.pdf) file format. Each question scenario presented subjects with task-specific terminology that was intended to be used by subjects in their search for the information requested in the scenario.

3.2.3 Orientation Survey

The primary purpose of the orientation survey was to provide all subjects with a baseline level of knowledge about the nature of "good" versus "bad" news that a company may communicate in its annual report to shareholders. For purposes of this study, "good" news was defined as information that would be seen as favorable to the company in either a historic or forward-looking point of view, while "bad" news was defined as information that would be seen as detrimental to the company in either a historic or forward-looking point of view. As a control, subjects were also provided with a baseline level of knowledge about news that was considered neither favorable nor detrimental to the company (dubbed "neutral" news). A secondary purpose of the orientation survey was to bifurcate subjects into an experimental group and a control group for use in hypothesis testing associated with the first and second assessment instruments. Subjects with relatively "high" prior annual report experience (bifurcated at the median experience level, based on a self-reported prior experience with annual reports) were placed in the control group. Subjects with relatively "low" prior annual report experience were placed in the experimental group. A sensitivity test was conducted to compare results using an alternate bifurcation of subjects by major of study. Accounting and finance majors were placed in the control group and all other majors of study were placed in the experimental group. The results discussed below are robust to this alternative bifurcation. The orientation instrument is included in its entirety in Appendix D below.

3.2.4 Assessment Surveys

The assessment surveys included questions aimed at simultaneously measuring: 1) changes in how subjects interpreted the *nature* of the information disclosure (i.e., "good news" versus "bad news"); and 2) changes in reading comprehension for the information being disclosed. Two separate assessment surveys were deployed, with each of the two assessment surveys following the same progressive logic in question design. Results from the assessment surveys were used to determine how changing the complexity of the discourse used in a particular sample of text would impact subjects' interpretation of the information.

In the assessment surveys, subjects were presented with a series of annual report disclosures that were sourced from the Management's Discussion and Analysis (MD&A) and Notes to Financial Statements (Notes) sections of the annual reports used in Experiment #1. The choice to use disclosures from these section of the annual report are the result of the fact that these sections are excluded from requirements set forth in the SEC's Regulation C Rule 421(d), dubbed the "Plain English Rule." Disclosure scenarios were chosen by the researcher based on the nature of the information presented by the company in the disclosure (i.e., "good" news versus "neutral news" versus "bad" news). An equal number of "good" news and "bad" news scenarios were chosen from the annual reports of two companies that operate in the same industry, and an equal number of scenarios were chosen from the MD&A and Notes sections of each company. As a control, an equal number of scenarios representing "neutral" news disclosures from each company were also included. Each scenario was presented to subjects in its original (company-written) form in the orientation survey. The disclosures were then rewritten by the researcher in a manner that altered the complexity of the discourse used in the

disclosure scenario. Each scenario was altered twice by the researcher: 1) to increase the complexity of the original disclosure; and 2) to decrease the complexity of the original disclosure. The complexity of disclosures presented to subjects were measured via two independently-generated "grade-level readability" indices that have been used in prior research: the Flesch-Kinkaid Grade Level Index and the Gunning Fog Index. These indices compute an approximate grade level of education which an average reader would need to obtain in order to comprehend the text being presented. Both the Flesch-Kinkaid Grade Level Index and the Gunning Fog Index are described in more detail in the "literature review" section above.

Each scenario was thus presented to subjects a total of three times: 1) once in its original form, in the orientation survey; 2) again in its "decreased complexity" form, in one of the assessment surveys; and 3) again in its "increased complexity" form, in a separate assessment survey. At each presentation point, subjects were asked two questions about each scenario: 1) a question aimed at measuring the subject's reading comprehension of the information presented in the disclosure (measured via multiple-choice answers, with one correct answer and 3 detractors); and 2) a question asking the subject to assess whether the information presented in the disclosure was "good news" or "bad news" for the company (measured on a five-point Likert-type scale with "definitely good news" and "definitely bad news" on either end of the scale, and with "definitely neutral news" in the middle of the scale).

The following logic was built into the answer choices for each scenario presented to subjects in the assessment instruments:

- For the first question, the logic for available answer choices was as follows (letters represent each answer choice): a) the actual answer; b) an answer that represented the opposite of the actual answer; c) an alternate theme that was presented in the disclosure scenario, but that was NOT associated with the actual answer; and d) a random theme that was NOT located within the disclosure scenario. This last answer choice served as a test for "click-through "responses.

- For the second question, a five-point Likert-type scale was used to determine how subjects interpreted the nature of the information being presented in each disclosure scenario (letters represent each answer choice, with "XYZ Corporation" representing either Target Corporation or Costco Wholesale Corporation, depending on the scenario): a) This information is definitely good news for XYZ Corporation; b) This information is between good news and neutral news for XYZ Corporation; c) This information is definitely neutral news for XYZ Corporation; d) This information is between neutral news and bad news for XYZ Corporation; and e) This information is definitely bad news for XYZ Corporation.

In the two assessment instrument deployments, answer choices for most questions were randomized so that each subject viewed an arbitrary order of answer choices. The only exception to this randomization program was the Likert-type questions, where the answer choices remained static. For all questions in each of the two assessment surveys, the order of questions presented was standardized across all subjects. The assessment instruments are included in their entirety in Appendix E and Appendix F below.

3.2.5 Cronbach's Alpha Coefficient for Research Instruments

In 1951, Lee Cronbach devised a formula to "estimate the proportion of test variance attributable to common factors among [test] items." The index, which is commonly known as "Cronbach's Alpha Coefficient," has since been used extensively in the literature of multiple disciplines as a measure of internal consistency or reliability of test scores for questions included in a testing instrument. Cronbach himself made no mention of an interpretable scale for his coefficient. Prior research establishes 0.70 or above to be an acceptable measure of internal consistency (Cortina, 1993). Thus, instruments with coefficient values above 0.70 are deemed to adequately measure the general construct being tested in the instrument. In this experiment, Cronbach's Alpha Coefficient for the orientation survey, assessment survey #1, and assessment survey #2 was calculated to be 0.98, 0.98, and 0.97, respectively. It should be noted that Cronbach's Alpha Coefficient tends to increase as the inter-correlations among questions included in the testing instrument increases. One factor that may drive this increase is the number of test questions included in the testing instrument (Cortina, 1993). The assessment instruments deployed in this experiment include more test questions than the orientation instrument. This phenomenon may explain the higher alpha coefficients for each of the assessment surveys in this experiment.

3.3 Hypothesis Development

The experimental objectives for this study were established to determine: 1) if a manipulation of the complexity of an annual report disclosure would be associated with a change in subject reading comprehension for the information being presented in the disclosure; and 2) if a manipulation of the complexity of an annual report disclosure would be associated with a change in subject interpretation of the nature of the news being communicated in the disclosure.

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3.3.1 Objective #1: Is a Manipulation of Annual Report Complexity Associated with a Change in Reading Comprehension?

To accomplish the first experimental objective, subject responses from the assessment instruments were tabulated by major of study within each experimental group. In particular, responses related to questions measuring subjects' ability to comprehend the information presented in the annual report disclosure were considered in tabulating these results. Data collected in support of this objective represent the first of two questions being asked of subjects for each scenario. Six unique scenarios were presented to subjects in each of their original form, decreased complexity form, and increased complexity form. Accordingly, eighteen data points were collected for each subject, representing three instances of each unique scenario.

A subject's ability to comprehend the information being presented in a disclosure scenario should be tied to their ability to interpret the discourse used in the scenario. This follows from the basic theory underlying the development of the readability indices employed in this study. The readability indices have been presented in prior research as an estimation of the grade level of education expected to be obtained in order to comprehend the information being presented in the textual sample. Thus, as the complexity of a particular annual report disclosure changes, the ability of a subject to understand the information being presented in the scenario should be related to their ability to interpret the revised textual discourse. In the scenarios presented to subjects in this experiment, I held constant the type of news presented in each disclosure and manipulated only the textual complexity of the disclosure itself. Accordingly, it is my hypothesis that complexity of an annual report disclosure and the ability of a subject to

comprehend the information being presented in that disclosure relate as follows (presented below in the null form):

H$_{1a}$: **Subject comprehension of the information being presented in an annual report disclosure will not change as the textual complexity of a "neutral news" scenario changes.**

H$_{1b}$: **Subject comprehension of the information being presented in an annual report disclosure will not change as the textual complexity of a "good news" scenario changes.**

H$_{1c}$: **Subject comprehension of the information being presented in an annual report disclosure will not change as the textual complexity of a "bad news" scenario changes.**

3.3.2 Objective #2: Is a Manipulation of Annual Report Complexity Associated with a Change in the Interpretation of the Nature of the News?

To accomplish the second experimental objective, subject responses from the assessment instruments were again tabulated by major of study within each experimental group. In particular, responses related to questions measuring subjects' interpretation of the nature of the news (i.e., "good," news, "neutral" news, or "bad" news) presented in the annual report disclosure were considered in tabulating these results. Data collected in support of this objective represent the second of two questions being asked of subjects for each scenario. Six unique scenarios were presented to subjects in each of their original form, decreased complexity form, and increased complexity form. Accordingly, eighteen data points were collected for each subject, representing three instances of each unique scenario.

A subject's interpretation of the nature of the news presented in a disclosure scenario should also be tied to their ability to interpret the discourse used in the scenario. Prior research has established that trading volume for retail investors decreases as the complexity of a disclosure increases (Miller ,2010), and prior research has also established that investors underreact to the news being conveyed in more complex annual reports (Haifeng et al., 2009). Thus, as the complexity of a particular annual report disclosure changes, the ability of a subject to interpret the nature of the news being presented in the scenario should be related to their ability to decipher the revised textual discourse. In the scenarios presented to subjects in this experiment, I held constant the type of news presented in each disclosure and manipulated only the textual complexity of the disclosure itself. Accordingly, it is my hypothesis that complexity of an annual report disclosure and the interpretation of the nature of the news being presented in that disclosure relate as follows (presented below in the null form):

H_{2a}: **Subject interpretation of the nature of the news being presented in an annual report disclosure will not change as the textual complexity of a "neutral news" scenario changes.**

H_{2b}: **Subject interpretation of the nature of the news being presented in an annual report disclosure will not change as the textual complexity of a "good news" scenario changes.**

H_{2c}: **Subject interpretation of the nature of the news being presented in an annual report disclosure will not change as the textual complexity of a "bad news" scenario changes.**

3.3.3 Robustness Tests

Admittedly, some subjects may have been motivated to "click-through" the survey assessments. The motivation for a subject to "click through" the responses may have been related to the award of extra credit offered for participating in the survey responses (recall that 50% of the extra credit points were awarded for simply answering the questions). In an effort to mitigate any "outlier effects" from subjects who may have randomly answered questions when conducting the main data analysis, I set aside responses from subjects whose data set included two (or more) "random" answer choices (as described in the previously-provided logic for assessment instrument answer choices). The exclusion of responses from subjects whose data set included at least one "random" answer choice was also considered. A sensitivity test was performed to determine if any statistically significant differences existed between the two exclusion criteria. The results discussed below are robust to this alternate exclusion criterion with one exception. In the exclusion of subjects whose data set included at least one "random" answer choice, subject perception of good news displays the same directional association with an increase in complexity, but the association is no longer statistically significant at the 10% level.

I also compared the homogeneity of subjects across experimental groups and across majors of study by comparing the final course grades of subjects. As measured by final grades in the course, subjects were determined to be homogenous across these delineations.

3.4 Results

Table 6 provides sample selection criteria for the subjects included in the main data analysis. For the main data analysis presented in this section, subjects with two or more "random" answer choices were excluded from the data set. These respondents were deemed to have "clicked through" the survey responses. In order to be included in the main data analysis, subjects were also required to participate in all three survey instruments. Response data from 253 subjects in total were available for inclusion in the main data analysis.

It is also important to note that subjects enrolled in the course were "mapped" into one of six majors of study for inclusion in the main data analysis. Figure 4 details subjects' reported majors of study and the corresponding assignment into a major of study for data analysis.

FIGURE 4: MAPPING OF MAJORS FOR EXPERIMENT #2

REPORTED MAJOR	Description	MAPPED MAJOR
ACCTG	Accounting	ACCTG
BAADM	Business Administration	M&O
BSB	Bachelor of Science in Business	OTHER
ECON	Economics	OTHER
FIN	Finance	FIN
IRE	International Relations	M&O
M&O	Management and Organizations	M&O
MKTG	Marketing	MKTG
N DEG	No Degree Declared	OTHER
N/A	No Degree Reported	OTHER
RM	Real Estate Management	OTHER
SC&IS	Supply Chain and Information Sciences	SC&IS

3.4.1 Objective #1: Is a Manipulation of Annual Report Complexity Associated with a Change in Reading Comprehension?

To test the first experimental objective, subject responses from the assessment instruments were tabulated by major of study within each experimental group. In particular, responses related to questions measuring subjects' ability to comprehend the information presented in the annual report disclosure were considered in tabulating these results. Data collected in support of this objective represented the first of two questions being asked of subjects for each scenario. Six unique scenarios were presented to subjects in each of their original form, decreased complexity form, and increased complexity form. Accordingly, eighteen data points were collected for each subject, representing three instances of each unique scenario.

Table 7 summarizes all variable definitions. The dependent variable READING COMPREHENSION (Y_1) is a dichotomous variable equal to 1 if the subject correctly answered a question aimed at gauging whether (or not) the subject understood the objective of the annual report disclosure under study. For purposes of analyzing the results of this first experimental objective, READING COMPREHENSION was regressed on eight independent variables using the following logistic regression model:

$$\Pr(Y = 1 \mid X_1, ... X_8) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_1 + ... + \beta_8 X_8)}} \ , \tag{1}$$

where $\beta_0 ... \beta_8$ are the logit beta coefficients / odds ratios.

LEVEL OF FOG (X_1) is an ordered categorical variable representing three levels of annual report disclosure reading difficulty. The original annual report scenario (level 0) was presented to subjects in the orientation survey. In the assessment surveys, subjects were presented with two versions of the original annual report disclosure that were manipulated by the researcher. One version was manipulated by the researcher to be more difficult to read than the original disclosure (level +1), and the other version was manipulated by the researcher to be less difficult to read than the original disclosure (level -1). COURSE GRADE (X_2) is an approximately continuous variable representing the overall percentage grade earned by each subject in the course, ranging from 0 to 100. 10K EXPERIENCE (X_3) is an approximately continuous variable representing the cumulative score earned by each subject with respect to orientation questions about prior experience with annual reports, ranging from 0 to 12. In the first experiment in Chapter 2 of this thesis, the 10K EXPERIENCE variable was used to bifurcate the subject pool into a control group (relatively more experience) and an experimental group (relatively less experience). The variables FIN (X_4), M&O (X_5), MKTG (X_6), OTHER (X_7), and SC&IS (X_8) are binary variables equal to 1 if the subject's major of study is Finance, Management and Organization, Marketing, Other, and SC&IS, respectively. See Figure 4 for an explanation of how these majors of study were aggregated.

Table 8 provides sample characteristics for several variables of interest. The average COURSE GRADE was 90.6% with a standard deviation of 3.6%. The mean level of prior 10K EXPERIENCE was 2.8 with a standard deviation of 2.2, which demonstrates that subjects brought a wide range of prior experience into the study, and which further translates into an average of 4 to 5 annual reports being used by subjects prior to participating in this study.

Table 9 reports Pearson correlation coefficients for the variables presented in Table 8. I find the two approximately continuous variables are not significantly correlated, and I find statistically significant (yet very modest) correlations do exist between several binary variables.

Table 10 reports the regression results from the logistic regression presented in Equation (1) above. The nature of news was held constant in each of three logistic regressions represented in Panel A, Panel B, and Panel C. Panel A presents the results from a logistic regression for annual report disclosures that were considered to be "neutral news." Panel B presents the results from a logistic regression for annual report disclosures that were considered to be "good news." Panel C presents the results from a logistic regression for annual report disclosures that were considered to be "bad news." Both regression coefficients and odds ratios are presented to aid interpretation. There were 1,518 subject-level observations made for all variables, with a subject-level observation being made for the original annual report disclosure scenario (as presented in XYZ Corporation's annual report), a second subject-level observation being made for a scenario where the researcher increased the reading difficulty of the annual report disclosure relative to the original scenario, and a third subject-level observation being made for a scenario where the researcher decreased the reading difficulty of the annual report disclosure relative to the original scenario. Increases and decreases in complexity were measured using the Gunning Fog Index, and the resulting scenarios were altered in such a way that the change in complexity was equidistant (in either direction) from the complexity of the original scenario.

Bi-directional hypotheses were predicted in table 10 for the LEVEL OF FOG, COURSE GRADE, and 10K EXPERIENCE variables. No predictions were made for the binary variables

representing the major of study for any given subject. In Table 10 Panel B, increasing the complexity of a "good news" annual report disclosure has a statistically significant effect on READING COMPREHENSION. An interpretation of the Odds Ratio suggests that an increase in the complexity of the annual report disclosure is associated with a *decrease* in the probability that a subject will comprehend the information being communicated in a "good news" disclosure. In Table 10 Panel C, increasing the complexity of a "bad news" annual report disclosure also has a statistically significant effect on READING COMPREHENSION. Interestingly enough, an interpretation of the Odds Ratio suggests that an increase in the complexity of the annual report disclosure is actually associated with an *increase* in the probability that a subject will comprehend the information being communicated in a "bad news" disclosure. There is no corresponding significant effect on modifying the complexity of a "neutral news" scenario. In all panels, COURSE GRADE has a statistically significant effect on READING COMPREHENSION. An interpretation of the Odds Ratio on COURSE GRADE in all panels suggests that an increase in a subject's overall course grade is associated with an *increase* in the probability that a subject will comprehend the information being communicated.

Taken together, the results from Table 10 suggest that a change in annual report complexity is associated with a change in the probability that a subject will comprehend the information being communicated in the disclosure. This effect appears to dampen the probability that a subject will understand good news disclosures and accentuate the probability that a subject will understand bad news disclosures. The probability of understanding neutral news disclosures does not appear to be affected by a change in the complexity of the disclosure. Results from Table 10 also suggest that a subject's overall course grade is associated with an

increase in the probability that the subject will understand the disclosure being presented, independent of the type of news.

3.4.2 Objective #2: Is a Manipulation of Annual Report Complexity Associated with a Change in the Interpretation of the Nature of the News?

To test the second experimental objective, subject responses from the assessment instruments were again tabulated by major of study within each experimental group. In particular, responses related to questions measuring subjects' interpretation of the nature of the news (i.e., "good," news, "neutral" news, or "bad" news) presented in the annual report disclosure were considered in tabulating these results. Data collected in support of this objective represented the second of two questions being asked of subjects for each scenario. Six unique scenarios were presented to subjects in each of their original form, decreased complexity form, and increased complexity form. Accordingly, eighteen data points were collected for each subject, representing three instances of each unique scenario.

Table 7 summarizes all variable definitions. The dependent variable PERCEPTION OF NEWS (Y_2) is a categorical variable representing a subject's perception of the nature of news (i.e., "good news," "neutral news," or "bad news") when asked a question about the nature of the news being communicated in the annual report disclosure under study. PERCEPTION OF NEWS was measured on a five-point Likert-type scale equal to 5 if the subject felt the information being communicated in the annual report disclosure was "definitely good news for XYX Corporation," and equal to 1 if the subject felt the information being communicated in the annual report disclosure was "definitely bad news for XYZ Corporation." A score of 3 was

assigned if the subject felt the information was "definitely neutral news for XYZ Corporation." Categories were also included for "between good news and neutral news" (score of 4) and "between neutral news and bad news" (score of 2) if the subject could not classify the nature of the news into one of the three definite categories. For purposes of analyzing the results of this second experimental objective, PERCEPTION OF NEWS was regressed on eight independent variables using the following ordered logistic regression model:

$$\Pr(Y \leq j \mid X_1,...X_8) \; = \; \ln \frac{(\pi \, (Y \leq j \mid X_1,...X_8))}{(\pi \, (Y > j \mid X_1,...X_8))} \; = \; \alpha_j \; + \; (-\beta_1 X_1 - ... - \beta_8 X_8) + \varepsilon \; , \quad (2)$$

where $j_1 ... j_4$ are the "cut points" or Y-intercept thresholds for each level of Y_2, and

where $\beta_0 ... \beta_8$ are the logit beta coefficients / odds ratios.

LEVEL OF FOG (X_1) is an ordered categorical variable representing three levels of annual report disclosure reading difficulty. The original annual report scenario (level 0) was presented to subjects in the orientation survey. In the assessment surveys, subjects were presented with two versions of the original annual report disclosure that were manipulated by the researcher. One version was manipulated by the researcher to be more difficult to read than the original disclosure (level +1), and the other version was manipulated by the researcher to be less difficult to read than the original disclosure (level -1). COURSE GRADE (X_2) is an approximately continuous variable representing the overall percentage grade earned by each subject in the course, ranging from 0 to 100. 10K EXPERIENCE (X_3) is an approximately continuous variable representing the cumulative score earned by each subject with respect to orientation questions about prior experience with annual reports, ranging from 0 to 12. The

variables FIN (X_4), M&O (X_5), MKTG (X_6), OTHER (X_7), and SC&IS (X_8) are binary variables equal to 1 if the subject's major of study is Finance, Management and Organization, Marketing, Other, and SC&IS, respectively. See Figure 4 for an explanation of how these majors of study were aggregated.

Table 11 reports the regression results from the ordered logistic regression presented in Equation (2) above. The nature of news was held constant in each of three logistic regressions represented in Panel A, Panel B, and Panel C. Panel A presents the results from an ordered logistic regression for annual report disclosures that were considered to be "neutral news." Panel B presents the results from an ordered logistic regression for annual report disclosures that were considered to be "good news." Panel C presents the results from an ordered logistic regression for annual report disclosures that were considered to be "bad news." Both regression coefficients and odds ratios are presented to aid interpretation. There were 1,518 subject-level observations made for all variables, with a subject-level observation being made for the original annual report disclosure scenario (as presented in XYZ Corporation's annual report), a second subject-level observation being made for a scenario where the researcher increased the reading difficulty of the annual report disclosure relative to the original scenario, and a third subject-level observation being made for a scenario where the researcher decreased the reading difficulty of the annual report disclosure relative to the original scenario. Increases and decreases in complexity were measured using the Gunning Fog Index, and the resulting scenarios were altered in such a way that the change in complexity was equidistant (in either direction) from the complexity of the original scenario.

Bi-directional hypotheses were predicted in table 11 for the LEVEL OF FOG, COURSE

GRADE, and 10K EXPERIENCE variables. No predictions were made for the binary variables

representing the major of study for any given subject. In Table 11 Panel A, increasing the

complexity of a "neutral news" annual report disclosure has a statistically significant effect on

PERCEPTION OF NEWS. An interpretation of the Odds Ratio suggests that an increase in the

complexity of the annual report disclosure is associated with a *decrease* in the probability that a

subject will be optimistic about the nature of the news being presented in a "neutral news"

disclosure. In Table 11 Panel B, increasing the complexity of a "good news" annual report

disclosure also has a statistically significant effect on PERCEPTION OF NEWS. An

interpretation of the Odds Ratio suggests that an increase in the complexity of the annual report

disclosure is associated with a *decrease* in the probability that a subject will be optimistic about

the nature of the news being presented in a "good news" disclosure. However, it is important to

note that statistical significance in Table 11 Panel B is found only at the 10% level. In Table 11

Panel C, increasing the complexity of a "bad news" annual report disclosure also has a

statistically significant effect on PERCEPTION OF NEWS. An interpretation of the Odds Ratio

suggests that an increase in the complexity of the annual report disclosure is associated with an

increase in the probability that a subject will be optimistic about the nature of the news being

communicated in a "bad news" disclosure. In Table 11 Panel A and Table 11 Panel B, COURSE

GRADE has a statistically significant effect on PERCEPTION OF NEWS. However, an

interpretation of the Odds Ratio on COURSE GRADE in Table 11 Panel A suggests that an

increase in a subject's overall course grade is actually associated with a *decrease* in the

probability that a subject will be optimistic about the nature of the news being communicated in

a "neutral news" disclosure. An interpretation of the Odds Ratio in Table 11 Panel B suggests

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that an increase in a subject's overall course grade is associated with an *increase* in the probability that a subject will be optimistic about the nature of the news being communicated in a "good news" scenario. COURSE GRADE does not have a statistically significant effect on the probability that a subject will be optimistic about the nature of the news being communicated in a "bad news" scenario.

Taken together, the results from Table 11 suggest that a change in annual report complexity is associated with a change in the probability that a subject will be optimistic about the nature of the news being communicated in the disclosure. This effect appears to dampen the probability that a subject will be optimistic about neutral news disclosures, reduce the probability that a subject will be optimistic about good news disclosures, and accentuate the probability that a subject will be optimistic about bad news disclosures. Results from Table 11 also suggest that a subject's overall course grade is associated with an decrease in the probability that the subject will be optimistic about "neutral news" scenarios, and further suggests that a subject's overall course grade is associated with an increase in the probability that the subject will be optimistic about "good news" scenarios.

3.5 Summary of Results

Results from the first experimental objective suggest that a change in annual report complexity is associated with a change in the probability that a subject will comprehend the information being communicated in the disclosure. Specifically, increasing the complexity of an annual report disclosure appears to dampen the probability that a subject will understand good news disclosures and accentuate the probability that a subject will understand bad news

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disclosures. The probability of understanding neutral news disclosures does not appear to be affected by a change in the complexity of the disclosure. Results also suggest that a higher overall course grade is associated with an increase in the probability that the subject will understand the disclosure being presented, independent of the type of news.

Results from the second experimental objective suggest that a change in annual report complexity is associated with a change in the probability that a subject will be optimistic about the nature of the news being communicated in the disclosure. Specifically, increasing the complexity of an annual report disclosure appears to dampen the probability that a subject will be optimistic about neutral news disclosures, reduce the probability that a subject will be optimistic about good news disclosures, and accentuate the probability that a subject will be optimistic about bad news disclosures. Results also suggest that a higher overall course grade is associated with an decrease in the probability that the subject will be optimistic about "neutral news" scenarios, and further suggests that a higher overall course grade is associated with an increase in the probability that the subject will be optimistic about "good news" scenarios.

One final note about the generalizability of this study to other investor settings. It should be noted that generalizability is limited in this experiment. Undergraduate seniors are not often accepted by the academic community as adequate proxies for investors, and this is not without cause. While I would argue that the subjects employed in this study were, on average, quite adept at locating the requested information, additional research with retail investors and/or MBA students is needed to lend general support for the experimental objectives in this study.

Chapter 4: Discussion and Conclusions

A recent growth in accounting and finance research related to the textual analysis of financial disclosures has generally split into two broad categories: 1) the analysis of the mood or sentiment associated with a particular financial disclosure; and 2) the analysis of the readability or complexity of a particular financial disclosure. Critical to the interpretation of any conclusion that has been drawn (or that will be drawn) in the extant literature is the context of the text under study. Unfortunately, most of the readability measures employed in the accounting and finance literature enjoy broad acceptance as a measure of readability in a general (non-disciplinary) context. Yet the nature of a typical financial disclosure is more context-specific than the setting in which the existing measures of readability were developed. In fact, the language of accounting and finance is heavily laden with jargon and terminology, a lot of which may be interpreted differently in various contexts. Existing readability indices have flaws that could impede accounting and finance research. For example, the Gunning Fog Index considers words of three or more syllables to be "hard words" when measuring the complexity of text. An increase in the number of three-or-more-syllable words therefore increases the Fog Index score, independent of the context in which the "hard words" are presented. When choosing how to manipulate the original annual report disclosures presented to subjects in this study, careful consideration was given to the choice of words that replaced the original text in an effort to avoid spurious results associated with this inherent flaw in the Gunning Fog Index.

The primary objective of this thesis has been to reconcile the effects of observed differences between the information disclosed in a company's annual report and recommendations made by the SEC in its "Plain English" disclosure rules. Two goals were

accomplished in the completion of this dissertation thesis: 1) an experiment was conducted to gain insight into which sections of an annual report were most-often utilized when investors located information within a company's annual report to its shareholders; and 2) a second experiment was conducted to determine if investors could be "mislead" with respect to comprehension and sentiment by altering the readability of annual report disclosures.

This thesis makes several contributions to the extant literature. The second chapter of this thesis demonstrates that subjects utilize key sections of the annual report with a frequency that displays a preference for certain sections of the annual report over other sections. Specifically, the Financial Statements, Management's Discussion and Analysis, and Business Data sections of the annual report are used more frequently than the Notes to Financial Statements section of the annual report. The second chapter also establishes that subjects with more prior annual report experience are more often correct about where they feel they *should go* to locate requested information in an annual report, and that subjects with more prior annual report experience are more often correct about where they *actually do go* within the annual report to locate requested information. Subjects with more prior annual report experience also more often report the same responses for where they feel they *should go* to locate information in an annual report and where they *actually do go* to locate the requested information.

The third chapter of this thesis also demonstrates that a change in annual report complexity is associated with a change in the probability that a subject will comprehend the information being communicated in the disclosure. Specifically, increasing the complexity of an annual report disclosure dampens the probability that a subject will understand a good news

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disclosure and accentuates the probability that a subject will understand a bad news disclosure. The probability of understanding a neutral news disclosure is not affected by a change in the complexity of the disclosure. Results in the third chapter of this thesis also demonstrate that a change in annual report complexity is associated with a change in the probability that a subject will be optimistic about the nature of the news being communicated in the disclosure. Specifically, an increase in the complexity of an annual report disclosure reduces the probability that a subject will be optimistic about a neutral news disclosure, decreases the probability that a subject will be optimistic about a good news disclosure, and increases the probability that a subject will be optimistic about a bad news disclosure.

Taken together, the results from the second and third chapters of this dissertation thesis provide a few interesting points of discussion. While it may not surprise readers to learn in the second chapter of this thesis that the Financial Statements were the most frequently used section of the annual report, it is interesting to discover that the Notes to Financial Statements were the least frequently used section of the annual report, even by students whose major of study was Accounting. Much time is spent in a typical accounting course instructing students to make use of the Notes to Financial Statements section of the annual report as additional detail to support the financial results presented in the Financial Statements. Perhaps more emphasis should be placed on demonstrating how to make use of this valuable annual report information.

Of particular concern to public companies, the SEC, and readers of annual report disclosures should be the results from the third chapter of this dissertation thesis, where the premise of "misleading" subjects by changing the complexity of the annual report disclosure is

tested. Critical to the premise of "misleading" subjects is a manipulation by the researcher to either increase or decrease complexity of the annual report disclosure, as compared to the complexity of the original disclosure that is found in the annual report source document. Given this manipulation, the results from the third chapter of this thesis present a cautionary tale. When the complexity of a "good news" annual report disclosure is increased, subjects under study are *less likely* to comprehend the disclosure, and these subjects are also *less likely* to assign an optimistic perception of the news being communicated in the "good news" disclosure. It might not be surprising to discover that a more complex "good news" disclosure is associated with a lower level of reading comprehension, but it should be informative to readers of this study to discover that subjects are less likely to assign an optimistic perception of the "good news" being communicated when the disclosure complexity is increased. This suggests that a company might want to reduce the complexity of a "good news" disclosure or face an increased likelihood that readers of the disclosure might misinterpret (to the detriment of the company) the nature of the news actually being communicated.

While there is no statistically significant effect on a subject's understanding of a "neutral news" disclosure, subjects are also *less likely* to assign an optimistic perception of the news being communicated in a "neutral news" disclosure. As with the "good news" case above, this suggests that a company might want to reduce the complexity of a "neutral news" disclosure or face an increased likelihood that readers of the disclosure might misinterpret (to the detriment of the company) the nature of the news actually being communicated.

The results that are most impactful come from the "bad news" disclosures. When the complexity of a "bad news" annual report disclosure is increased, subjects under study are *more likely* to comprehend the disclosure, and these subjects are also *more likely* to assign an optimistic perception of the news being communicated in the "bad news" disclosure. It might be quite surprising to discover that more complex "bad news" disclosures are associated with *higher* levels of reading comprehension, but it should be most informative to readers of this study to discover that subjects are *more* likely to assign an optimistic perception of the "bad news" being communicated when the disclosure complexity is increased. This suggests that a company might take advantage of the complexity of a "bad news" disclosure as a means to increase the likelihood that readers of the disclosure might misinterpret (to the *benefit* of the company) the nature of the news actually being communicated.

Of course, additional experimental research in the area of textual analysis is needed before the results presented in this dissertation thesis can be generalized from the specific sample that was studied to a larger group of subjects. The creation of a readability index that is specific to financial disclosures is also needed to increase the external validity of research that relies on the existing measures of readability. One final note about the current status of annual report readability: when drafting financial disclosures that we intend to present to stakeholders, we should think more like Inspector Harry Callahan and "shoot straight" at the intended reader, rather than rely on legal jargon and "gobbledygook" to make our point. Else, our readers might be predisposed to misconstrue the insinuation befalling upon them (or, in Inspector Harry Callahan terms, "miss the point.").

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TABLE 1:   RESPONSES INCLUDED IN DATA ANALYSIS FOR EXPERIMENT #1

Major of Study	ENTIRE SAMPLE		EXPERIMENTAL QALL			CONTROL QALL		
ACCTG	93	23.9%	43	19.7%		50	29.2%	*
FIN	94	24.2%	40	18.3%	**	54	31.6%	**
M&O	56	14.4%	36	16.5%		20	11.7%	
MKTG	73	18.8%	50	22.9%		23	13.5%	*
OTHER	14	3.6%	8	3.7%		6	3.5%	
SC&IS	59	15.2%	41	18.8%		18	10.5%	*
TOTALS	389	100.0%	218	100.0%		171	100.0%	

This table reports sample characteristics for subject responses considered in the main data analysis for Experiment #1. Majors of study are reported for the ENTIRE SAMPLE group, EXPERIMENTAL QALL group, and CONTROL QALL group. The EXPERIMENTAL QALL group represents subjects in the first and second quartiles of prior experience with annual reports. The CONTROL QALL group represents subjects in the third and fourth quartiles of prior experience with annual reports. ***, **, and * indicate one-tail statistical significance at the 1%, 5%, and 10% levels, respectively, based on a comparison with ENTIRE SAMPLE in Panel A.

TABLE 2:   SAMPLE SELECTION FOR DATA INCLUDED IN MAIN ANALYSIS FOR EXPERIMENT #1

	Subjects
Subjects who participated in any of three separate surveys deployed	477
Less: subjects who did not participate in all three surveys	32
Less: subjects who returned 2 or more "random" answers	56
Subjects available for main analysis	**389**

TABLE 3:   DIFFERENCE IN PROPORTION OF RESPONSES BY MAJOR OF STUDY AND BY ANNUAL REPORT SECTION
As Compared to a Hypothesized Proportion of 25% (Actual Section Chosen)

PANEL A	ACCTG						
Annual Report Section	Entire Sample	Experimental QAll	Experimental Q1	Experimental Q2	Control QAll	Control Q3	Control Q4
BUS DATA	2.4% **	1.7%	1.2%	2.3%	2.9% **	3.2%	2.5%
MD&A	2.6% **	2.0%	5.2% **	-1.1%	3.2% **	4.9%	0.9%
FIN STMTS	1.9% *	1.8%	3.7% *	0.0%	2.0%	2.3%	1.6%
NOTES	-6.9% ***	-5.6% ***	-10.1% ***	-1.3%	-8.1% ***	-10.4%	-5.1% **

PANEL B	FIN						
Annual Report Section	Entire Sample	Experimental QAll	Experimental Q1	Experimental Q2	Control QAll	Control Q3	Control Q4
BUS DATA	1.7% *	-0.1%	3.1%	-1.6%	3.1% **	1.8%	4.5% **
MD&A	1.1%	0.4%	2.2%	-0.3%	1.6%	1.8%	1.3%
FIN STMTS	4.2% ***	5.1% ***	5.2% *	5.0% **	3.6% **	5.1% **	2.1%
NOTES	-7.0% ***	-5.4% ***	-10.5% ***	-3.1% *	-8.3% ***	-8.6% ***	-7.9% ***

PANEL C	M&O						
Annual Report Section	Entire Sample	Experimental QAll	Experimental Q1	Experimental Q2	Control QAll	Control Q3	Control Q4
BUS DATA	1.3%	2.8% *	3.5% *	1.7%	-1.4%	-2.1%	0.0%
MD&A	3.9% **	3.0% *	3.0%	3.1%	5.4% **	6.0% **	4.2%
FIN STMTS	4.5% ***	4.1% **	3.9% *	4.4% *	5.2% **	6.3% **	3.0%
NOTES	-9.7% ***	-10.0% ***	-10.5% ***	-9.2% ***	-9.1% ***	-10.1% ***	-7.1% *

PANEL D	MKTG						
Annual Report Section	Entire Sample	Experimental QAll	Experimental Q1	Experimental Q2	Control QAll	Control Q3	Control Q4
BUS DATA	0.4%	0.9%	0.7%	1.4%	-0.9%	-2.7%	2.6%
MD&A	1.8%	3.0% **	3.0% *	2.9%	-0.9%	-0.3%	-2.1%
FIN STMTS	5.6% ***	4.4% ***	2.9% *	7.0% ***	8.5% ***	10.1% ***	5.2%
NOTES	-7.8% ***	-8.3% ***	-6.6% ***	-11.3% ***	-6.6% ***	-7.0% ***	-5.7% *

PANEL E	OTHER						
Annual Report Section	Entire Sample	Experimental QAll	Experimental Q1	Experimental Q2	Control QAll	Control Q3	Control Q4
BUS DATA	10.4% ***	11.5% ***	8.3%	13.3% **	9.0% **	13.9% **	4.2%
MD&A	-4.5% *	-1.6%	-1.4%	-1.7%	-8.3% **	-6.9%	-9.7% *
FIN STMTS	2.7%	0.5%	1.4%	0.0%	5.6%	4.2%	6.9%
NOTES	-8.6% ***	-10.4% ***	-8.3%	-11.7% **	-6.3% *	-11.1% **	-1.4%

PANEL F	SC&IS						
Annual Report Section	Entire Sample	Experimental QAll	Experimental Q1	Experimental Q2	Control QAll	Control Q3	Control Q4
BUS DATA	2.1% *	2.4%	2.9%	1.6%	1.5%	-2.2%	4.7%
MD&A	2.7% **	2.4%	2.1%	3.0%	3.3%	3.5%	3.1%
FIN STMTS	2.1% *	1.9%	0.5%	4.3% *	2.5%	0.9%	3.9%
NOTES	-6.9% ***	-6.7% ***	-5.4% **	-8.9% ***	-7.3% ***	-2.2%	-11.7% ***

PANEL G	ALL MAJORS COMBINED						
Annual Report Section	Entire Sample	Experimental QAll	Experimental Q1	Experimental Q2	Control QAll	Control Q3	Control Q4
BUS DATA	1.9% ***	1.8% **	2.2% **	1.4%	2.0% **	1.0%	3.3% ***
MD&A	2.0% ***	2.1% ***	3.0% ***	1.0%	2.0% **	2.9% **	1.0%
FIN STMTS	3.6% ***	3.4% ***	2.9% ***	3.9% ***	3.9% ***	4.8% ***	2.8% **
NOTES	-7.6% ***	-7.3% ***	-8.2% ***	-6.3% ***	-7.9% ***	-8.6% ***	-7.1% ***

This table reports results for the proportion of subject responses to survey questions aimed at measuring subject utilization of each key annual report section. The proportion of observed responses in each annual report section were compared to the hypothesized level of 25% via a Z-test of inferences about two population proportions. Results are organized first by major of study and then by annual report section. Panel A represents responses from Accounting (ACCTG) majors, Panel B represents responses from Finance (FIN) majors, Panel C represents responses from Management and Organization (M&O) majors, Panel D represents responses from Marketing (MKTG) majors, Panel F represents responses from Supply Chain and Information Sciences (SC&IS) majors, and Panel E represents responses from peripheral majors of study (OTHER) that are different from the five previously listed majors of study. Panel G represents the combined responses from all majors of study (ALL MAJORS OF STUDY). Responses are also split by experience group. The ENTIRE SAMPLE group represents responses from all subjects, the EXPERIMENTAL QALL group represents the combined responses from subjects in the first and second quartiles of prior experience with annual reports (i.e., relatively lower prior experience), and the CONTROL QALL group represents the combined responses from subjects in the third and fourth quartiles of prior experience with annual reports (i.e., relatively higher prior experience). The EXPERIMENTAL Q1 and EXPERIMENTAL Q2 groups represent responses from subjects in the first and second quartiles of experience, respectively. The CONTROL Q3 and CONTROL Q4 groups represent responses from subjects in the third and fourth quartiles of experience, respectively. ***, **, and * indicate one-tail statistical significance at the 1%, 5%, and 10% levels, respectively, based on a comparison with the hypothesized response level of 25%.

PANEL A	ACCTG					
Annual Report Section	Experimental QAll vs. Control QAll		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
BUS DATA	26.7%	27.9%	26.2%	27.5%	27.3%	28.2%
MD&A	27.0%	28.2%	30.2%	25.9% *	23.9%	29.9% ***
FIN STMTS	26.8%	27.0%	28.7%	26.6%	25.0%	27.3%
NOTES	19.4%	16.9% *	14.9%	19.9% **	23.7%	14.6% ***
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

PANEL B	FIN					
Annual Report Section	Experimental QAll vs. Control QAll		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
BUS DATA	24.9%	28.1% **	28.1%	29.5%	23.4%	26.8% *
MD&A	25.4%	26.6%	27.2%	26.3%	24.7%	26.8%
FIN STMTS	30.1%	28.6%	30.2%	27.1%	30.0%	30.1%
NOTES	19.6%	16.7% **	14.5%	17.1%	21.9%	16.4% ***
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

PANEL C	M&O					
Annual Report Section	Experimental QAll vs. Control QAll		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
BUS DATA	27.8%	23.6% **	28.5%	25.0%	26.7%	22.9%
MD&A	28.0%	30.4%	28.0%	29.2%	28.1%	31.0%
FIN STMTS	29.1%	30.2%	28.9%	28.0%	29.4%	31.3%
NOTES	15.0%	15.9%	14.5%	17.9%	15.8%	14.9%
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

PANEL D	MKTG					
Annual Report Section	Experimental QAll vs. Control QAll		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
BUS DATA	25.9%	24.1%	25.7%	27.6%	26.4%	22.3%
MD&A	28.0%	24.1% **	28.0%	22.9% *	27.9%	24.7%
FIN STMTS	29.4%	33.5% **	27.9%	30.2%	32.0%	35.1%
NOTES	16.7%	18.4%	18.4%	19.3%	13.7%	18.0% **
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

PANEL E	OTHER					
Annual Report Section	Experimental QAll vs. Control QAll		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
BUS DATA	36.5%	34.0%	33.3%	29.2%	38.3%	38.9%
MD&A	23.4% *	16.7%	23.6%	15.3%	23.3%	18.1%
FIN STMTS	25.5%	30.6%	26.4%	31.9%	25.0%	29.2%
NOTES	14.6%	18.8%	16.7%	23.6%	13.3%	13.9%
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

PANEL F	SC&IS					
Annual Report Section	Experimental QAll vs. Control QAll		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
BUS DATA	27.4%	26.5%	27.9%	29.7%	26.6%	22.8%
MD&A	27.4%	28.3%	27.1%	28.1%	28.0%	28.5%
FIN STMTS	26.9%	27.5%	25.5%	28.9%	29.3%	25.9%
NOTES	18.3%	17.7%	19.6%	13.3% **	16.1%	22.8% **
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

PANEL G	ALL MAJORS COMBINED					
Annual Report Section	Experimental QAll vs. Control QAll		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
BUS DATA	26.8%	27.0%	27.2%	28.3%	26.4%	26.0%
MD&A	27.1%	27.0%	28.0%	26.0% *	26.0%	27.9% *
FIN STMTS	28.4%	28.9%	27.9%	27.8%	28.9%	29.8%
NOTES	17.7%	17.1%	16.8%	17.9%	18.7%	16.4% **
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

This table presents a comparison of the proportion of subject responses to survey questions aimed at measuring subject utilization of each key annual report section. The proportion of observed responses in each annual report section were compared across experimental groups via a Z-test of inferences about two population proportions. Results are organized first by major of study and then by annual report section. Panel A represents responses from Accounting (ACCTG) majors, Panel B represents responses from Finance (FIN) majors, Panel C represents responses from Management and Organization (M&O) majors, Panel D represents responses from Marketing (MKTG) majors, Panel F represents responses from Supply Chain and Information Sciences (SC&IS) majors, and Panel E represents responses from peripheral majors of study (OTHER) that are different from the five previously listed majors of study. Panel G represents the combined responses from all majors of study (ALL MAJORS OF STUDY). Responses are also split by experience group. The ENTIRE SAMPLE group represents responses from all subjects, the EXPERIMENTAL QALL group represents the combined responses from subjects in the first and second quartiles of prior experience with annual reports (i.e., relatively lower prior experience), and the CONTROL QALL group represents the combined responses from subjects in the third and fourth quartiles of prior experience with annual reports (i.e., relatively higher prior experience). The EXPERIMENTAL Q1 and EXPERIMENTAL Q2 groups represent responses from subjects in the first and second quartiles of experience, respectively. The CONTROL Q3 and CONTROL Q4 groups represent responses from subjects in the third and fourth quartiles of experience, respectively. ***, **, and * indicate one-tail statistical significance at the 1%, 5%, and 10% levels, respectively, based on a comparison across experimental groups.

PANEL A	Where Should Subjects Go Proportionate Responses (Either Correct Section)					
	Experimental QAll vs. Control Qall		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
SCENARIO 1	97.6%	97.8%	98.0%	96.9%	97.2%	98.5%
SCENARIO 2	51.6%	51.7%	52.0%	54.7%	51.2%	49.3%
SCENARIO 3	68.7%	72.7%	71.5%	78.3% *	65.4%	68.2%
SCENARIO 4	72.1%	74.9%	71.1%	75.2%	73.3%	74.6%
SCENARIO 5	54.2%	53.0%	55.7%	55.3%	52.5%	51.2%
SCENARIO 6	62.9%	64.4%	61.8%	65.8%	64.1%	63.2%
ALL SCENARIOS	67.9%	69.1%	68.4%	71.0% *	67.3%	67.5%

PANEL B	Where Should Subjects Go Frequency Count (Entire Sample Group, Actual Section Chosen)											
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5		Scenario 6	
BUS DATA	3	12	4	183	1	327	4	43	1	297	3	250
MD&A	2	213	3	200	2	254	3	174	2	241	1	278
FIN STMTS	1	593	2	213	3	139	1	348	3	146	4	20
NOTES	4	7	1	226	4	103	2	257	4	138	2	274

PANEL C	Where Did Subjects Go Proportionate Responses (Either Correct Section)					
	Experimental QAll vs. Control Qall		Experimental Q1 vs. Control Q4		Experimental Q2 vs. Control Q3	
SCENARIO 1	92.3%	93.7%	92.7%	94.4%	91.9%	93.1%
SCENARIO 2	62.7%	61.6%	61.3%	63.0%	64.3%	60.6%
SCENARIO 3	94.7%	95.3%	96.8%	95.1%	92.3%	95.6% *
SCENARIO 4	84.0%	88.5% **	85.9%	89.5%	81.9%	87.7% **
SCENARIO 5	81.0%	80.8%	82.3%	82.7%	79.6%	79.3%
SCENARIO 6	91.3%	94.2% *	92.7%	93.8%	89.6%	94.6% **
ALL SCENARIOS	84.3%	85.7% *	85.3%	86.4%	83.3%	85.1% *

PANEL D	Where Did Subjects Go Frequency Count (Entire Sample Group, Actual Section Chosen)											
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5		Scenario 6	
BUS DATA	3	48	4	132	1	444	4	0	1	313	1	604
MD&A	1	453	1	377	2	299	3	4	3	159	3	14
FIN STMTS	2	319	2	167	4	0	1	619	2	256	4	0
NOTES	4	2	3	146	3	77	2	198	4	91	2	201

PANEL E	Same Response for Where Subjects Should Go and Where Subjects Did Go									
	Experimental QAll vs. Control Qall				Experimental Q1 vs. Control Q4				Experimental Q2 vs. Control Q3	
SCENARIO 1	1	57.0%	1	57.9%	1	57.1%	1	59.6%	1	56.9%	1	56.5%
SCENARIO 2	5	36.4%	4	39.6%	5	33.9%	4	41.0% *	5	39.4%	4	38.5%
SCENARIO 3	3	42.7%	3	43.2%	3	42.4%	3	47.2%	3	43.1%	3	40.0%
SCENARIO 4	2	44.9%	2	50.4% *	2	45.3%	2	50.9%	2	44.4%	2	50.0%
SCENARIO 5	6	32.1%	6	32.7%	6	29.8%	6	32.9%	6	34.7%	6	32.5%
SCENARIO 6	4	40.1%	5	39.3%	4	38.4%	4	41.0%	4	42.1%	5	38.0%
ALL SCENARIOS		42.2%		43.9%		41.2%		45.4% **		43.4%		42.6%

This table presents a comparison of the proportion of subject responses to survey questions aimed at measuring the extent to which subjects utilized either of two key annual report sections where the requested information was located. The proportion of observed responses in Panel A, Panel C, and Panel E were compared across experimental groups via a Z-test of inferences about two population proportions. Panel A represents the extent to which subjects of all majors of study in each experimental group felt they should utilize either of two key annual report sections where the requested information was actually located. Panel B represents a frequency count where subjects of all majors of study felt they should go to locate the requested information. Panel C represents the extent to which subjects of all majors of study in each experimental group actually utilized either of two key annual report sections where the requested information was actually located. Panel D represents a frequency count of where subjects of all majors of study actually went to locate the requested information. Panel E represents the extent to which responses to questions about where subjects felt they should go to locate requested information were the same as responses to questions about where subjects actually did go to locate the requested information. Responses in Panel A, Panel C, and Panel E are split by experience group. The EXPERIMENTAL QALL group represents the combined responses from subjects in the first and second quartiles of prior experience with annual reports (i.e., relatively lower prior experience), and the CONTROL QALL group represents the combined responses from subjects in the third and fourth quartiles of prior experience with annual reports (i.e., relatively higher prior experience). The EXPERIMENTAL Q1 and EXPERIMENTAL Q2 groups represent responses from subjects in the first and second quartiles of experience, respectively. The CONTROL Q3 and CONTROL Q4 groups represent responses from subjects in the third and fourth quartiles of experience, respectively. Responses in Panel B and Panel D are organized by key annual report section. BUS DATA represents the Business Data section of the annual report, MD&A represents the Management's Discussion and Analysis section of the annual report, FIN STMTS represents the Financial Statements section of the annual report, and NOTES represents the Notes to Financial Statements section of the annual report. ***, **, and * indicate one-tail statistical significance at the 1%, 5%, and 10% levels, respectively, based on a comparison across experimental groups.

TABLE 6:   SAMPLE SELECTION FOR DATA INCLUDED IN MAIN ANALYSIS FOR EXPERIMENT #2

	Subjects
Subjects who participated in any of three separate surveys deployed	438
Less: subjects who did not participate in all three surveys	130
Less: subjects who returned 2 or more "random" answers	55
Subjects available for main analysis	**253**

TABLE 7:   DEFINITIONS OF VARIABLES FOR EXPERIMENT #2

Variable Name	Definition

Dependent Variables:

READING COMPREHENSION (Y_1)   A dichotomous variable:
0 = Correctly answered question about scenario topic
1 = Did not correctly answer question about scenario topic

PERCEPTION OF NEWS (Y_2)   An ordered categorical variable:
5 = This information is definitely good news for XYZ Corporation
4 = This information is between good news and neutral news for XYZ Corporation
3 = This information is definitely neutral news for XYZ Corporation
2 = This information is between neutral news and bad news for XYZ Corporation
1 = This information is definitely bad news for XYZ Corporation

Independent Variables:

LEVEL OF FOG (X_1)   An ordered categorical variable:
 1 = "Fog Up" scenario, manipulated by researcher to be more difficult to read
 0 = Original scenario, as presented in XYZ Corporation's annual report
-1 = "Fog Down" scenario, manipulated by researcher to be easier to read

COURSE GRADE (X_2)   An approximately continuous variable representing the overall percentage grade earned by each subject. Measured in decimal form with a 91% grade recorded as 0.91.

10K EXPERIENCE (X_3)   An approximately continuous variable representing the cumulative score earned by each subject with respect to orientation questions about prior experience with annual reports. Ranges from 0 to 12.

FIN (X_4)   A dichotomous variable equal to 1 if the subject's major of study is Finance. See Figure 4 for an explanation of how majors of study were aggregated.

M&O (X_5)   A dichotomous variable equal to 1 if the subject's major of study is Management and Organization. See Figure 4 for an explanation of how majors of study were aggregated.

MKTG (X_6)   A dichotomous variable equal to 1 if the subject's major of study is Marketing. See Figure 4 for an explanation of how majors of study were aggregated.

OTHER (X_7)   A dichotomous variable equal to 1 if the subject's major of study is Other. See Figure 4 for an explanation of how majors of study were aggregated.

SC&IS (X_8)   A dichotomous variable equal to 1 if the subject's major of study is Supply Chain and Information Sciences. See Figure 4 for an explanation of how majors of study were aggregated.

TABLE 8: SAMPLE CHARACTERISTICS FOR EXPERIMENT #2

	# OBS	Mean	Std. Dev.	25th Percentile	Median	75th Percentile
LEVEL OF FOG	1,518	0.000	0.817	-1.00	0.00	1.00
COURSE GRADE	1,518	0.906	0.036	0.89	0.91	0.93
10K EXPERIENCE	1,518	2.798	2.186	1.00	2.00	4.00
FIN	1,518	0.281	0.449	0.00	0.00	1.00
M&O	1,518	0.099	0.299	0.00	0.00	0.00
MKTG	1,518	0.146	0.353	0.00	0.00	0.00
OTHER	1,518	0.036	0.185	0.00	0.00	0.00
SC&IS	1,518	0.194	0.395	0.00	0.00	0.00

See Table 7 for variable definitions.

TABLE 9:   PAIRWISE CORRELATIONS FOR READING COMPREHENSION LOGISTIC REGRESSIONS AND FOR PERCEPTION OF NEWS ORDERED LOGISTIC REGRESSIONS

	LEVEL OF FOG	COURSE GRADE	10K EXPERIENCE	FIN	M&O	MKTG	OTHER	SC&IS
LEVEL OF FOG	1.0000							
COURSE GRADE	0.0000	1.0000						
10K EXPERIENCE	0.0000	0.0355	1.0000					
FIN	0.0000	0.0715 ***	0.1502 ***	1.0000				
M&O	0.0000	-0.0267	0.0063	-0.2068 ***	1.0000			
MKTG	0.0000	-0.0206	-0.1512 ***	-0.2585 ***	-0.1370 ***	1.0000		
OTHER	0.0000	0.0146	-0.0018	-0.1200 ***	-0.0636 **	-0.0795 ***	1.0000	
SC&IS	0.0000	-0.0276	-0.2477 ***	-0.3061 ***	-0.1623 ***	-0.2028 ***	-0.0941 ***	1.0000

See Table 7 for variable definitions. This table reports Pearson correlation coefficients. There are 1,518 subject-level observations for all variables, with a subject-level observation being made for the original annual report disclosure scenario (as presented in XYZ Corporation's annual report), a scenario where the researcher increased the reading difficulty of the annual report disclosure relative to the original scenario, and a scenario where the researcher decreased the reading difficulty of the annual report disclosure relative to the original scenario. ***, **, * indicate two-tail statistical significance at the 1%, 5%, and 10% level, respectively.

PANEL A: NEUTRAL NEWS

Variable	Predicted Sign	Coefficient	Odds Ratio	Z Statistic	Significance
LEVEL OF FOG (X_1)	+ / -	-0.0250	0.9753	-0.32	
COURSE GRADE (X_2)	+ / -	8.3690	4311.1910	5.01	***
10K EXPERIENCE (X_3)	+ / -	-0.0236	0.9766	-0.76	
FIN (X_4)	?	0.1121	1.1186	0.63	
M&O (X_5)	?	0.0451	1.0461	0.19	
MKTG (X_6)	?	0.0535	1.0549	0.25	
OTHER (X_7)	?	0.7316	2.0784	1.61	
SC&IS (X_8)	?	-0.1262	0.8814	-0.64	

Chi-Square	30.35	Degrees of Freedom	8	
Psuedo R-Square	2.3%	Prob > Chi-Square	0.00	
Observations	1,518	Log Likelihood	-749.13	

PANEL B: GOOD NEWS

Variable	Predicted Sign	Coefficient	Odds Ratio	Z Statistic	Significance
LEVEL OF FOG (X_1)	+ / -	-0.6248	0.5354	-5.83	***
COURSE GRADE (X_2)	+ / -	7.4887	1787.7870	3.63	***
10K EXPERIENCE (X_3)	+ / -	0.0523	1.0537	1.22	
FIN (X_4)	?	0.7300	2.0751	3.05	***
M&O (X_5)	?	0.2740	1.3153	0.92	
MKTG (X_6)	?	0.3742	1.4538	1.39	
OTHER (X_7)	?	0.5338	1.7054	1.07	
SC&IS (X_8)	?	0.1718	1.1874	0.71	

Chi-Square	62.74	Degrees of Freedom	8	
Psuedo R-Square	5.8%	Prob > Chi-Square	0.00	
Observations	1,518	Log Likelihood	-509.15	

PANEL C: BAD NEWS

Variable	Predicted Sign	Coefficient	Odds Ratio	Z Statistic	Significance
LEVEL OF FOG (X_1)	+ / -	0.6743	1.9627	8.59	***
COURSE GRADE (X_2)	+ / -	5.1793	177.5538	3.16	***
10K EXPERIENCE (X_3)	+ / -	0.0018	1.0018	0.06	
FIN (X_4)	?	0.1890	1.2081	1.09	
M&O (X_5)	?	0.0154	1.0155	0.07	
MKTG (X_6)	?	-0.0241	0.9762	-0.12	
OTHER (X_7)	?	-0.1865	0.8299	-0.55	
SC&IS (X_8)	?	-0.2199	0.8026	-1.16	

Chi-Square	94.43	Degrees of Freedom	8	
Psuedo R-Square	5.6%	Prob > Chi-Square	0.00	
Observations	1,518	Log Likelihood	-801.43	

See Table 7 for variable definitions. This table reports results from a logistic regression of Reading Comprehension (Y_1) on the independent variables listed in each panel (X_1 through X_8). The regression equation is represented as:

$$Pr(Y = 1 \mid X_1,...X_8) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_1 + ... + \beta_8 X_8)}}$$

Where $\beta_1...\beta_8$ are the logit coefficients / odds ratios. The nature of news was held constant in each of three logistic regressions represented in Panel A, Panel B, and Panel C. Panel A presents the results from a logistic regression for annual report disclosures that were considered to be "neutral news," Panel B presents the results from a logistic regression for annual report disclosures that were considered to be "good news," and Panel C presents the results from a logistic regression for annual report disclosures that were considered to be "bad news." Both regression coefficients and odds ratios are presented to aid interpretation. There are 1,518 subject-level observations for all variables, with a subject-level observation being made for the original annual report disclosure scenario (as presented in XYZ Corporation's annual report), a scenario where the researcher increased the reading difficulty of the annual report disclosure relative to the original scenario, and a scenario where the researcher decreased the reading difficulty of the annual report disclosure relative to the original scenario. ***, **, * indicate two-tail statistical significance at the 1%, 5%, and 10% level, respectively.

TABLE 11: THE EFFECTS OF ANNUAL REPORT COMPLEXITY ON THE PERCEPTION OF NEWS

PANEL A: NEUTRAL NEWS

Variable	Predicted Sign	Coefficient	Odds Ratio	Z Statistic	Significance
LEVEL OF FOG (X_1)	+ / -	-0.2189	0.8034	-3.15	***
COURSE GRADE (X_2)	+ / -	-3.9757	0.0188	-2.55	**
10K EXPERIENCE (X_3)	+ / -	-0.0268	0.9736	-0.97	
FIN (X_4)	?	0.1173	1.1245	0.74	
M&O (X_5)	?	0.6807	1.9753	3.28	
MKTG (X_6)	?	-0.0639	0.9381	-0.32	
OTHER (X_7)	?	-0.2301	0.7945	-0.69	
SC&IS (X_8)	?	0.5166	1.6763	2.87	***

Chi-Square	41.58	Degrees of Freedom	8	
Psuedo R-Square	1.6%	Prob > Chi-Square	0.00	
Observations	1,518	Log Likelihood	-1275.85	

PANEL B: GOOD NEWS

Variable	Predicted Sign	Coefficient	Odds Ratio	Z Statistic	Significance
LEVEL OF FOG (X_1)	+ / -	-0.1015	0.9035	-1.65	*
COURSE GRADE (X_2)	+ / -	3.7853	44.0472	2.71	***
10K EXPERIENCE (X_3)	+ / -	-0.0201	0.9801	-0.83	
FIN (X_4)	?	0.2656	1.3043	1.92	*
M&O (X_5)	?	-0.1263	0.8813	-0.67	
MKTG (X_6)	?	0.1591	1.1724	0.94	
OTHER (X_7)	?	0.4438	1.5586	1.49	
SC&IS (X_8)	?	0.1161	1.1231	0.73	

Chi-Square	19.18	Degrees of Freedom	8	
Psuedo R-Square	0.6%	Prob > Chi-Square	0.01	
Observations	1,518	Log Likelihood	-1613.76	

PANEL C: BAD NEWS

Variable	Predicted Sign	Coefficient	Odds Ratio	Z Statistic	Significance
LEVEL OF FOG (X_1)	+ / -	0.1260	1.1342	2.19	**
COURSE GRADE (X_2)	+ / -	-0.1059	0.8996	-0.08	
10K EXPERIENCE (X_3)	+ / -	-0.0033	0.9967	-0.14	
FIN (X_4)	?	-0.4019	0.6690	-3.09	***
M&O (X_5)	?	-0.3183	0.7274	-1.78	*
MKTG (X_6)	?	-0.5126	0.5989	-3.16	***
OTHER (X_7)	?	-0.0339	0.9667	-0.13	
SC&IS (X_8)	?	-0.1606	0.8517	-1.09	

Chi-Square	20.45	Degrees of Freedom	8	
Psuedo R-Square	0.5%	Prob > Chi-Square	0.01	
Observations	1,518	Log Likelihood	-1976.65	

See Table 7 for variable definitions. This table reports results from an ordered logistic regression of Perception of News (Y_2) on the independent variables listed in each panel (X_1 through X_8). The ordered logistic regression equation is represented as:

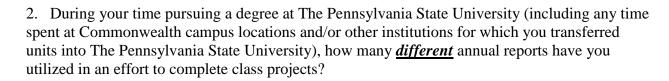$$Pr(Y \leq j \mid X_1,...X_8) = \ln \frac{(\pi\ (Y \leq j \mid X_1,...X_8))}{(\pi\ (Y > j \mid X_1,...X_8))} = \alpha_j + (-\beta_1 X_1 - ... - \beta_8 X_8) + \varepsilon$$

Where $j_1 ... j_4$ are the "cut points" or Y-intercept thresholds for each level of Y_2, and where $\beta_0 ... \beta_8$ are the logit beta coefficients / odds ratios. The nature of news was held constant in each of three logistic regressions represented in Panel A, Panel B, and Panel C. Panel A presents the results from an ordered logistic regression for annual report disclosures that were considered to be "neutral news," Panel B presents the results from an ordered logistic regression for annual report disclosures that were considered to be "good news," and Panel C presents the results from an ordered logistic regression for annual report disclosures that were considered to be "bad news." Both regression coefficients and odds ratios are presented to aid interpretation. There are 1,518 subject-level observations for all variables, with a subject-level observation being made for the original annual report disclosure scenario (as presented in XYZ Corporation's annual report), a scenario where the researcher increased the reading difficulty of the annual report disclosure relative to the original scenario, and a scenario where the researcher decreased the reading difficulty of the annual report disclosure relative to the original scenario. ***, **, * indicate two-tail statistical significance at the 1%, 5%, and 10% level, respectively.

APPENDIX A: EXPERIMENT 1 ORIENTATION SURVEY

1. Survey questions included in this alternate extra credit assignment will be used to assess your level of comfort with information being presented in a company's annual report to shareholders. Before participating in this extra credit assignment for the Fall 2011 semester, ***have you ever*** made use of information presented in a company's annual report to shareholders for purposes of completing a class project?

a. Yes
b. No

2. During your time pursuing a degree at The Pennsylvania State University (including any time spent at Commonwealth campus locations and/or other institutions for which you transferred units into The Pennsylvania State University), how many ***different*** annual reports have you utilized in an effort to complete class projects?

a. 0
b. 1 – 2
c. 3 – 4
d. 5 – 6
e. More than Six

3. Before participating in this extra credit assignment for the Fall 2011 semester, ***have you ever*** made use of information presented in a company's annual report to shareholders for purposes of researching either personal investment opportunities or retirement fund allocations?

a. Yes
b. No

4. How many ***different*** annual reports have you utilized for purposes of researching either personal investment opportunities or retirement fund allocations?

a. 0
b. 1 – 2
c. 3 – 4
d. 5 – 6
e. More than Six

5. According to information posted on the Securities and Exchange Commission's (SEC's) website (http://www.sec.gov/answers/annrep.htm, accessed 11/07/11):

> The ***Annual Report to Shareholders*** [emphasis added] is the principal document used by most public companies to disclose corporate information to their shareholders. It is usually a state-of-the-company report, including an opening letter from the Chief Executive Officer, financial data, [as well as] results of continuing operations, market segment information, new product plans, subsidiary activities, and research and development activities on future programs. The ***Form 10-K*** [emphasis added], which must be filed with the SEC, typically contains more detailed information about the company's financial condition than the annual report. Reporting companies must send annual reports to their shareholders when they hold annual meetings to elect directors. Companies sometimes elect to send their Form 10-K to their shareholders in lieu of providing shareholders with an annual report.

The (SEC's) website (http://www.sec.gov/answers/reada10k.htm, accessed 11/07/11) further provides information about the ***Business Data*** section of an annual report and/or Form 10-K:

> [The Business Data section provides] a description of the company's business, including its main products and services, what subsidiaries it owns, and what markets it operates in. This section may also include information about recent events, competition the company faces, regulations that apply to it, labor issues, special operating costs, or seasonal factors.

Based on the information provided above, which of the following is included in the ***Business Data*** section of a typical annual report?

a. The company's income statement and balance sheet (among other statements)
b. ***A description of the company's business, including its main products and services***
c. The company's perspective on the business results of the past financial year
d. Information about significant accounting policies and practices (among other items)

6. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately interpreting information presented in the ***Business Data*** section of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

7. The (SEC's) website (http://www.sec.gov/answers/reada10k.htm, accessed 11/07/11) also provides information about the ***Management's Discussion and Analysis (MD&A)*** section of an annual report:

> [The Management's Discussion and Analysis section] gives the company's perspective on the business results of the past financial year. This section, known as the MD&A for short, allows company management to tell its story in its own words. The MD&A presents the company's operations and financial results, including information about the company's liquidity and capital resources and any known trends or uncertainties that could materially affect the company's results. This section may also discuss management's views of key business risks and what it is doing to address them. [This section also discusses] critical accounting judgments, such as estimates and assumptions. These accounting judgments – and any changes from previous years – can have a significant impact on the numbers in the financial statements, such as assets, costs, and net income.

Based on the information provided above, which of the following is included in the ***Management's Discussion and Analysis (MD&A)*** section of a typical annual report?

a. The company's income statement and balance sheet (among other statements)
b. A description of the company's business, including its main products and services
c. ***The company's perspective on the business results of the past financial year***
d. Information about significant accounting policies and practices (among other items)

8. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately interpreting information presented in the ***Management's Discussion and Analysis (MD&A)*** section of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

9. The (SEC's) website (http://www.sec.gov/answers/reada10k.htm, accessed 11/07/11) also provides information about the ***Financial Statements*** section of an annual report:

> [The Financial Statements section presents] the company's audited financial statements. This includes the company's income statement (which is sometimes called the statement of earnings or the statement of operations), balance sheet, statement of cash flows and statement of stockholders' equity. U.S. companies are required to present their financial statements according to a set of accounting standards, conventions and rules known as Generally Accepted Accounting Principles, or GAAP. An independent accountant audits the company's financial statements. For large companies, the independent accountant also reports on a company's internal controls over financial reporting.

Based on the information provided above, which of the following is included in the ***Financial Statements*** section of a typical annual report?

a. ***The company's income statement and balance sheet (among other statements)***
b. A description of the company's business, including its main products and services
c. The company's perspective on the business results of the past financial year
d. Information about significant accounting policies and practices (among other items)

10. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately interpreting information presented in the ***Financial Statements*** section of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

11.   The (SEC's) website (http://www.sec.gov/answers/reada10k.htm, accessed 11/07/11) also provides information about the ***Notes to Financial Statements*** section of an annual report:

> The financial statements are accompanied by notes that explain the information presented in the financial statements, [including information about]: 1) significant accounting policies and practices, [which] often require management's most difficult, subjective or complex judgments; 2) income taxes, [via] detailed information about the company's current and deferred income taxes [as well as] the main items that affect the company's effective tax rate; 3) pension plans and other retirement programs, [via] specific information about the assets and costs of these programs [and information about] how much the plans are over- or under-funded; and 4) stock options granted to officers and employees, including the method of accounting for stock-based compensation and the effect of the method on reported results.

Based on the information provided above, which of the following is included in the ***Notes to Financial Statements*** section of a typical annual report?

a.   The company's income statement and balance sheet (among other statements)
b.   A description of the company's business, including its main products and services
c.   The company's perspective on the business results of the past financial year
d.   Information about significant accounting policies and practices (among other items)

12. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately interpreting information presented in the ***Notes to Financial Statements*** section of a typical annual report?

a.   Not Confident At All
b.   Somewhat Confident, but Less Than Moderately Confident
c.   Moderately Confident
d.   More Than Moderately Confident, But Less Than Absolutely Confident
e.   Absolutely Confident

APPENDIX B: EXPERIMENT 1 ASSESSMENT SURVEY 1

1. Please download the file entitled "Costco_2009_Source_Data_for_Survey_2.pdf" from the ANGEL class website (file location: subfolder entitled "Source Data Files for Alternate Extra Credit Survey #2" in the "BA 411 Alternate Extra Credit Surveys" folder). Hereafter, this file will be called the "source data file." This source data file represents a combination of information from Costco's Annual Report to Shareholders and/or Form 10-K. You will make use of the information provided in this file when answering the questions in this alternate extra credit assignment survey.

You may also choose to download the file entitled "Optional Background Information About Annual Reports.pdf" from the ANGEL class website if you wish to keep handy the background information introduced in Alternate Extra Credit Survey #1 (file location: subfolder entitled "Source Data Files for Alternate Extra Credit Survey #2" in the "BA 411 Alternate Extra Credit Surveys" folder). Downloading this background information file is entirely optional.

Have you downloaded Costco's source data file from the ANGEL class website, and are you ready to proceed with the survey?

a. Yes, I have downloaded the file and I am ready to proceed with the survey

2. You are a financial advisor who has been engaged by Costco Wholesale Corporation to analyze its 2009 operations. As a part of the project, Costco is interested in analyzing the details of its overall "gross margin" for 2009 (defined as Net Sales minus Merchandise Costs). The CEO has asked you to comment on the 2009 gross margin of the company.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in Costco's source data file would you go to determine Costco's gross margin for Fiscal Year 2009?

a. Business Data
b. ***Management's Discussion and Analysis (MD&A)***
c. ***Financial Statements***
d. Notes to Financial Statements

3. You are a supply chain executive for Costco Wholesale Corporation. During a recent meeting to review Costco's distribution center structure, the Chief Operating Officer of the company expressed an opinion that significant inefficiencies existed in the 2009 design of the distribution network. The Chief Operating Officer has asked you to comment on warehouse closures during Costco's 2009 fiscal year.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in Costco's source data file would you go to determine Costco's warehouse closing expenses for Fiscal Year 2009?

a. Business Data
b. ***Management's Discussion and Analysis (MD&A)***
c. Financial Statements
d. ***Notes to Financial Statements***

4. You are a mid-level manager at Costco Wholesale Corporation. A part of your job responsibilities includes the analysis of departmental reports that are generated after Costco's fiscal year-end date. You are conducting an analysis of a report that makes use of Costco's 2009 financial results, and you are curious about the logic used by Costco to determine its fiscal year-end date for any given year.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in Costco's source data file would you go to identify the logic employed by Costco to determine its year-end date for Fiscal Year 2009?

a. ***Business Data***
b. ***Management's Discussion and Analysis (MD&A)***
c. Financial Statements
d. Notes to Financial Statements

5. You are the Chief Financial Officer for Costco Wholesale Corporation. You are preparing for the upcoming shareholder's meeting, and you wish to identify the net realizable value of Costco's Accounts Receivable for the recently-completed 2009 fiscal year ("net realizable value" is also known as "net receivables" or "receivables, net").

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in Costco's source data file would you go to determine the net realizable value of Costco's Accounts Receivable at the end of Fiscal Year 2009?

a. Business Data
b. Management's Discussion and Analysis (MD&A)
c. ***Financial Statements***
d. ***Notes to Financial Statements***

6. You are a membership manager for Costco Wholesale Corporation. Costco is preparing to launch a new advertising campaign to increase its primary cardholder membership base. Prior to launching this campaign, you wish to identify how much revenue was generated in 2009 from Costco's primary cardholder membership fees.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in Costco's source data file would you go to determine the approximate revenue generated from Costco's "primary cardholder membership fees" for Fiscal Year 2009, based on a $50 annual membership fee for primary cardholders?

a. ***Business Data***
b. Management's Discussion and Analysis (MD&A)
c. ***Financial Statements***
d. Notes to Financial Statements

7. You are a production manager for Costco Wholesale Corporation. Costco has engaged in a 50%-owned joint venture for operations in Mexico (dubbed "Costco Mexico"). You are interested in determining the total number of Costco Mexico warehouses in operation as of the end of Fiscal Year 2009.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in Costco's source data file would you go to determine the total number of Costco Mexico warehouses in operation as of the end of Fiscal Year 2009?

a. ***Business Data***
b. Management's Discussion and Analysis (MD&A)
c. Financial Statements
d. ***Notes to Financial Statements***

8. You are employed as a marketing researcher for a product that has failed to meet its sales forecast. You have been assigned the task of researching which (if any) product features must be changed in order to meet the demands of the target market. Which of the following ***is not*** considered to be one of the standard "marketing mix" variables that you will include in your research?

a. Product
b. ***Portability***
c. Price
d. Promotion

9. You are a member of the Board of Directors of a company that strives to maintain effective corporate governance. The company is experiencing a problem with one of its business units. The CEO of the company has proposed a method to mitigate the problem. The Board is now faced with making a decision about whether (or not) to implement the CEO's recommended course of action. Which of the following Board characteristics would cause you to become concerned about the Board's ability to make an independent decision about the CEO's recommendation?

a. A minority of board members are current managers
b. Open elections are held for board seats at regular intervals
c. Each board member's performance is evaluated on a regular basis
d. *The CEO serves as the Chairman of the Board*

10. You are a financial advisor who has been engaged by Costco Wholesale Corporation to analyze its 2009 operations. As a part of the project, Costco is interested in analyzing the details of its overall "gross margin" for 2009 (defined as Net Sales minus Merchandise Costs). The CEO has asked you to comment on the 2009 gross margin of the company. Using Costco's source data file, determine Costco's gross margin for Fiscal Year 2009.

The Table of Contents for Costco's source data file is as follows:

Page 02 – Page 08	Business Data
Page 09 – Page 25	Management's Discussion and Analysis (MD&A)
Page 26 – Page 29	Financial Statements
Page 30 – Page 67	Notes to Financial Statements

Figures below are expressed in millions of US Dollars. If used, parentheses represent negative figures.

a. *$7,554*
b. ($94)
c. $8,045
d. ($87)

11. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are a financial advisor who has been engaged by Costco Wholesale Corporation to analyze its 2009 operations. As a part of the project, Costco is interested in analyzing the details of its overall "gross margin" for 2009 (defined as Net Sales minus Merchandise Costs). The CEO has asked you to comment on the 2009 gross margin of the company. Using Costco's source data file, determine Costco's gross margin for Fiscal Year 2009.

The Table of Contents for Costco's source data file is copied below for your reference:

Of the choices below, on which page of Costco's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. *12*
b. *27*
c. 10
d. 59

12. You are a supply chain executive for Costco Wholesale Corporation. During a recent meeting to review Costco's distribution center structure, the Chief Operating Officer of the company expressed an opinion that significant inefficiencies existed in the 2009 design of the distribution network. The Chief Operating Officer has asked you to comment on warehouse closures during Costco's 2009 fiscal year. Using Costco's source data file, determine Costco's warehouse closing expenses for Fiscal Year 2009.

The Table of Contents for Costco's source data file is as follows:

Figures below are expressed in millions of US Dollars. If used, parentheses represent negative figures.

a. $9
b. $5
c. $17
d. $15

13. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are a supply chain executive for Costco Wholesale Corporation. During a recent meeting to review Costco's distribution center structure, the Chief Operating Officer of the company expressed an opinion that significant inefficiencies existed in the 2009 design of the distribution network. The Chief Operating Officer has asked you to comment on warehouse closures during Costco's 2009 fiscal year. Using Costco's source data file, determine Costco's warehouse closing expenses for Fiscal Year 2009.

The Table of Contents for Costco's source data file is copied below for your reference:

Of the choices below, on which page of Costco's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. *14*
b. *38*
c. 15
d. 27

14.   You are a mid-level manager at Costco Wholesale Corporation. A part of your job responsibilities includes the analysis of departmental reports that are generated after Costco's fiscal year-end date. You are conducting an analysis of a report that makes use of Costco's 2009 financial results, and you are curious about the logic used by Costco to determine its fiscal year-end date for any given year. Using Costco's source data file, identify the logic employed by Costco to determine its year-end date for Fiscal Year 2009.

The Table of Contents for Costco's source data file is as follows:

a.   Sunday nearest to (closest to) the end of August
b.   Sunday nearest to (closest to) the end of January
c.   Saturday nearest to (closest to) the end of June
d.   Saturday nearest to (closest to) the end of February

Note: Could not follow standard answer / detractor logic for this question. Instead, detractors are all random and not included in document.

15. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are a mid-level manager at Costco Wholesale Corporation. A part of your job responsibilities includes the analysis of departmental reports that are generated after Costco's fiscal year-end date. You are conducting an analysis of a report that makes use of Costco's 2009 financial results, and you are curious about the logic used by Costco to determine its fiscal year-end date for any given year. Using Costco's source data file, identify the logic employed by Costco to determine its year-end date for Fiscal Year 2009.

The Table of Contents for Costco's source data file is copied below for your reference:

Of the choices below, on which page of Costco's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. *4*
b. *9*
c. *30*
d. 40

Note: Could not follow standard answer / detractor logic for this question. Fiscal year logic is found in three sections – Business Data, MD&A, and Notes to Financial Statements. The last page is a random page number associated with the search term "fiscal year" but not the logic.

16. You are the Chief Financial Officer for Costco Wholesale Corporation. You are preparing for the upcoming shareholder's meeting, and you wish to identify the net realizable value of Costco's Accounts Receivable for the recently-completed 2009 fiscal year ("net realizable value" is also known as "net receivables" or "receivables, net"). Using Costco's source data file, determine the net realizable value of Costco's Accounts Receivable at the end of Fiscal Year 2009.

The Table of Contents for Costco's source data file is as follows:

Figures below are expressed in millions of US Dollars. If used, parentheses represent negative figures.

a. $834
b. $758
c. $628
d. $563

Note: First CTRL-F instance was a correct answer (Notes to Financial Statements), using search term "net receivables." Search string "net receivables" yielded one result (the correct answer). First CTRL-F instance using search term "receivables, net" was also a correct answer (Financial Statements). Search string "receivables, net" yielded two results (both correct answers, one in Financial Statements and the other in Notes to Financial Statements.

17. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are the Chief Financial Officer for Costco Wholesale Corporation. You are preparing for the upcoming shareholder's meeting, and you wish to identify the net realizable value of Costco's Accounts Receivable for the recently-completed 2009 fiscal year ("net realizable value" is also known as "net receivables" or "receivables, net"). Using Costco's source data file, determine the net realizable value of Costco's Accounts Receivable at the end of Fiscal Year 2009.

The Table of Contents for Costco's source data file is copied below for your reference:

Of the choices below, on which page of Costco's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. 26
b. 31
c. 17
d. 27

18. You are a membership manager for Costco Wholesale Corporation. Costco is preparing to launch a new advertising campaign to increase its primary cardholder membership base. Prior to launching this campaign, you wish to identify how much revenue was generated in 2009 from Costco's primary cardholder membership fees. Using Costco's source data file, determine the approximate revenue generated from Costco's "primary cardholder membership fees" for Fiscal Year 2009, based on a $50 annual membership fee for primary cardholders.

The Table of Contents for Costco's source data file is as follows:

Membership figures, as presented in Costco's source data file, are expressed in thousands of members. Figures below represent revenue and are expressed in millions of US Dollars. If used, parentheses represent negative figures.

a. $1,533
b. ($56)
c. $1,086
d. ($40)

Note: Search string "membership fees" yields correct answers in all categories: Business Data, MD&A, Financial Statements, and Notes to Financial Statements. First CTRL-F instance using search term "membership fees" was also a correct answer (MD&A). Answer choice reflects the next CTRL-F instance where a figure is associated with the search string.

19. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are a membership manager for Costco Wholesale Corporation. Costco is preparing to launch a new advertising campaign to increase its primary cardholder membership base. Prior to launching this campaign, you wish to identify how much revenue was generated in 2009 from Costco's primary cardholder membership fees. Using Costco's source data file, determine the approximate revenue generated from Costco's "primary cardholder membership fees" for Fiscal Year 2009, based on a $50 annual membership fee for primary cardholders.

The Table of Contents for Costco's source data file is copied below for your reference:

Of the choices below, on which page of Costco's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. 5
b. **Either 9 or 11**
c. 27
d. 66

Note: Search string "membership fees" yields correct answers in all categories: Business Data, MD&A, Financial Statements, and Notes to Financial Statements. Answer choices reflect page numbers where correct answers reside in each category.

20.   You are a production manager for Costco Wholesale Corporation. Costco has engaged in a 50%-owned joint venture for operations in Mexico (dubbed "Costco Mexico"). You are interested in determining the total number of Costco Mexico warehouses in operation as of the end of Fiscal Year 2009. Using Costco's source data file, determine the total number of Costco Mexico warehouses in operation as of the end of Fiscal Year 2009.

The Table of Contents for Costco's source data file is as follows:

Figures below are expressed in terms of the actual number of Costco Mexico warehouses in operation as of the end of Fiscal Year 2009.

a. *32*
b. 2,700
c. 24
d. 3,157

21. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are a production manager for Costco Wholesale Corporation. Costco has engaged in a 50%-owned joint venture for operations in Mexico (dubbed "Costco Mexico"). You are interested in determining the total number of Costco Mexico warehouses in operation as of the end of Fiscal Year 2009. Using Costco's source data file, determine the total number of Costco Mexico warehouses in operation as of the end of Fiscal Year 2009.

The Table of Contents for Costco's source data file is copied below for your reference:

Of the choices below, on which page of Costco's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. *4*
b. *30*
c. 5
d. 12

APPENDIX C: EXPERIMENT 1 ASSESSMENT SURVEY 2

1.   Please download the file entitled "WalMart_2009_Source_Data_for_Survey_3.pdf" from the ANGEL class website (file location: subfolder entitled "Source Data Files for Alternate Extra Credit Survey #2" in the "BA 411 Alternate Extra Credit Surveys" folder). Hereafter, this file will be called the "source data file." This source data file represents a combination of information from WalMart's Annual Report to Shareholders and/or Form 10-K. You will make use of the information provided in this file when answering the questions in this alternate extra credit assignment survey.

You may also choose to download the file entitled "Optional Background Information About Annual Reports.pdf" from the ANGEL class website if you wish to keep handy the background information introduced in Alternate Extra Credit Survey #1 (file location: subfolder entitled "Source Data Files for Alternate Extra Credit Survey #2" in the "BA 411 Alternate Extra Credit Surveys" folder). Downloading this background information file is entirely optional.

Have you downloaded WalMart's source data file from the ANGEL class website, and are you ready to proceed with the survey?

a.   Yes, I have downloaded the file and I am ready to proceed with the survey

2.   You are a financial advisor who has been engaged by WalMart Stores, Incorporated to analyze its 2009 operations. As a part of the project, WalMart is interested in analyzing the amount of "free cash flow" generated during 2009 ("free cash flow" is defined as "Net Cash Provided by Operating Activities of Continuing Operations" minus "Payments for Property and Equipment"). The CEO has asked you to comment on the amount of free cash flow generated by WalMart during 2009.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in WalMart's source data file would you go to determine WalMart's free cash flow generated during Fiscal Year 2009?

a.   Business Data
b.   ***Management's Discussion and Analysis (MD&A)***
c.   ***Financial Statements***
d.   Notes to Financial Statements

3.   You are the Chief Financial Officer for WalMart Stores, Incorporated. You are preparing for the upcoming shareholder's meeting, and you wish to identify the dollar amount of Net Sales generated from the "WalMart US" business segment (unit) during Fiscal Year 2009.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in WalMart's source data file would you go to determine the dollar amount of Net Sales generated from the "WalMart US" business segment (unit) during Fiscal Year 2009?

a.   Business Data
b.   *Management's Discussion and Analysis (MD&A)*
c.   Financial Statements
d.   *Notes to Financial Statements*

4.   You are an accounting manager responsible for the "International" business segment (unit) at WalMart Stores, Incorporated. A part of your job responsibilities includes the analysis of departmental reports that are generated after WalMart's fiscal year-end date. You have determined the 2009 net sales for the "International" business segment to be $98,600, and you are conducting an analysis of a report that relies on further determining WalMart's "International" net sales as a percentage of WalMart's consolidated net sales (i.e., all business segments, or total net sales) for Fiscal Year 2009.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in WalMart's source data file would you go to determine WalMart's "International" net sales as a percentage of WalMart's consolidated net sales (i.e., all business segments, or total net sales) for Fiscal Year 2009?

a.   *Business Data*
b.   *Management's Discussion and Analysis (MD&A)*
c.   Financial Statements
d.   Notes to Financial Statements

5. You are an investor relations manager for WalMart Stores, Incorporated. As a part of your job responsibilities, you are charged with educating investors about various items presented in WalMart's Annual Report to Shareholders and/or Form 10-K. You are preparing for a phone meeting with an investor who wishes to discuss Walmart's 2009 Accumulated Other Comprehensive Income (Loss).

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in WalMart's source data file would you go to identify WalMart's 2009 Accumulated Other Comprehensive Income (Loss)?

a. Business Data
b. Management's Discussion and Analysis (MD&A)
c. ***Financial Statements***
d. ***Notes to Financial Statements***

6. You are a supply chain executive for WalMart Stores, Incorporated. During a recent meeting to review WalMart's distribution center structure, the Chief Operating Officer of the company expressed an opinion that significant inefficiencies existed in the 2009 design of the "International" business segment (unit) distribution network. The Chief Operating Officer has asked you to interpret information about WalMart's "International" business segment (unit) warehouse closures during the 2009 fiscal year.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in WalMart's source data file would you go to interpret information about WalMart's "International" business segment (unit) warehouse closures during Fiscal Year 2009?

a. ***Business Data***
b. Management's Discussion and Analysis (MD&A)
c. ***Financial Statements***
d. Notes to Financial Statements

7. You are a mid-level manager at WalMart Stores, Incorporated. A part of your job responsibilities includes the analysis of departmental reports that are generated after WalMart's fiscal year-end date. You are conducting an analysis of a report that makes use of WalMart's 2009 financial results, and you are curious about the logic used by WalMart to determine its fiscal year-end date for any given year.

Based solely on your knowledge about the information presented in a typical company's Annual Report to Shareholders and/or Form 10-K, where in WalMart's source data file would you go to identify the logic employed by WalMart to determine its year-end date for Fiscal Year 2009?

a. ***Business Data***
b. Management's Discussion and Analysis (MD&A)
c. Financial Statements
d. ***Notes to Financial Statements***

8. You are a brand manager for a pharmaceutical company that is preparing to launch a new advertising campaign. It is known that each of your market segments responds differently to various types of media (e.g., print, direct mail, television, etc.). Your task is to allocate budgeted advertising dollars among the various types of media you are considering in your firm's upcoming advertising campaign. In an effort to assist you with this task, your company's advertising agency has provided you with a visual depiction of where your brand is "located" in consumers' minds, relative to competing brands, and based on consumer preferences in your product space. Your company's advertising agency has provided you with a(n):

a. Positioning diagram
b. ***Perceptual map***
c. Target market graph
d. Allocation plan

9. You are the production planner for a firm that manufactures a popular brand of breakfast cereal. Your demand forecast for the upcoming month suggests that consumer demand for your company's breakfast cereal product will exceed planned production levels for the same time period. If no changes are made to the planned production schedule for the upcoming month, which of the following situations will result?

a. Ending inventory for the upcoming month will be higher than ending inventory for the current month
b. The ideal level of sales for this product will be realized during the upcoming month
c. ***The product will experience inventory stock-outs during the upcoming month***
d. The product will experience an increased level of inventory carrying costs during the upcoming month

10. You are a financial advisor who has been engaged by WalMart Stores, Incorporated to analyze its 2009 operations. As a part of the project, WalMart is interested in analyzing the amount of "free cash flow" generated during 2009 ("free cash flow" is defined as "Net Cash Provided by Operating Activities of Continuing Operations" minus "Payments for Property and Equipment"). The CEO has asked you to comment on the amount of free cash flow generated by WalMart during Fiscal Year 2009. Using WalMart's source data file, determine the amount of free cash flow generated by WalMart during Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Figures below are expressed in millions of US Dollars. If used, parentheses represent negative figures.

a. ***$11,648***
b. $3,615
c. $7,275
d. $5,163

Note: First CTRL-F response (search string "free cash flow") was the correct answer, and was also the only number associated with the search string. For alternate CTRL-F answer, search string "cash flow" was used, and nearest total was total number of international stores. Random number in document was total "cash and cash equivalents" from balance sheet.

11. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are a financial advisor who has been engaged by WalMart Stores, Incorporated to analyze its 2009 operations. As a part of the project, WalMart is interested in analyzing the amount of "free cash flow" generated during 2009 ("free cash flow" is defined as "Net Cash Provided by Operating Activities of Continuing Operations" minus "Payments for Property and Equipment"). The CEO has asked you to comment on the amount of free cash flow generated by WalMart during Fiscal Year 2009. Using WalMart's source data file, determine the amount of free cash flow generated by WalMart during Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Of the choices below, on which page of WalMart's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. *19*
b. *33*
c. 8
d. 31

12. You are the Chief Financial Officer for WalMart Stores, Incorporated. You are preparing for the upcoming shareholder's meeting, and you wish to identify the dollar amount of Net Sales generated from the "WalMart US" business segment (unit) during Fiscal Year 2009. Using WalMart's source data file, determine the amount of Net Sales generated from the "WalMart US" business segment (unit) during Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Figures below are expressed in millions of US Dollars. If used, parentheses represent negative figures. In some cases, figures within WalMart's source document may be rounded to the nearest hundred-million dollar amount.

a. $255,745
b. $401,200
c. $163,429
d. $307,800

Note: Net Sales for WalMart US segment can be found in Business Data, MD&A, and Notes to Financial Statements. Answer B is total net sales (all segments). Answer C is Total Assets.

13. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are the Chief Financial Officer for WalMart Stores, Incorporated. You are preparing for the upcoming shareholder's meeting, and you wish to identify the dollar amount of Net Sales generated from the "WalMart US" business segment (unit) during Fiscal Year 2009. Using WalMart's source data file, determine the amount of Net Sales generated from the "WalMart US" business segment (unit) during Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Of the choices below, on which page of WalMart's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. *16*
b. *49*
c. Either 2, 15, or 30
d. 3

Note: Answer D in this case is not a random # in doc but not associated with CTRL-F search for "net sales." Net Sales answer can be found in Business Data, MD&A, and Notes to Financial Statements. Instead of using Total Assets page number, Business Data page number (3) was included as answer D here.

14.   You are an accounting manager responsible for the "International" business segment (unit) at WalMart Stores, Incorporated. A part of your job responsibilities includes the analysis of departmental reports that are generated after WalMart's fiscal year-end date. You have determined the 2009 net sales for the "International" business segment to be $98,600, and you are conducting an analysis of a report that relies on further determining WalMart's "International" net sales as a percentage of WalMart's consolidated net sales (i.e., all business segments, or total net sales) for Fiscal Year 2009. Using WalMart's source data file, determine WalMart's "International" net sales as a percentage of WalMart's consolidated net sales (i.e., all business segments, or total net sales) for Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Figures below are expressed as a percentage of consolidated net sales (i.e., all business segments, or total net sales). If used, parentheses represent negative figures.

*a. **24.6%***
b. 74.0%
c. 19.3%
d. 65.8%

Note: In order to calculate percentage by using Business Data, total International Net Sales information had to be given to allow students to locate total (all segments) Net Sales and then calculate percentage. Search string "international." Answer B represents percentage of International segment purchases that flowed through international distribution centers (from page 9). Answer C is ROI (page 18).

15. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are an accounting manager responsible for the "International" business segment (unit) at WalMart Stores, Incorporated. A part of your job responsibilities includes the analysis of departmental reports that are generated after WalMart's fiscal year-end date. You have determined the 2009 net sales for the "International" business segment to be $98,600, and you are conducting an analysis of a report that relies on further determining WalMart's "International" net sales as a percentage of WalMart's consolidated net sales (i.e., all business segments, or total net sales) for Fiscal Year 2009. Using WalMart's source data file, determine WalMart's "International" net sales as a percentage of WalMart's consolidated net sales (i.e., all business segments, or total net sales) for Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Of the choices below, on which page of WalMart's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. 2
b. 16
c. 9
d. 18

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16. You are an investor relations manager for WalMart Stores, Incorporated. As a part of your job responsibilities, you are charged with educating investors about various items presented in WalMart's Annual Report to Shareholders and/or Form 10-K. You are preparing for a phone meeting with an investor who wishes to discuss Walmart's 2009 Accumulated Other Comprehensive Income (Loss). Using WalMart's source data file, determine Walmart's 2009 Accumulated Other Comprehensive Income (Loss) for Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Figures below are expressed in millions of US Dollars, unless expressly conveyed otherwise. If used, parentheses represent negative figures.

a. *($2,688)*
b. $3,000 Euros
c. ($3,586)
d. $4,200 Euros

Note: Search string for correct answer: "accumulated other." First search string result was correct answer, so CTRL-F search result was first dollar amount (in Euros, rather than USD) that appeared near the search string. Answer C is total cash dividends from statement of stockholders' equity.

17. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are an investor relations manager for WalMart Stores, Incorporated. As a part of your job responsibilities, you are charged with educating investors about various items presented in WalMart's Annual Report to Shareholders and/or Form 10-K. You are preparing for a phone meeting with an investor who wishes to discuss Walmart's 2009 Accumulated Other Comprehensive Income (Loss). Using WalMart's source data file, determine Walmart's 2009 Accumulated Other Comprehensive Income (Loss) for Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Of the choices below, on which page of WalMart's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. *31*
b. *40*
c. 38
d. 32

18.   You are a supply chain executive for WalMart Stores, Incorporated. During a recent meeting to review WalMart's distribution center structure, the Chief Operating Officer of the company expressed an opinion that significant inefficiencies existed in the 2009 design of the "International" business segment (unit) distribution network. The Chief Operating Officer has asked you to interpret information about WalMart's "International" business segment (unit) warehouse closures during the 2009 fiscal year. Using WalMart's source data file, ***determine first*** if WalMart discontinued any operations during Fiscal Year 2009 in its "International" business segment, and if so, ***determine second*** which financial statement (if any) presents costs associated with the discontinued operations.

The Table of Contents for WalMart's source data file is as follows:

Information below is expressed first in terms of whether (or not) discontinued operations existed in WalMart's 2009 source data file. Information is then expressed in terms of which financial statement (if any) presents costs associated with the discontinued operations.

a.   ***Yes, and the costs associated with this restructuring <u>ARE</u> presented in the Consolidated Statements of Income.***
b.   Yes, and the costs associated with this restructuring **<u>ARE NOT</u>** presented in the Consolidated Statements of Income.
c.   No. Instead, WalMart discontinued operations during 2009 in its "WalMart U.S." business segment (unit).
d.   No. Instead, WalMart discontinued operations during 2009 in its "Sam's Club" business segment (unit).

Note: Could not follow standard answer / detractor logic for this question. Instead, detractors are all random and not included in document. Search string for correct answer: "discontinued operations."

19. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are a supply chain executive for WalMart Stores, Incorporated. During a recent meeting to review WalMart's distribution center structure, the Chief Operating Officer of the company expressed an opinion that significant inefficiencies existed in the 2009 design of the "International" business segment (unit) distribution network. The Chief Operating Officer has asked you to interpret information about WalMart's "International" business segment (unit) warehouse closures during the 2009 fiscal year. Using WalMart's source data file, ***determine first*** if WalMart discontinued any operations during Fiscal Year 2009 in its "International" business segment, and if so, ***determine second*** which financial statement (if any) presents costs associated with the discontinued operations.

The Table of Contents for WalMart's source data file is as follows:

Of the choices below, on which page of WalMart's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. 8
b. 30
c. 18
d. 40

Note: Could not follow standard answer / detractor logic for this question. Answer C represents information provided on Page 18 about discontinued international operations, but without an indication of which financial statement houses the results. Answer D is first page of Notes to Financial Statements, where search string does appear. Search string for correct answer: "discontinued operations."

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20.   You are a mid-level manager at WalMart Stores, Incorporated. A part of your job responsibilities includes the analysis of departmental reports that are generated after WalMart's fiscal year-end date. You are conducting an analysis of a report that makes use of WalMart's 2009 financial results, and you are curious about the logic used by WalMart to determine its fiscal year-end date for any given year. Using WalMart's source data file, identify the logic employed by WalMart to determine its year-end date for Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

a.   *January 31 of each year*
b.   Sunday nearest to (closest to) February 28
c.   March 31 of each year
d.   Saturday nearest to (closest to) December 31

Note: Could not follow standard answer / detractor logic for this question. Instead, detractors are all random and not included in document. Search string for correct answer: "fiscal year."

21. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

> You are a mid-level manager at WalMart Stores, Incorporated. A part of your job responsibilities includes the analysis of departmental reports that are generated after WalMart's fiscal year-end date. You are conducting an analysis of a report that makes use of WalMart's 2009 financial results, and you are curious about the logic used by WalMart to determine its fiscal year-end date for any given year. Using WalMart's source data file, identify the logic employed by WalMart to determine its year-end date for Fiscal Year 2009.

The Table of Contents for WalMart's source data file is as follows:

Of the choices below, on which page of WalMart's source data file did you **first** locate information that helped you answer the question from the previous scenario (copied above)? Note: the information requested in the scenario above may be located on more than one of the pages listed below. Please respond with the page number where you **first** located the information:

a. *2*
b. *34*
c. 39
d. 6

Note: Could not follow standard answer / detractor logic for this question. Instead, detractors are random and do not yield results. Search string for correct answer: "fiscal year."

APPENDIX D: EXPERIMENT 2 ORIENTATION SURVEY

1. According to information posted on the Securities and Exchange Commission's (SEC's) website (http://www.sec.gov/answers/annrep.htm, accessed 11/07/11):

> The ***Annual Report to Shareholders*** [emphasis added, hereafter referred to as the "annual report"] is the principal document used by most public companies to disclose corporate information to their shareholders. It is usually a state-of-the-company report, including an opening letter from the Chief Executive Officer, financial data, [as well as] results of continuing operations, market segment information, new product plans, subsidiary activities, and research and development activities on future programs. The ***Form 10-K*** [emphasis added], which must be filed with the SEC, typically contains more detailed information about the company's financial condition than the annual report. Reporting companies must send annual reports to their shareholders when they hold annual meetings to elect directors. Companies sometimes elect to send their Form 10-K to their shareholders in lieu of providing shareholders with an annual report.

Survey questions included in this extra credit assignment will be used to assess your level of comfort with information being presented in a company's annual report to shareholders. Before participating in this extra credit assignment for the Spring 2012 semester, ***have you ever*** made use of information presented in a company's annual report to shareholders for purposes of completing a class project?

a. Yes
b. No

2. During your time pursuing a degree at The Pennsylvania State University (including any time spent at Commonwealth campus locations and/or other institutions for which you transferred units into The Pennsylvania State University), how many ***different*** annual reports have you utilized in an effort to complete class projects?

a. 0 (None)
b. 1 – 2
c. 3 – 4
d. 5 – 6
e. More than 6

3. Before participating in this extra credit assignment for the Spring 2012 semester, **_have you ever_** made use of information presented in a company's annual report to shareholders for purposes of researching either personal investment opportunities or retirement fund allocations?

a. Yes
b. No

4. How many **_different_** annual reports have you utilized for purposes of researching either personal investment opportunities or retirement fund allocations?

a. 0 (None)
b. 1 – 2
c. 3 – 4
d. 5 – 6
e. More than 6

5. A typical annual report includes several components of information, most of which are required by the SEC. Of the required components of information, we will focus subsequent survey questions on the following four (4) components: 1) Business Data; 2) Management's Discussion and Analysis (MD&A); 3) Financial Statements; and 4) Notes to Financial Statements.

The SEC's website (http://www.sec.gov/answers/reada10k.htm, accessed 11/07/11) provides information about the **_Business Data_** section of an annual report and/or Form 10-K:

> [The Business Data section provides] a description of the company's business, including its main products and services, what subsidiaries it owns, and what markets it operates in. This section may also include information about recent events, competition the company faces, regulations that apply to it, labor issues, special operating costs, or seasonal factors.

Based on the information provided above, which of the following is included in the **_Business Data_** section of a typical annual report?

a. The company's income statement and balance sheet (among other statements)
b. ***A description of the company's business, including its main products and services***
c. The company's perspective on the business results of the past financial year
d. Information about significant accounting policies and practices (among other items)

6. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately interpreting information presented in the ***Business Data*** section of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

7. The SEC's website (http://www.sec.gov/answers/reada10k.htm, accessed 11/07/11) provides information about the ***Management's Discussion and Analysis (MD&A)*** section of an annual report:

> [The Management's Discussion and Analysis section] gives the company's perspective on the business results of the past financial year. This section, known as the MD&A for short, allows company management to tell its story in its own words. The MD&A presents the company's operations and financial results, including information about the company's liquidity and capital resources and any known trends or uncertainties that could materially affect the company's results. This section may also discuss management's views of key business risks and what it is doing to address them. [This section also discusses] critical accounting judgments, such as estimates and assumptions. These accounting judgments – and any changes from previous years – can have a significant impact on the numbers in the financial statements, such as assets, costs, and net income.

Based on the information provided above, which of the following is included in the ***Management's Discussion and Analysis (MD&A)*** section of a typical annual report?

a. The company's income statement and balance sheet (among other statements)
b. A description of the company's business, including its main products and services
c. The company's perspective on the business results of the past financial year
d. Information about significant accounting policies and practices (among other items)

8. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately interpreting information presented in the ***Management's Discussion and Analysis (MD&A)*** section of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

9. The SEC's website (http://www.sec.gov/answers/reada10k.htm, accessed 11/07/11) provides information about the ***Financial Statements*** section of an annual report:

> [The Financial Statements section presents] the company's audited financial statements. This includes the company's income statement (which is sometimes called the statement of earnings or the statement of operations), balance sheet, statement of cash flows and statement of stockholders' equity. U.S. companies are required to present their financial statements according to a set of accounting standards, conventions and rules known as Generally Accepted Accounting Principles, or GAAP. An independent accountant audits the company's financial statements. For large companies, the independent accountant also reports on a company's internal controls over financial reporting.

Based on the information provided above, which of the following is included in the ***Financial Statements*** section of a typical annual report?

a.   The company's income statement and balance sheet (among other statements)
b.   A description of the company's business, including its main products and services
c.   The company's perspective on the business results of the past financial year
d.   Information about significant accounting policies and practices (among other items)

10. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately interpreting information presented in the ***Financial Statements*** section of a typical annual report?

a.   Not Confident At All
b.   Somewhat Confident, but Less Than Moderately Confident
c.   Moderately Confident
d.   More Than Moderately Confident, But Less Than Absolutely Confident
e.   Absolutely Confident

11. The SEC's website (http://www.sec.gov/answers/reada10k.htm, accessed 11/07/11) provides information about the ***Notes to Financial Statements*** section of an annual report:

> The financial statements are accompanied by notes that explain the information presented in the financial statements, [including information about]: 1) significant accounting policies and practices, [which] often require management's most difficult, subjective or complex judgments; 2) income taxes, [via] detailed information about the company's current and deferred income taxes [as well as] the main items that affect the company's effective tax rate; 3) pension plans and other retirement programs, [via] specific information about the assets and costs of these programs [and information about] how much the plans are over- or under-funded; and 4) stock options granted to officers and employees, including the method of accounting for stock-based compensation and the effect of the method on reported results.

Based on the information provided above, which of the following is included in the ***Notes to Financial Statements*** section of a typical annual report?

a. The company's income statement and balance sheet (among other statements)
b. A description of the company's business, including its main products and services
c. The company's perspective on the business results of the past financial year
d. Information about significant accounting policies and practices (among other items)

12. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately interpreting information presented in the ***Notes to Financial Statements*** section of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

13. Of the four (4) components of information highlighted in previous questions (Business Data, Management's Discussion and Analysis (MD&A), Financial Statements, and Notes to Financial Statements), we will now focus our attention on information that is typically disclosed in ***Management's Discussion and Analysis (MD&A)*** and the ***Notes to Financial Statements***.

Information presented in a typical annual report will inevitably include varying degrees of "good" versus "bad" news about the company. In the questions that follow (both in this survey and in future surveys), information that is ***beneficial to the company*** will be called ***"good" news.*** An example of "good" news might be the communication of higher-than-expected net income for the fiscal year. An additional example of "good" news might be an announcement regarding the pending release of a new product that is anticipated to result in a significant increase in sales for the company.

Based on the information provided above, which of the following is the best example of an item that would be considered "good" news when communicated in a company's annual report?

a. The communication of lower-than-expected segment income for the fiscal year
b. The communication of information that the company made use of the straight-line method of depreciation to determine the net book value of its fixed assets
c. A public release of the general journal (including all journal entries made) for the fiscal year
d. ***The announcement of the release of a new product that is highly anticipated by consumers***

14. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately identifying "good" news that is presented in either the ***Management's Discussion and Analysis (MD&A)*** or the ***Notes to Financial Statements*** sections of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

15. Information presented in a typical annual report will inevitably include varying degrees of "good" versus "bad" news about the company. In the questions that follow (both in this survey and in future surveys), information that is ***detrimental to the company*** will be called ***"bad" news.*** An example of "bad" news might be the communication of lower-than-expected net income for the fiscal year. An additional example of "bad" news might be the communication of information about a product recall that caused disruption in the supply chain and/or cost the company a large sum of money to administer.

Based on the information provided above, which of the following is the best example of an item that would be considered "bad" news when communicated in a company's annual report?

a. ***The communication of lower-than-expected segment income for the fiscal year***
b. The communication of information that the company made use of the straight-line method of depreciation to determine the net book value of its fixed assets
c. A public release of the general journal (including all journal entries made) for the fiscal year
d. The announcement of the release of a new product that is highly anticipated by consumers

16. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately identifying "bad" news that is presented in either the ***Management's Discussion and Analysis (MD&A)*** or the ***Notes to Financial Statements*** section of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

17. Information presented in a typical annual report will inevitably include varying degrees of "good" versus "bad" news about the company. In the questions that follow (both in this survey and in future surveys), information that is **_neither beneficial nor detrimental to the company_** will be considered to be **_"neutral" news._** An example of "neutral news" might be the communication of information that the company made use of the Weighted Average cost flow assumption to value its ending inventory. An additional example of "neutral" news might be the announcement that the company has retained its current auditing firm for an additional fiscal year.

Based on the information provided above, which of the following is the best example of an item that would be considered "neutral" news when communicated in a company's annual report?

a. The communication of lower-than-expected segment income for the fiscal year
b. **_The communication of information that the company made use of the straight-line method of depreciation to determine the net book value of its fixed assets_**
c. A public release of the general journal (including all journal entries made) for the fiscal year
d. The announcement of the release of a new product that is highly anticipated by consumers

18. Given your personal experiences and/or educational background to date, how would you rate your level of confidence with respect to accurately identifying "neutral" news that is presented in either the **_Management's Discussion and Analysis (MD&A)_** or the **_Notes to Financial Statements_** section of a typical annual report?

a. Not Confident At All
b. Somewhat Confident, but Less Than Moderately Confident
c. Moderately Confident
d. More Than Moderately Confident, But Less Than Absolutely Confident
e. Absolutely Confident

19. The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Net sales decreased 1.5% from the prior year to $69,889, attributable to a 4% decrease in comparable sales (sales in warehouses open for at least one year, including relocated warehouses), partially offset by the opening of 15 new warehouses (19 opened, two closed due to relocation, and the closure of our two Costco Home locations) in 2009. Selling, general and administrative (SG&A) expenses as a percentage of net sales increased 58 basis points over the prior year. Net income decreased 15% to $1,086, or $2.47 per diluted share, in 2009 compared to $1,283, or $2.89 per diluted share, in 2008.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Costco Wholesale Corporation
b. This information is between good news and neutral news for Costco Wholesale Corporation
c. This information is definitely neutral news for Costco Wholesale Corporation
d. This information is between neutral news and bad news for Costco Wholesale Corporation
e. This information is definitely bad news for Costco Wholesale Corporation

20. The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Effective with renewals occurring on and after March 1, 2009, we changed an element of our membership renewal policy. Memberships renewed within two months after expiration of the current membership year are extended for twelve months from the expiration date. (Under the previous policy, renewals within six months of the expiration date were extended for twelve months from the expiration date.) Memberships renewed more than two months after such expiration date are extended for twelve months from the renewal date. Although this change will have the effect of deferring recognition of certain membership fees paid by late-renewing members, the effect is not expected to be material.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Costco Wholesale Corporation
b. This information is between good news and neutral news for Costco Wholesale Corporation
c. This information is definitely neutral news for Costco Wholesale Corporation
d. This information is between neutral news and bad news for Costco Wholesale Corporation
e. This information is definitely bad news for Costco Wholesale Corporation

21.   The following information is presented in the **_Notes to Financial Statements_** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Membership fees increased 1.8% in 2009 compared to 2008, primarily due to membership sign-ups at the 15 new warehouses opened in 2009, the continued benefit of membership sign-ups at warehouses opened in 2008, and increased penetration of our higher-fee Executive Membership program. Membership fees [increased despite a] lower number of warehouse openings year-over-year. Our member renewal rate, currently at 87%, is consistent with recent years.

Which of the following best characterizes the nature of the information presented above?

a. ***This information is definitely good news for Costco Wholesale Corporation***
b. ***This information is between good news and neutral news for Costco Wholesale Corporation***
c.   This information is definitely neutral news for Costco Wholesale Corporation
d.   This information is between neutral news and bad news for Costco Wholesale Corporation
e.   This information is definitely bad news for Costco Wholesale Corporation

22.   The following information is presented in the **_Notes to Financial Statements_** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Revenue from gift card sales is recognized upon gift card redemption. Our gift cards do not have expiration dates. Based on historical redemption rates, a small and relatively stable percentage of gift cards will never be redeemed, referred to as "breakage." Estimated breakage revenue is recognized over time in proportion to actual gift card redemptions and was immaterial in 2009, 2008, and 2007.

Which of the following best characterizes the nature of the information presented above?

a.   This information is definitely good news for Target Corporation
b.   This information is between good news and neutral news for Target Corporation
c. ***This information is definitely neutral news for Target Corporation***
d.   This information is between neutral news and bad news for Target Corporation
e.   This information is definitely bad news for Target Corporation

23. The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Our 2009 financial results in both of our business segments were affected by the challenging economy in which we operated. In light of that environment, performance in our Retail Segment was remarkable, as the segment generated the highest EBIT in the Corporation's history, in a year when comparable-store sales declined 2.5 percent. In the Credit Card Segment, disciplined management led to a 29.4 percent increase in segment profit in a year when Target's average investment in the portfolio declined about 32 percent, representing a near-doubling of segment pretax return on invested capital.

Which of the following best characterizes the nature of the information presented above?

a. ***This information is definitely good news for Target Corporation***
b. ***This information is between good news and neutral news for Target Corporation***
c. This information is definitely neutral news for Target Corporation
d. This information is between neutral news and bad news for Target Corporation
e. This information is definitely bad news for Target Corporation

24. The following information is presented in the ***Notes to Financial Statements*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Credit card receivables are recorded net of an allowance for doubtful accounts. The allowance, recognized in an amount equal to the anticipated future write-offs of existing receivables, was $1,016 at January 30, 2010 and $1,010 at January 31, 2009. This allowance includes provisions for uncollectible finance charges and other credit-related fees. We estimate future write-offs based on historical experience of delinquencies, risk scores, aging trends, and industry risk trends. Substantially all accounts continue to accrue finance charges until they are written off. Accounts are written off when they become 180 days past due.

For purposes of determining an answer to this question, assume the financial markets expected the allowance to decrease from 2009 to 2010. Also assume that an increase in the allowance for doubtful accounts represents a decrease to the total assets of the company and also represents a net decrease in the overall income of the company.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Target Corporation
b. This information is between good news and neutral news for Target Corporation
c. This information is definitely neutral news for Target Corporation
d. ***This information is between neutral news and bad news for Target Corporation***
e. ***This information is definitely bad news for Target Corporation***

APPENDIX E: EXPERIMENT 2 ASSESSMENT SURVEY 1

1. The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Net sales diminished 1.5% from the prior year to $69,889, which was attributable to a 4% reduction in analogous recognized revenue (representing a year-over-year comparison of revenue that was recognized in warehouses open for at least one year, and incorporating the component of warehouses that were moved to different locations), in part offset by the launching of 15 new warehouses (19 opened, two closed due to repositioning, and the termination of our two Costco Home locations) in 2009. Selling, general and administrative (SG&A) expenses as a proportion of net sales was amplified a total of 58 basis points when presented as a comparison to the prior fiscal year. Net income diminished 15% to $1,086, or $2.47 per diluted share, in 2009 when presented as a comparison to $1,283, or $2.89 per diluted share, in 2008.

In the scenario above, "analogous recognized revenue" is defined by Costco Wholesale Corporation as:

a. ***Sales in warehouses open for at least one year***
b. Sales in warehouses open for less than one year
c. Selling products in 15 new warehouses
d. Sales of products that complement existing products

2. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Net sales diminished 1.5% from the prior year to $69,889, which was attributable to a 4% reduction in analogous recognized revenue (representing a year-over-year comparison of revenue that was recognized in warehouses open for at least one year, and incorporating the component of warehouses that were moved to different locations), in part offset by the launching of 15 new warehouses (19 opened, two closed due to repositioning, and the termination of our two Costco Home locations) in 2009. Selling, general and administrative (SG&A) expenses as a proportion of net sales was amplified a total of 58 basis points when presented as a comparison to the prior fiscal year. Net income diminished 15% to $1,086, or $2.47 per diluted share, in 2009 when presented as a comparison to $1,283, or $2.89 per diluted share, in 2008.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Costco Wholesale Corporation
b. This information is between good news and neutral news for Costco Wholesale Corporation
c. This information is definitely neutral news for Costco Wholesale Corporation
d. ***This information is between neutral news and bad news for Costco Wholesale Corporation***
e. ***This information is definitely bad news for Costco Wholesale Corporation***

3. The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> We have changed a portion of our membership renewal policy for payments made after March 1, 2009. The new policy allows members who pay for their new membership within two months after expiration of their current term to extend their membership term for twelve months from the end of their previous term. Under the previous policy, memberships renewed within six months of the ending date were extended for twelve months from the ending date. Under the new policy, memberships renewed more than two months after the ending date are extended for twelve months from the date of the membership renewal. This change will push some income into the future. However, the effect of this policy change is not expected to be large enough to significantly affect the financial results of the Company.

In the scenario above, what is the effective date of the revision to Costco Warehouse Corporation's membership policy?

a. ***March 1, 2009***
b. December 31, 2009
c. Twelve months after the expiration of the current membership year
d. Twenty-four months after the expiration of the current membership year

4. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> We have changed a portion of our membership renewal policy for payments made after March 1, 2009. The new policy allows members who pay for their new membership within two months after expiration of their current term to extend their membership term for twelve months from the end of their previous term. Under the previous policy, memberships renewed within six months of the ending date were extended for twelve months from the ending date. Under the new policy, memberships renewed more than two months after the ending date are extended for twelve months from the date of the membership renewal. This change will push some income into the future. However, the effect of this policy change is not expected to be large enough to significantly affect the financial results of the Company.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Costco Wholesale Corporation
b. This information is between good news and neutral news for Costco Wholesale Corporation
c. This information is definitely neutral news for Costco Wholesale Corporation
d. This information is between neutral news and bad news for Costco Wholesale Corporation
e. This information is definitely bad news for Costco Wholesale Corporation

5. The following information is presented in the **_Notes to Financial Statements_** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Income from membership fees increased 1.8% in 2009 as compared to 2008. This increase in income is partially the result of new membership sign-ups at 15 warehouses that were opened in 2009. In addition, this increase in income is partly a result of revenue that was carried over into 2009 from new membership sign-ups in 2008. Finally, this increase in income is aided by an increase in the conversion of regular memberships into our Executive Membership program, for which members pay a higher membership fee. Income from membership fees [increased despite a] decrease in the number of new warehouses opened in 2009. Our overall membership renewal rate, currently at 87%, is consistent with recent years.

With respect to Costco Wholesale Corporation's Executive Membership program, which of the following statements can be inferred from the scenario above?

a. **_Executive Membership program fees are higher than fees for other membership options_**
b. Executive Membership program fees are lower than fees for other membership options
c. Executive Membership renewal rates are the highest renewal rates of all membership options
d. Executive Membership renewal rates can be attributed to a successful year-over-year marketing campaign

6. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the _**Notes to Financial Statements**_ section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Income from membership fees increased 1.8% in 2009 as compared to 2008. This increase in income is partially the result of new membership sign-ups at 15 warehouses that were opened in 2009. In addition, this increase in income is partly a result of revenue that was carried over into 2009 from new membership sign-ups in 2008. Finally, this increase in income is aided by an increase in the conversion of regular memberships into our Executive Membership program, for which members pay a higher membership fee. Income from membership fees [increased despite a] decrease in the number of new warehouses opened in 2009. Our overall membership renewal rate, currently at 87%, is consistent with recent years.

Which of the following best characterizes the nature of the information presented above?

a. *This information is definitely good news for Costco Wholesale Corporation*
b. *This information is between good news and neutral news for Costco Wholesale Corporation*
c. This information is definitely neutral news for Costco Wholesale Corporation
d. This information is between neutral news and bad news for Costco Wholesale Corporation
e. This information is definitely bad news for Costco Wholesale Corporation

7. The following information is presented in the ***Notes to Financial Statements*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Revenue attributable to gift card sales is recognizable in the accounting period in which the gift card redemption materializes in the form of a customer using the gift card as payment for merchandise. Expiration dates are not incorporated into our gift card redemption contracts. Based on historical redemption rates, a trivial and relatively unchanging percentage of gift cards will never be redeemed, which we represent as "breakage." Estimated breakage revenue is recognized over multiple accounting periods in comparison to tangible gift card redemptions and was immaterial in 2009, 2008, and 2007.

Based on the scenario above, which of the following statements is true about Target Corporation's gift card "breakage?"

a. ***A relatively small percentage of gift cards sold are never redeemed***
b. A relatively large percentage of gift cards sold are never redeemed
c. Revenue associated with gift card "breakage" is recognized in the year in which the gift card was originally sold
d. Revenue associated with gift card "breakage" comprises a significant portion of Target Corporation's overall revenue

8. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Notes to Financial Statements*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Revenue attributable to gift card sales is recognizable in the accounting period in which the gift card redemption materializes in the form of a customer using the gift card as payment for merchandise. Expiration dates are not incorporated into our gift card redemption contracts. Based on historical redemption rates, a trivial and relatively unchanging percentage of gift cards will never be redeemed, which we represent as "breakage." Estimated breakage revenue is recognized over multiple accounting periods in comparison to tangible gift card redemptions and was immaterial in 2009, 2008, and 2007.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Target Corporation
b. This information is between good news and neutral news for Target Corporation
c. ***This information is definitely neutral news for Target Corporation***
d. This information is between neutral news and bad news for Target Corporation
e. This information is definitely bad news for Target Corporation

9. The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Our 2009 financial results in both of our business segments were affected by the challenging economy in which we operated. Given this demanding business environment, the results from our Retail Segment were amazing. Our Retail Segment generated the highest EBIT in the Corporation's history in a year when same-store sales declined 2.5 percent as compared to 2008. In the Credit Card Segment, disciplined management led to a 29.4 percent increase in segment profit in 2009. This significant increase in segment profit was achieved even though Target decreased its investment in the segment by almost 32 percent. This increase in the Credit Card Segment's profit represented a near-doubling of segment pretax return on invested capital.

Based on the scenario above, by how much did Target Corporation's same-store sales decline in 2009?

a. 2.5%
b. 29.4%
c. 32.0%
d. 9.5%

10. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Our 2009 financial results in both of our business segments were affected by the challenging economy in which we operated. Given this demanding business environment, the results from our Retail Segment were amazing. Our Retail Segment generated the highest EBIT in the Corporation's history in a year when same-store sales declined 2.5 percent as compared to 2008. In the Credit Card Segment, disciplined management led to a 29.4 percent increase in segment profit in 2009. This significant increase in segment profit was achieved even though Target decreased its investment in the segment by almost 32 percent. This increase in the Credit Card Segment's profit represented a near-doubling of segment pretax return on invested capital.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Target Corporation
b. This information is between good news and neutral news for Target Corporation
c. This information is definitely neutral news for Target Corporation
d. This information is between neutral news and bad news for Target Corporation
e. This information is definitely bad news for Target Corporation

11. The following information is presented in the ***Notes to Financial Statements*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Credit card receivables are included in the financial statements in an amount that is representative of the gross amount of receivables less an allowance for uncollectible accounts. This allowance for uncollectible accounts totaled $1,016 at January 30, 2010 and $1,010 at January 31, 2009, representing the amount of existing receivables that we anticipate will be written off in the future. Our allowance for uncollectible accounts typically includes provisions for monthly credit card finance charges that are expected to remain uncollectible, as well as other credit-related fees that are not expected to be collected from customers. We evaluate the amount of our anticipated future write-offs based on a historical understanding of customer payment records, customer credit risk components, overall receivable aging calculations, and industry risk trends. Considerably all of our consumer credit card accounts continue to accumulate finance charges until they are written off, which is typically done at the point in time when our consumer credit card accounts become 180 days past due.
> For purposes of determining an answer to this question, assume the financial markets expected the allowance for uncollectible accounts to decrease from 2009 to 2010. Also assume that an increase in the allowance for uncollectible accounts represents a decrease in the total assets of the Company and further represents a net decrease in the overall income of the Company.

Based on the scenario above, how are Target Corporation's credit card receivables recorded?

a. ***The amount of gross receivables less an allowance for doubtful accounts***
b. In an amount equal to the gross amount of existing receivables only
c. In an amount equal to the anticipated future write-offs of existing receivables
d. The amount of gross receivables less the amount of accumulated depreciation

12. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Notes to Financial Statements*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Credit card receivables are included in the financial statements in an amount that is representative of the gross amount of receivables less an allowance for uncollectible accounts. This allowance for uncollectible accounts totaled $1,016 at January 30, 2010 and $1,010 at January 31, 2009, representing the amount of existing receivables that we anticipate will be written off in the future. Our allowance for uncollectible accounts typically includes provisions for monthly credit card finance charges that are expected to remain uncollectible, as well as other credit-related fees that are not expected to be collected from customers. We evaluate the amount of our anticipated future write-offs based on a historical understanding of customer payment records, customer credit risk components, overall receivable aging calculations, and industry risk trends. Considerably all of our consumer credit card accounts continue to accumulate finance charges until they are written off, which is typically done at the point in time when our consumer credit card accounts become 180 days past due.
> For purposes of determining an answer to this question, assume the financial markets expected the allowance for uncollectible accounts to decrease from 2009 to 2010. Also assume that an increase in the allowance for uncollectible accounts represents a decrease in the total assets of the Company and further represents a net decrease in the overall income of the Company.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Target Corporation
b. This information is between good news and neutral news for Target Corporation
c. This information is definitely neutral news for Target Corporation
d. ***This information is between neutral news and bad news for Target Corporation***
e. ***This information is definitely bad news for Target Corporation***

APPENDIX F: EXPERIMENT 2 ASSESSMENT SURVEY 2

1. The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Net sales decreased 1.5% from the prior year to $69,889, due to a 4% decrease in same-store sales. Same-store sales is a term referring to a comparison of sales in a particular store with the sales of that same store in the prior year (including a comparison of sales in warehouses that were moved to a different location). The opening of 15 new warehouses in 2009 partially offset this decrease in net sales. Selling, general and administrative (SG&A) expenses as a percentage of net sales increased approximately one-half of one percent over the prior year. Net income decreased 15% to $1,086, or $2.47 per diluted share, in 2009. For comparison purposes, net income was $1,283, or $2.89 per diluted share, in 2008.

Which of the following best summarizes the information being communicated above?

a. ***Net income decreased from 2008 to 2009 because of lower sales and higher SG&A expenses. New warehouse openings in 2009 helped to minimize a decrease in net sales.***
b. Net income decreased from 2008 to 2009 because of higher sales and lower SG&A expenses. New warehouse openings in 2009 contributed to a decrease in net sales.
c. Net income was diluted by a dividend of $2.47 per share in 2009, and net income was also diluted by a dividend of $2.89 per share in 2008.
d. Net income was diluted in by a lack of comparable controls in 2008, leading to increased operating expenses that eventually decreased net sales in 2009.

2. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Net sales decreased 1.5% from the prior year to $69,889, due to a 4% decrease in same-store sales. Same-store sales is a term referring to a comparison of sales in a particular store with the sales of that same store in the prior year (including a comparison of sales in warehouses that were moved to a different location). The opening of 15 new warehouses in 2009 partially offset this decrease in net sales. Selling, general and administrative (SG&A) expenses as a percentage of net sales increased approximately one-half of one percent over the prior year. Net income decreased 15% to $1,086, or $2.47 per diluted share, in 2009. For comparison purposes, net income was $1,283, or $2.89 per diluted share, in 2008.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Costco Wholesale Corporation
b. This information is between good news and neutral news for Costco Wholesale Corporation
c. This information is definitely neutral news for Costco Wholesale Corporation
d. This information is between neutral news and bad news for Costco Wholesale Corporation
e. This information is definitely bad news for Costco Wholesale Corporation

3. The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

>   Effective with membership renewals transpiring on March 1, 2009, we enacted a modification to an element of our membership renewal procedure. As a component of the new membership procedure, memberships renewed within two months after expiration of the current membership year are prolonged for twelve months after the expiration date, which is in contrast to the previous policy where memberships renewed within six months of the expiration date were extended for twelve months from the expiration date. Memberships renewed more than two months after the membership expiration are extended for twelve months from the date the member chooses to renew the membership, even if the membership lapsed for a period of time that extends into the next membership year. Although this change will have the effect of deferring the recognition of certain membership fees paid by late-renewing members, the effect is not expected to be material to the financial statements of the Company.

Which of the following best summarizes the information being communicated above?

a. ***Costco Wholesale Corporation is changing a policy regarding the amount of time a membership is extended after that membership is renewed. This policy change is not expected to significantly affect the financial results of Costco Wholesale Corporation.***
b. Costco Wholesale Corporation is confirming an existing policy regarding the amount of time a membership is extended after that membership is renewed. This policy change is expected to significantly affect the financial results of Costco Wholesale Corporation.
c. Costco Warehouse Corporation is changing a policy that will defer the recognition of membership fee revenue until the following fiscal year. This policy change is not expected to affect the 2009 financial results of Costco Warehouse Corporation.
d. Costco Warehouse Corporation is confirming an existing policy that will increase the number of memberships that are granted each year. This policy change is expected to affect the 2009 financial results of Costco Warehouse Corporation.

4. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Effective with membership renewals transpiring on March 1, 2009, we enacted a modification to an element of our membership renewal procedure. As a component of the new membership procedure, memberships renewed within two months after expiration of the current membership year are prolonged for twelve months after the expiration date, which is in contrast to the previous policy where memberships renewed within six months of the expiration date were extended for twelve months from the expiration date. Memberships renewed more than two months after the membership expiration are extended for twelve months from the date the member chooses to renew the membership, even if the membership lapsed for a period of time that extends into the next membership year. Although this change will have the effect of deferring the recognition of certain membership fees paid by late-renewing members, the effect is not expected to be material to the financial statements of the Company.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Costco Wholesale Corporation
b. This information is between good news and neutral news for Costco Wholesale Corporation
c. ***This information is definitely neutral news for Costco Wholesale Corporation***
d. This information is between neutral news and bad news for Costco Wholesale Corporation
e. This information is definitely bad news for Costco Wholesale Corporation

5. The following information is presented in the ***Notes to Financial Statements*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Our overall membership revenue experienced an improvement of 1.8% in 2009 in comparison to 2008, primarily attributable to new membership initiations at 15 warehouses that were opened in 2009, the sustainable benefit of membership sign-ups at warehouses that were opened in 2008, and an amplification of saturation in our higher-fee Executive Membership program. Membership revenue [increased despite a] diminution in the number of warehouse openings year-over-year. Our membership renewal rate, currently at 87%, continues to remain consistent with recent years.

Which of the following best summarizes the information being communicated above?

a. ***The total number of Costco Wholesale Corporation memberships increased in 2009 as compared to 2008, even though the number of new warehouses that opened in 2009 was fewer than the number of new warehouses that opened in 2008.***
b. The total number of Costco Wholesale Corporation memberships decreased in 2009 as compared to 2008 because the number of new warehouses that opened in 2009 was fewer than the number of new warehouses that opened in 2008.
c. The total number of Costco Wholesale Corporation warehouses decreased in 2009 as compared to 2008, as only 15 new warehouses were opened in 2009.
d. The total number of Costco Wholesale Corporation warehouses did not change in 2009 as compared to 2008, due in part to the deferral of new warehouse openings.

6. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Notes to Financial Statements*** section of Costco Wholesale Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Our overall membership revenue experienced an improvement of 1.8% in 2009 in comparison to 2008, primarily attributable to new membership initiations at 15 warehouses that were opened in 2009, the sustainable benefit of membership sign-ups at warehouses that were opened in 2008, and an amplification of saturation in our higher-fee Executive Membership program. Membership revenue [increased despite a] diminution in the number of warehouse openings year-over-year. Our membership renewal rate, currently at 87%, continues to remain consistent with recent years.

Which of the following best characterizes the nature of the information presented above?

a. ***This information is definitely good news for Costco Wholesale Corporation***
b. ***This information is between good news and neutral news for Costco Wholesale Corporation***
c. This information is definitely neutral news for Costco Wholesale Corporation
d. This information is between neutral news and bad news for Costco Wholesale Corporation
e. This information is definitely bad news for Costco Wholesale Corporation

7. The following information is presented in the ***Notes to Financial Statements*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Income from gift card sales is recorded when the gift card is redeemed. Our gift cards do not expire. Based our experience with gift card sales, a small and mostly constant percentage of gift cards sold in any given year will never be redeemed. We refer to the gift cards that are never redeemed as "breakage," and we record some income each year that is related to breakage. Estimated breakage income for any given year is recorded as a fraction of the actual gift cards redeemed in that year. Estimated breakage income did not significantly affect our financial results in 2009, 2008, and 2007.

Which of the following best summarizes the information being communicated above?

a. ***Target Corporation recognizes revenue from gift card sales at the time a customer redeems the gift card. Although Target Corporation gift cards do not expire, prior experience with gift card sales reveals that some gift cards are never redeemed.***
b. Target Corporation recognizes revenue from gift card sales at the time the gift card is purchased. Although Target Corporation gift cards do not expire, prior experience with gift card sales reveals that a significant and stable percentage of gift cards are never redeemed.
c. Target Corporation recognizes revenue from gift card sales in proportion to Target Corporation's overall sales. If a Target Corporation gift card "breaks," revenue is recognized in proportion to the amount of unused funds available on the gift card.
d. Target Corporation recognizes revenue from gift card sales at the end of each fiscal year. If a Target Corporation gift card "breaks," revenue is returned for the gift card purchase and the broken card is replaced.

8. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Notes to Financial Statements*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Income from gift card sales is recorded when the gift card is redeemed. Our gift cards do not expire. Based our experience with gift card sales, a small and mostly constant percentage of gift cards sold in any given year will never be redeemed. We refer to the gift cards that are never redeemed as "breakage," and we record some income each year that is related to breakage. Estimated breakage income for any given year is recorded as a fraction of the actual gift cards redeemed in that year. Estimated breakage income did not significantly affect our financial results in 2009, 2008, and 2007.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Target Corporation
b. This information is between good news and neutral news for Target Corporation
c. ***This information is definitely neutral news for Target Corporation***
d. This information is between neutral news and bad news for Target Corporation
e. This information is definitely bad news for Target Corporation

9. The following information is presented in the **_Management's Discussion and Analysis (MD&A)_** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Our 2009 financial results in both of our business divisions were affected by the macroeconomic challenges that have overshadowed the merchandise sales industry in general. In light of this difficult economic environment, performance in our Retail Segment was extraordinary, as the segment generated the highest EBIT in the Corporation's history, in a year when equivalent-store sales experienced a 2.5 percent weakening as compared to the previous year. In the Credit Card Segment, disciplined supervision commanded a 29.4 percent escalation in business division profit in a year when Target's average investment in the portfolio experienced a deterioration of about 32 percent, highlighting a successful period that nearly doubled pretax return on the Company's investment base in the business division.

Which of the following best summarizes the information being communicated above?

a. ***Despite macroeconomic challenges in 2009, Target Corporation's Retail Segment delivered its highest profit since the inception of the company, and Target Corporation's Credit Card Segment delivered a significant increase in profit as compared to 2008.***
b. Due to macroeconomic challenges in 2009, Target Corporation's Retail Segment experienced a decline in profit, and Target Corporation's Credit Card Segment profit significantly declined as compared to 2008.
c. While Target Corporation's comparable-store sales increased in 2009, a significant decline in investment capital led to a decrease in 2009 Retail Segment profit.
d. While Target Corporation's credit card sales increased in 2009, a significant increase in credit card defaults led to a decline in the amount of capital available to fund future credit card issuances.

10. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the ***Management's Discussion and Analysis (MD&A)*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Our 2009 financial results in both of our business divisions were affected by the macroeconomic challenges that have overshadowed the merchandise sales industry in general. In light of this difficult economic environment, performance in our Retail Segment was extraordinary, as the segment generated the highest EBIT in the Corporation's history, in a year when equivalent-store sales experienced a 2.5 percent weakening as compared to the previous year. In the Credit Card Segment, disciplined supervision commanded a 29.4 percent escalation in business division profit in a year when Target's average investment in the portfolio experienced a deterioration of about 32 percent, highlighting a successful period that nearly doubled pretax return on the Company's investment base in the business division.

Which of the following best characterizes the nature of the information presented above?

a. ***This information is definitely good news for Target Corporation***
b. ***This information is between good news and neutral news for Target Corporation***
c. This information is definitely neutral news for Target Corporation
d. This information is between neutral news and bad news for Target Corporation
e. This information is definitely bad news for Target Corporation

11. The following information is presented in the ***Notes to Financial Statements*** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Credit card receivables include an allowance for doubtful accounts. This allowance is our guess of the dollar amount of current credit card accounts that will likely become more than 180 days past due. The balance in our allowance account was $1,016 at January 30, 2010 and $1,010 at January 31, 2009. This allowance includes credit card finance charges that we do not expect to collect, as well as other credit card fees we do not expect to collect. We estimate this allowance based on our past knowledge of credit card payments, human risk factors, trends related to the age of credit card accounts, and retail credit card trends. Almost all credit card accounts add finance charges until they are written off. Accounts are written off when they become more than 180 days past due. For this question, assume the financial markets expected the allowance for doubtful accounts to decrease from 2009 to 2010. Also assume that an increase in the allowance for doubtful accounts results in a decrease to the total assets of the Company. Further assume that an increase in the allowance for doubtful accounts also results in a decrease to the net income of the Company.

Which of the following best summarizes the information being communicated above?

a. ***An increase in Target Corporation's allowance for doubtful accounts in 2009 contributed to a decrease in Target Corporation's 2009 overall income.***
b. A decrease in Target Corporation's allowance for doubtful accounts in 2009 contributed to an increase in Target Corporation's 2009 overall income.
c. An increase in Target Corporation's allowance for doubtful accounts in 2009 contributed to an increase in the amount of past-due accounts, which then led to an increase in the number of accounts that were written off.
d. A decrease in Target Corporation's allowance for doubtful accounts was expected by the financial markets, which led Target Corporation to increase the number of accounts that were written off.

12. This question is a continuation of the previous scenario. The previous scenario is copied below for your reference:

The following information is presented in the **_Notes to Financial Statements_** section of Target Corporation's 2009 annual report (any dollar figures presented are in millions of US dollars):

> Credit card receivables include an allowance for doubtful accounts. This allowance is our guess of the dollar amount of current credit card accounts that will likely become more than 180 days past due. The balance in our allowance account was $1,016 at January 30, 2010 and $1,010 at January 31, 2009. This allowance includes credit card finance charges that we do not expect to collect, as well as other credit card fees we do not expect to collect. We estimate this allowance based on our past knowledge of credit card payments, human risk factors, trends related to the age of credit card accounts, and retail credit card trends. Almost all credit card accounts add finance charges until they are written off. Accounts are written off when they become more than 180 days past due. For this question, assume the financial markets expected the allowance for doubtful accounts to decrease from 2009 to 2010. Also assume that an increase in the allowance for doubtful accounts results in a decrease to the total assets of the Company. Further assume that an increase in the allowance for doubtful accounts also results in a decrease to the net income of the Company.

Which of the following best characterizes the nature of the information presented above?

a. This information is definitely good news for Target Corporation
b. This information is between good news and neutral news for Target Corporation
c. This information is definitely neutral news for Target Corporation
d. ***This information is between neutral news and bad news for Target Corporation***
e. ***This information is definitely bad news for Target Corporation***