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PAPERS

ABSTRACTS

Neters' Perceptions of Appropriate and Inappropriate Online Social Media Behavior

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Abstract

Neters, workforce entrants between the years 2000 to present, are the first generation raised in a technologically multimedia rich environment. Neters are increasingly using online social media, such as Facebook and MySpace to network and socialize. As Neters enter an uncertain job market and employers go online to appraise job seekers, there is a need to assess students' understanding of the importance of social networking and to evaluate their views of online behavior. This research utilizes a survey to explore Neters perceptions of appropriate and inappropriate online social media material and behavior. The study concludes with implications for future research on social media interaction.

Introduction

The most recent workforce entrants, the Neters (also called Millennials, Generation Y, and Generation Next) grew up during prosperous times but find themselves entering a post-boom economy (Robbins & Judge, 2007). This generation was born into the cyber age and they absorb information five times faster than Baby Boomers. We are not living in the agricultural, industrial or information age -- we're moving into a new age of collaboration, social networking and cyber communication (Madigan, 2008).

Neters are the first generation to take technology for granted (Robbins & Judge, 2007). For most of their lives, they have been exposed to ATMs, DVDs, cell phones, laptops, and the internet. Most recently, their daily routine has added access to MP3 players, the Blackberry, I-pods, the I-phone and online social media (e.g., Facebook and MySpace). As recruiters increasingly scan prospects' profiles on internet sites (Savvas, 2007) and employers search applicants' profiles before making offers (Payn, 2008), there is a need to assess Neters' viewpoints and understanding of the significance of social networking behavior. Accordingly, the purpose of this research is to explore Neters' perceptions of appropriate and inappropriate online social media behavior.

Social Networking Background

Social networking services are a type of virtual community that has grown tremendously in popularity over the past few years. The two most popular are MySpace and Facebook. They have member bases of more than 360 million. College students and others are flocking to these two social networks.

Facebook was founded in February 2004 by Harvard University student Mark Zuckerberg. The name of the site is based on the *paper facebooks* that colleges and prepatory schools give to incoming students, faculty, and staff depicting members of the campus community. Facebook is an English-language social networking website. It was originally developed for college and university students, but has now been made available to anyone with an email address. People may then select to join one or more participating networks; such as a high school, place of employment, or geographical location.

As of February 2007, Facebook had the largest number of registered users among college-focused sites with over 17 million members worldwide. Facebook is the #1 website for photos, ahead of public sites such as Flickr, with over 6 million photos uploaded daily. It is also the 6th most visited website in the United States.

Since the creation of MySpace in August of 2003, the site has grown tremendously to include over 110 million users; of that number approximately 45% of the members are located outside the United States (Swartz, 2008). The founders of MySpace were inspired by the social network Friendster that was initially owned by eUniverse (Greenspan, 2007). The project was overseen by Brad Greenspan (founder, Chairman and CEO of eUniverse's), who managed Chris DeWolfe (MySpace CEO), Tom Andersen (MySpace President), Josh Berman and a team of eUniverse's programmers (Greenspan, 2007). Chris DeWolfe and Tom Andersen are considered to be co-founders of MySpace and are the face of MySpace. Over the years, MySpace has remained a leader in terms of revenues. For 2008, it is forecasted that MySpace will earn a reported $800 million, mostly through advertising (Stelter, 2008).

More than 50 million people use MySpace, a site that offers teens wonderful opportunities (Smith, 2006). MySpace is a free site that has ways for users to report inappropriate behavior and posts security guidelines for users, explaining that users under 14 are not welcome and urging people never to post "personally identifiable information" that could be misused to steal their identity, or by predators (Smith, 2006). Teens can show their full profiles on the virtual site -- which can contain a variety of personal information -- only to people on their list of known friends.

When students join social networks, they create a profile, and then make connections to existing friends as well as those they meet through the site. A profile is a list of identifying information, such as name, photographs, birthday, hometown, ethnicity, and other personal interest's information. Students connect to others by sending a "friend" message, which must be accepted by the other party in order to establish a link. "Friending" another member in the social network gives them access to your profile, adds them to your social network, and vice versa.

Interpersonal interaction utilizing with this technology has lead to different social behavior. Students contact each other and call each other "friend" without ever meeting physically. Social media networks allow students to communicate in ways that might not be acceptable in face to face communications. Acceptable behaviors are constructed around established social conduct norms. Using social media effectively requires an understanding of what is appropriate and inappropriate online social media behavior.

The Upside of Social Media Behavior

Based on interviews conducted with executives from Communications firms, Sangaran (2007) reports that social networking presents the following benefits through appropriate usage:

Build and Maintain Relationships

Helps you keep in touch with acquaintances, friends and family as well as make new friends.

Fun and Entertainment

Supplies games and different applications to play with.

Communication

Gives updates on current issues and allows you to know what your friends and family think of a specific topic. ABC News and Facebook have formally established a partnership - the site's first with a news organization - that allows Facebook members to follow ABC reporters, view reports and video and participate in polls and debates, all within a new "U.S. Politics" category (Stelter, 2007).

Keepsakes

Houses new pictures posted by friends and family, to download and keep.

Personal and Professional Currency

Allows you to update job details and other personal details like age, relationship and marital status.

Non-invasiveness

Afford users the ability to block or even show profiles only to those they choose. Facebook has privacy controls (e.g., *Limited Profile* settings) to restrict profile display.

Some companies are even actively encouraging the appropriate use of social networking on the job. Jeremy Burton, CEO of IT software developer Serena, introduced the concept of "Facebook Friday" within his organization urging employees to spend one hour on Facebook (Hathi, 2008). His objectives are to advance a team-building spirit among employees; make executives' interests known; make executives more approachable; and break down hierarchical barriers within the company. Other corporations that are Facebook enabled include: Accenture, Amazon, Apple, EA, Gap, Intel, Intuit, Microsoft, Pepsi, PWC and Teach for America (Arrington, 2006).

The Downside of Social Media Behavior

Inappropriate social media usage and behavior can pose serious dilemmas in higher education. According to the Director of the Greenlee School of Journalism and Communication at Iowa State University (Bugeja, 2006):

> Unless we reassess our high-tech priorities, issues of student insensitivity, indiscretion, and fabrication will consume us. Information technology in the classroom was supposed to bridge the digital divides and enhance student research. Increasingly, however, our networks are being used to entertain members of "the Facebook Generation" who text-

message during class, talk on their cell phones during labs, and listen to iPods rather than guest speakers in the wireless lecture hall.

Examples of social networking indiscretions, insensitivities, and fabrications include the following:

Online Persona and Privacy

In an attempt to obtain personal popularity and gain friends, students may set-out to create a cool profile and post information or photos that in other contexts they would keep private, such as embarrassing pictures or boasts about drinking (7 things about Facebook, 2006). Incorrectly assuming privacy, students may also post provocative comments about drug use and other exploits.

Facebook Addiction

Many users say that after creating a profile, they found themselves spending hours a day updating their pages, looking for people with shared interests, and reading others' profiles and looking at their photos—exactly the kinds of activities Facebook facilitates. A seemingly infinite web of connections, however, poses a risk for never-ending wandering, seeing who knows who, who likes what, and how it all fits together, with no particular goal in mind (7things about Facebook, 2006). Relatedly, students who spend too much time on Facebook or MySpace risk lowered study time. Social networking for personal reasons can affect work productivity (Perkins, 2008) and digital distraction in the classroom may hamper class performance (Bugeja, 2006).

Identity Group Sensitivity

Recently, popular collegiate internet websites have been used to propagate stereotypical, racist, (Call & Post, 2006) and homophobic behavior (Bugeja, 2006). An example of racial insensitivity occurred when Facebook featured images from the University of Texas at Austin's annual event known as the "ghetto party" where participating students wore blackface make up and portrayed stereotypical African American behavior. Texas A&M and University of Texas at Austin students posted comments and jokes showing their acceptance of the photos including the usage of traditionally racist words. In addition, the Sigma Chi fraternity at the Johns Hopkins University held a party called "Halloween in the Hood" where a skeleton was hung from the ceiling that many felt was a symbol of lynching. The fraternity was suspended and students responsible for the party issued apologies. However, this behavior is not isolated as other similar incidents have occurred at Auburn University, Stetson University, the University of Mississippi and Oklahoma State University, in the past five years. In regard to sexual orientation, a Duquesne University student was asked to write a paper because the Facebook group he created was deemed homophobic (Gugeja, 2006).

MySpace, the world's largest social networking site, has been a medium for displaying controversial sexual material. It's reputation may be suffering due to "the prevalence of unwanted friend requests, spam and sexually suggestive material [which] has driven some users away, even giving rise to the term 'MySpace refugee'" (Stelter, 2008). The most recent example is the case of Carmen Kontur-Gronquist, small-town mayor of Arlington, Ore, who has been stripped of her office over an online picture of her in her underwear (Celizic, 2008). In the news stories, the pictures show the mayor posing on a town fire truck in an opaque black bra and

matching boy-short panties and has been described as either "racy" or "risqué" by the press. However, some residents of the town in northeast Oregon - clearly felt uncomfortable about the appropriateness of the pictures. Consequently, citizens formed a recall committee and succeeded in scheduling an election to see if she should continue in office. On Feb. 25, she was voted out of office by a thin margin of 142 to 139 (Celizic, 2008). According to the former mayor, "I think the photos were used for a trigger point for the recall committee. That's fine. That's a democratic process, and that's fair and I respect that." She further noted that the pictures are still on MySpace, although now they're protected from general view.

Identity Fabrication

There is little assurance that the people behind the profiles are who they represent themselves to be - or are in the relationships they claim on the website. Identity fabrication has been mischievously used by students to falsely represent themselves as university officials and professors (Gugeja, 2006). On a more serious note, several families in Houston want MySpace to toughen its age verification system and are seeking damages against MySpace in the millions. Their attorney, Jason Itkin says: "MySpace has not taken the steps necessary to protect its customers… so that people are as old as they say they are" on the virtual site (Garofoli, 2007). On MySpace, it is up to users to confirm their ages to the site. The company has announced that it was developing software to allow parents to see if their children were creating multiple profiles -- one to show to their parents, another to show to the rest of the world.

Identity fabrication creates the risk of exposure to predators on social networks. According to one Houston lawsuit, a teen identified as Julie Doe III created a MySpace profile when she was 15 (Garofoli, 2007). A 25-year- old adult male MySpace user, a complete stranger to the teen, initiated contact with her. He lured Julie out to a meeting, drugged her and sexually assaulted her. In Connecticut, police are investigating whether as many as seven teenage girls were sexually assaulted by men they met through MySpace (Smith, 2006). A 30-year-old man in Hawaii was arrested after he allegedly met a 14-year-old boy through MySpace and lured him into a sexual relationship (Smith, 2006).

Identity fabrication and security is a key concern because online networks have limited restrictions on links or content (Perkins, 2008). Unsolicited contact is an increasing danger with online networking as virtual strangers, who may be predators or stalkers, search for ways to get acquainted with online social media users (Sangaran, 2007). Moreover, identity theft criminals are only too eager to exploit personal information on these social network sites.

Methodology

A questionnaire was distributed to assess the views of 309 Business School students at a southeastern university in the United States regarding online behavior. Students were asked to complete a questionnaire of 34 questions. Items consisted of multiple choice and short answer questions to assess students' perceptions and reasons for using two social online networking sites: Facebook and MySpace. All students were asked to complete the questionnaire only once and the questionnaire was divided into the following three major areas: Section #1: Demographics/Background Information (Questions 1-4); Section #2: General utilization of Facebook/MySpace (Questions 5-13); Section #3: Specific use while on Facebook/MySpace and perceptions (Questions 14 -34).

The first section gave students the opportunity to answer personal information such as classification, gender and major. The second section addressed questions that pertained to the use of Facebook/MySpace, its importance and what students liked least/most. The third section listed questions pertaining to issue inappropriate material (sexual, racial), privacy issues, and identity group sensitivity.

Results

The first section contained demographic background and personal interest questions. Over 95% of the students were between the ages of 18-24 and 99% of the students stated they were of Black/Non-Hispanic nationality. Sixty percent of students who completed the questionnaire were males. Over 98% of the individuals were students in the Business School. Eighty-six percent of the students stated they used online social networking tools such as Facebook and MySpace and that they used them for the following reasons: to keep in touch; to network; to supply information; and for business purposes. Additional open ended responses included using the tools to view pictures and for fun. Over half of the respondents stated they have been using these tools for only 1-2 years. Furthermore, over 50% of the students stated they use these tools at least once or twice a day (includes "several times a day" at 21%, "once/twice a day" at 31%). Overall, results from the questionnaire revealed that although most students utilize Facebook and MySpace, only 40% stated they feel that it is somewhat important (see Figure 1).

Online personal interest items were also listed in the second section of the questionnaire. When students answered the questions 'What do you like most about Facebook/MySpace" and "What did you like least about Facebook/MySpace," they ranked Photos, Message and Profiles first, second and third, respectively as items they liked most about Facebook and MySpace. Newsfeeds, Groups and Notes were ranked first, second and third, respectively for items that they liked least. (See Figure 2 which shows the percentage of items uploaded to Facebook/MySpace).

Sample *Online Persona and Privacy* questions asked students if they ever decided not to post photos of themselves on Facebook/MySpace because it might be read by current or future employers, University administrators and/or teachers and parents. Most students stated they did *not* desire to upload photos because they feared current/future employers (61% stated Yes) might read it more so than university administrators/teachers (43% stated Yes) and even parents (36% stated Yes) (see Figure 3). Yet when asked what type of data they uploaded onto Facebook and MySpace, over 79% of the students stated they uploaded self-photos, while 54% stated they uploaded their personal information such as hometown and date of birth, and 51% stated they uploaded photos of their friends.

In addition, students answered two questions specifically on *Privacy* that discussed whether it is okay for either strangers or acquaintances to comment on their profile, when they see each other in person. Students were asked to select "Yes," "No," or "Yes - only if they have a reasonable explanation for what they are looking at." Over 35% of the students answered Yes, that is was okay for strangers to comment. Whereas, over 55% answered Yes, that it was okay for acquaintances to comment. However, over 19% of the students responded to the answer "Yes - only if they have a reasonable explanation for what they are looking at" for 'acquaintances' and 17% of the students responded to the answer "Yes - only if they have a reasonable explanation for what they are looking at" for 'strangers.'

It is also curious to note that students who stated they do not use these online social networking tools do not because it either provided too much information for others to view, it did not interest them or it was seen as a violation of privacy. Items revealed that privacy was of major concern. 69% of the students who utilize Facebook/MySpace sites chose the privacy option, allowing only friends to view specific information on their pages.

The last questionnaire section addressed *Identity Group Sensitivity* concerning race and sex. The questionnaire revealed interesting responses related to inappropriate sexual and racial material. 50% of the students stated that Facebook and MySpace should be monitored for inappropriate racial material, while 72% of the students stated that these online services should be monitored for inappropriate sexual material. Lastly, 59% stated they have seen inappropriate racial material on theses sites and 76% stated that they have seen inappropriate sexual material on these sites.

Identity Fabrication questions were also detailed in section three of the questionnaire. One question "Have you ever posted fake relationships on Facebook/MySpace" reported that 17% of the students stated "Yes" they have posted fabricated relationships on these social online networking sites. Students also supplied their reasons for faking these relationships. Some explanations noted the following: "me and my best friend are really in a relationship" -- but stated they were really good friends, "wanted to post something for fun" or "didn't want to hurt anyone's feelings" were on the top of the list. Students also recorded posting fabricated relationships just to obtain feedback and/or to keep individuals from trying to contact them.

Conclusion

As social networking becomes increasingly mainstream, there is a need to encourage responsible online communication behavior. Cavalier social networking can ruin chances of securing a job or prevent your career from blossoming. Since over half the Neters in this study (52%) do not view social media as important, they may run the risk of derailing their job opportunities by underestimating the growing significance of the sites to employers. Savvy recruiters are now visiting the walls of prospective candidates' friends to backdoor view applicants behavior. Neters should utilize sites to craft a compelling profile by posting their resume and professional pictures on their sites. Some tips to avoid the potential career pitfalls of social media interaction include (Payn, 2008).

1. Adjust your privacy settings – to limit access.
2. Establish your Online Identity – in a positive manner
3. Create a Resume with Personality
4. Build a Professional Online Persona
5. Network Online – for job opportunities

If students want to increase their chances of a successful job search, they should acquaint themselves with websites which assist in building their professional identity. Online networking and 'persona building' websites include: www.linkedin.com, www.ysn.com, www.squidoo.com, www.kickstart@yahoo.com.

As Neters navigate through the Cyber Age and participate in virtual organizations, it is important to gain a sophisticated understanding of appropriate online behavior. This research explored the communication patterns, beliefs and norms of users on the Facebook and MySpace

internet sites. Future research should explore virtual worlds such as *Second Life* to gain additional insights in order to discern how individuals behave when they take on an alias or assumed identity. In addition, researchers should examine the nature of social influence, culture, values and citizenship behavior of social networking. Furthermore, researchers could test traditional management studies theories about relationships, identity, self-esteem, popularity, collective action, race and political engagement. Lastly, more and more university administrators are using Facebook for disciplinary purposes, firms are using it for marketing purposes, and intruders are exploiting security holes. Therefore, researchers should investigate privacy risks related to online interaction.

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Appendix

Figure 1: Importance of Facebook/MySpace

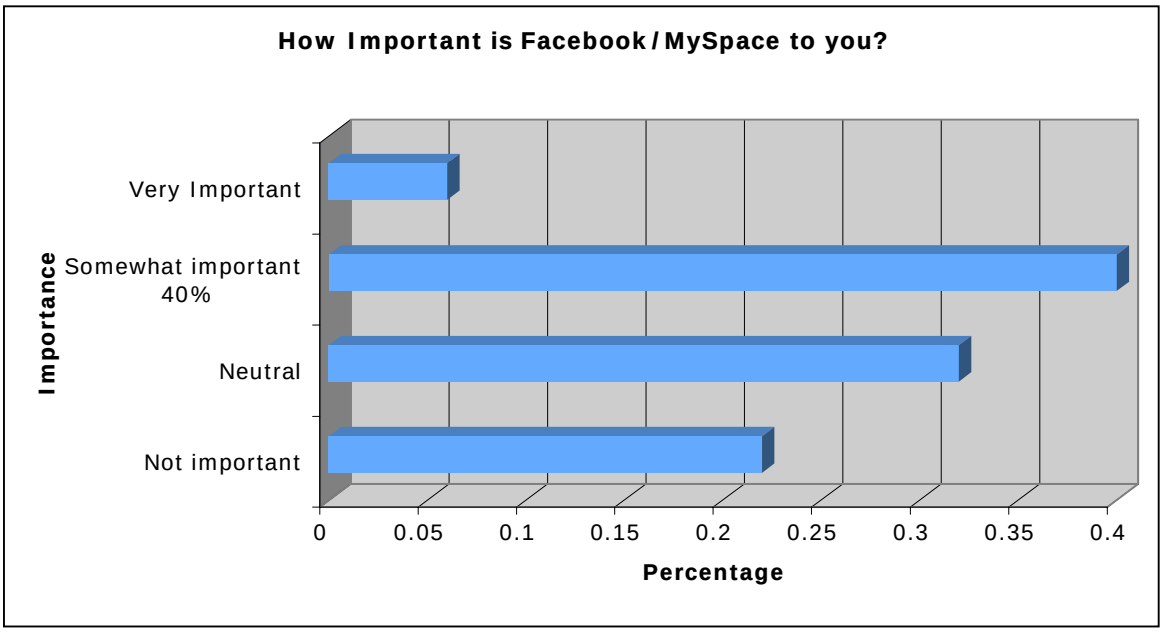


Figure 2: Uploaded Items to Facebook/MySpace

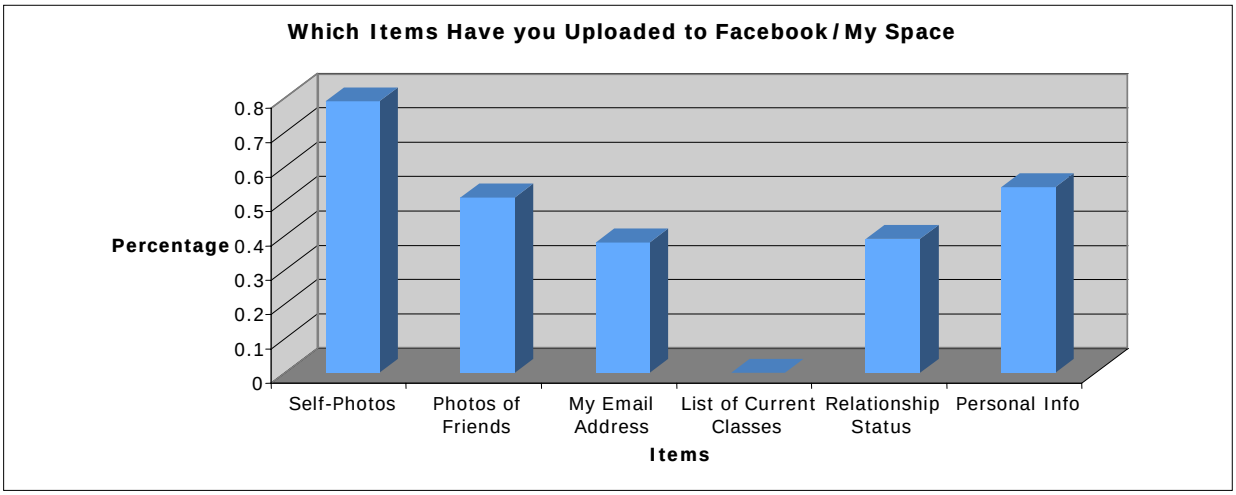
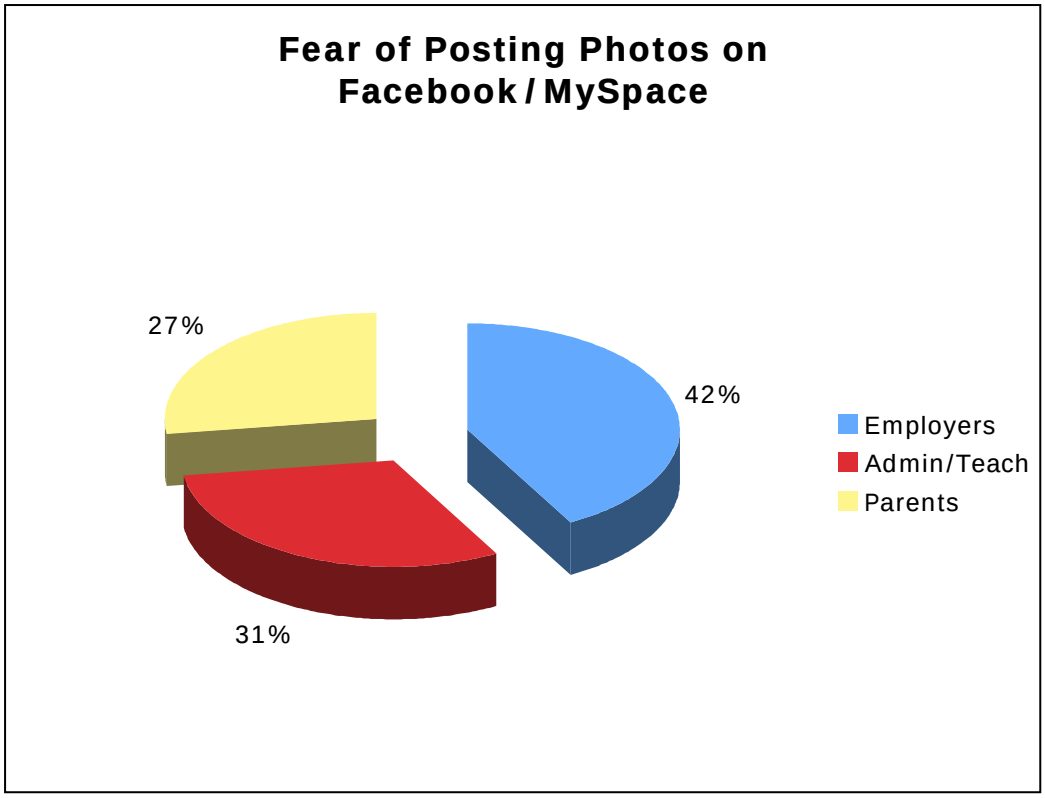


Figure 3: Fear of Posting Photos on Facebook/MySpace



Testing Market Efficiency and Bettor Biases in the Baseball Totals Market

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Abstract

Potential bettor biases are examined in the simple betting market for baseball totals. Unlike previous studies of the baseball totals market, this study uses the full price in this market, including the odds adjustment to the total. The efficient markets hypothesis cannot be rejected for the sample as a whole. Similar to findings in other sports, however, the over is found to be overbet in games with the highest totals. A simple strategy of betting the under generates positive returns in this subset of games. An analysis of the findings comparing the traditional model of the sportsbook to the model of Levitt (2004) is discussed.

Introduction

The sports gambling market lends itself naturally to a straightforward testing of the efficient markets hypothesis. One gambling market that has received recent attention is the baseball totals market. Efficient markets tests were performed, but problems existed with the data, which led to a comment and subsequent debate in the *Journal of Sports Economics*. The main problem with the past studies of baseball totals markets is that they neglect to account for the appropriate odds adjustment to the totals. This paper uses all relevant odds for its tests. The complete baseball total is used to search for bettor biases similar to those found in other betting markets. In addition, the results are explained in relation to the traditional model of sportsbook behavior and the alternative hypothesis proposed by Levitt (2004).

In a study in the *Journal of Sports Economics*, Brown and Abraham (2002) attempted to test market efficiency in the Major League Baseball totals market. Brown and Abraham (2002) found profitability when betting with streaks during the time of Major League Baseball changing the schedule to include interleague games (in 1997), but found market efficiency, with respect to streaks, in the other years in their sample. This study elicited a comment by Paul and Weinbach (2004) and led to a corresponding evaluation of the debate by Gandar and Zuber (2004).

The crux of the debate on the testing of market efficiency in this simple financial market centered on the accuracy of the posted totals used for the study. A total wager is a bet on the combined score of both teams in a given game. The available wagers are an "over" bet, which is a wager that the total combined points scored in the game will exceed the posted total, and an "under" bet, which is a wager that the total combined points scored in the game will be fewer than the posted total. In football and basketball, bets on totals are typically set at constant odds, using an 11-for-10 betting rule. This is typically not the case in baseball totals betting.

In baseball, the total itself is typically accompanied by a money line. The money line adjusts the amount that has to be bet on one side of the proposition by increasing the outlay of

dollars to win one dollar and simultaneously increasing the returns to betting a dollar on the other side of the proposition. The betting works on a so-called "10-cent" line, where there is a 10-cent difference between the amount bet on the one side of the proposition and the amount returned to the other side. This difference becomes the commission of the sportsbook, when the betting dollars are proportionally balanced on each side of the wager. Until recently, many sportsbooks used a "20-cent" commission on baseball totals wagering. The explosion of on-line sportsbooks and the subsequent competition drove these commissions down to the "10-cent" line that is seen in baseball sides betting.

The study by Brown and Abraham (2002) used only the numerical total on the game and did not incorporate the money line adjustment to over and under bets. Without the use of the money lines associated with these wagers, Gandar and Zuber (2004) stated in their conclusions about the debate, "…no determination of either the efficiency of this betting market or the profitability of any betting strategy is possible."

Although money lines associated with totals in Major League Baseball have not been publicly reported, to our knowledge, for the years in the sample of the Brown and Abraham (2002) study, 1996-2000, these money lines have become available for the 2006 and 2007 seasons. These totals with the money line adjustments are now reported on www.covers.com, an internet site devoted to sports gambling. Matching these totals with data available daily on-line, we determined that www.covers.com used Pinnacle sportsbook as their source for the baseball totals data. In this data set, there is a sufficient number of observations (over 4600), which allows for the testing of market efficiency and returns to simple betting rules.

The existence of this data set allows for the testing of bettor biases observed in totals markets for other sports. Bettor preference for the over has been found in these other sports, as returns that can reject the null hypothesis of a fair bet (expected returns equal actual returns) and/or no profitability (actual returns are significantly different than zero) have been found for the National Basketball Association (Paul, Weinbach, and Wilson, 2004), College and Arena Football (Paul and Weinbach, 2005), and the National Football League (Paul and Weinbach, 2002).

The studies of totals markets by Paul, Weinbach, and Wilson (2004) and Paul and Weinbach (2002, 2005) assume a traditional model of sportsbook behavior. This model of sportsbook behavior is consistent with those generally used in market efficiency studies by Gandar, et al (1988) and Sauer, et al (1988). This model assumes that the sportsbook attempts to equilibrate the dollar volume on both sides of the wager to earn a risk-free commission. In this model of sportsbook behavior, the profitability of under bets, found in other sports, stems from bettors overbetting the over and thereby driving the closing total too high.

Paul, Weinbach, and Wilson (2004) and Paul and Weinbach (2002, 2005) suggest that the overbetting of the overs may be a manifestation of bettor preferences. It appears that fans and bettors prefer to cheer and bet on more scoring compared to little or no scoring. Therefore, the utility of betting is not limited to its value as an investment, but also includes a component of consumption as bettors choose to bet on an outcome they hope to watch. Also, if betting on a game and watching the game are complements, an over bet can be won during the game, but is not ever lost until the end of the game. An under bet, on the other hand, could be lost early in the game, diminishing the utility drawn in betting on games. It is also suggested that the existence of limits on totals bets, which are much lower than limits on bets on the winner of a game (pointspread or odds bets), could restrict the ability of informed bettors to exploit any potentially profitable opportunities.

Recently, the traditional model of sportsbook behavior has been challenged by Levitt (2004). In "Why are Gambling Markets Organized So Differently than Financial Markets," Levitt (2004) used before unseen betting volume data in his study of the football pointspread market. Although this data is not from an actual sportsbook, but rather from a betting tournament, Levitt (2004) gathered this data and concluded that sportsbooks are setting a profit maximizing price that differs from the price that balances the betting dollars. Levitt (2004) suggested that sportsbooks become active participants in the wagering process and are willing to accept the risk of unbalanced action due to their informational advantage over bettors. By being able to more accurately predict the outcome of games and knowing the bettor biases, sportsbooks set a price that maximizes profits and is not necessarily an efficient market price. The findings in the Levitt (2004) study of the NFL can be extended to totals market to explain some of the biases that are consistently seen.

This paper proceeds as follows. Section II presents the basic testing of market efficiency for the baseball totals market and looks at cumulative returns to a strategy of betting the under, for the sample as a whole and for sub-sample unique to totals markets that include a money line. The results are explained in relation to the traditional model of sportsbook behavior and in relation to the Levitt (2004) model of sportsbook behavior. Section IV concludes the study.

Market Efficiency Tests in the Major League Baseball Totals Market

To study market efficiency in the betting market for totals in Major League Baseball, we use the tests first used by Woodland and Woodland (1994) and later adjusted for the proper use of a unit bet by Gandar, Zuber, Johnson, and Dare (2002). Both of these studies tested market efficiency in the market for baseball betting (on the side[1] in the game) and the implications for totals markets in baseball are a simple extension of their tests.

The Gandar, et al (2002) definition of a unit bet is where a winning one dollar bet on the favorite will return winnings of less than one dollar, while a winning one dollar bet on the underdog will return winnings in excess of one dollar. The rest of the Gandar, et al (2002) study follows the test of Woodland and Woodland (1994), with the important adjustment of actual and expected returns.

Under the traditional assumption of sportsbook behavior, in order to capture a risk-free return, the sportsbook must attract unit bets on the favorite and underdog such that $X + (1/\beta_1)X = Y + \beta_2 Y$, where X is the number of unit bets on the more popular side of the proposition and Y is the number of unit bets on the less popular side of the proposition[2]. The commission of the sportsbook is net receipts divided by total dollars bet, which is calculated as:

$$c = Y - (1/\beta_1)X / (X+Y). \qquad (1)$$

This simplifies to:

[1] The term *side* refers to a bet on which team will win the game. In baseball, this bet takes the form of odds, where bets on the favorite must lay more than one dollar to win a dollar and bets on the underdogs will return more than a dollar for each dollar bet.

[2] For instance, if there is an overlay on the over (i.e. 9.5o30), X is the dollars bet on the over and Y is the dollars bet on the under. If there is an overlay on the under (i.e. 9.5u30), X is the dollars bet on the under and Y is the dollars bet on the over.

$$c = (\beta_1 - \beta_2) / (2\beta_1 + \beta_1\beta_2 + 1), \quad (2)$$

defining the more popular (the overlay side of the proposition) and less popular prices respectively as β_1 and β_2, with $\beta_1 > \beta_2 \geq 1$

Under the null hypothesis of efficiency, expected returns on any bet are equal to the negative of the commission of the sportsbook. Expected returns to unit bets on the less popular side of the proposition are defined as:

$$E(R_1) = \rho(\beta_2 + 1) - 1 \quad (3)$$

and expected returns to unit bets on the more popular side of the proposition are defined as:

$$E(R_2) = -\rho((1/\beta_1) + 1) + (1/\beta_1), \quad (4)$$

where ρ is the subjective probability of an underdog win and is equal to:

$$\rho = (1 + \beta_1) / (2\beta_1 + \beta_1\beta_2 + 1). \quad (5)$$

Expected average and actual average returns are presented for cumulative strategies, which are calculated by dividing equations (3) and (4) by the total dollars bet for that given cumulative strategy.

Table 1 presents the results for baseball totals for the 2006 and 2007 seasons for the sample of all games and for subsets of games where more money must be bet on the over and where more money must be bet on the under. Presented in each table are the number of games (N), the actual returns to a simple betting strategy of "bet all unders", the expected return, and the z-tests of the null hypothesis of a fair bet. The null hypothesis of a fair bet implies that the actual winning percentage of betting the under is equal to the expected winning percentage of betting the under. Results for the whole sample can be found in the last row of each grouping under "all games". The other rows list the returns for all games of a certain total or higher.

Overall, simple strategies of betting the under cannot reject the null hypothesis of market efficiency for the sample of all games and for the sub-samples of all games where bettors must lay more money on the over and all games where bettors must lay more money on the under. In each case, the actual returns are negative and the z-test cannot reject the null of a fair bet.

It does appear, however, that baseball bettors overbet the over in the games with the highest totals. This is similar to findings in totals markets in other sports. Positive returns are generated for a simple strategy of "bet all unders" at the highest totals in the sample as a whole and in the subset of games where the bettors must lay more money on the over and in the subset of games where bettors must lay more money on the under. The only significant returns, using the z-test for a fair bet, are found in the sample of all games when the total is 11 or more. Positive returns to a betting strategy of "bet all unders" generates a return of greater than 17 cents (compared to an expected return of -0.02 cents) and is significant at the 5% level.

Assuming the traditional model of sportsbook behavior, it appears that there is a general bettor bias toward the over for the games with the highest totals. Bettors observe match-ups between two high-scoring teams or between two sub-par pitchers (or both) and surmise that these games will be high scoring. They tend to overbet these games, driving the closing total on these games to be too high. This supports results found in other totals markets such as professional football (Paul and Weinbach, 2002), college and arena football (Paul and Weinbach, 2005) and professional basketball (Paul, Weinbach, and Wilson, 2004), where the same bias toward the over has been shown to exist.

If the assumptions of the traditional sportsbook model are relaxed, another possibility exists to explain the bettor bias in the baseball totals market. This possibility is that the sportsbook sets a total to maximize profits rather than setting the total to serve as a market clearing price. This behavior of the sportsbook was described by Levitt (2004) for the NFL pointspread market and it has a natural extension into totals market. Instead of the consistent bettor biases being the tendency to overbet big favorites and road favorites, as noted in Levitt (2004) and shown in previous studies of the NFL pointspread market, the consistent bettor bias in the totals market is the overbetting of the over. As mentioned in the introduction, the over is a much more pleasurable bet for recreational gamblers as hoping for scoring, the most exciting part of a sporting event, is much more enjoyable than hoping for a lack of scoring.

Therefore, if the totals market for baseball works as the Levitt (2004) model suggests, the sportsbook sets a total on baseball games that are slightly too high, knowing that the betting public has a bias toward betting the over. This leads to a closing total that is too high and leads to empirical findings such as those in this study, where the efficient markets hypothesis can be rejected.

Without betting volume data, which is not available for our dataset and is generally not available for public betting data, it is not possible to distinguish between the traditional sportsbook model and the Levitt (2004) model for the baseball totals market. In either case, the results of this study clearly show that there is a bettor preference for the over. Under the traditional model of sportsbook behavior, this bias is due to the public driving the market clearing price to a level that is too high. In the Levitt (2004) model, the sportsbook sets a total that is too high, recognizing the biases of totals bettors, and capitalizes on their informational advantage by setting a total that maximizes profits.

Conclusion

The totals market in Major League Baseball was studied and bettor biases were examined using data for the 2006 and 2007 seasons. These two seasons include data on the full baseball total, using both the total runs and the odds adjustment to the total. Overall the efficient markets hypothesis could not be rejected. At the highest totals, positive returns to wagering on the under was found, although the only statistical significance was found for a strategy of wagering on the under for all games with totals of eleven or more.

Overall, general support for the efficient markets hypothesis is found in this totals market, although a bias does appear to exist for the highest totals. Under traditional models of sportsbook behavior, this bias is due to the overbetting of the over at the highest totals by bettors. Sportsbooks attempt to even the betting action between the over and the under bettors and the closing total is biased due to the actions of the wagering public. This situation could persist due to betting limits set by sportsbooks. Under the Levitt model of sportsbook behavior, these results could stem from the sportsbook setting a total that maximizes profits instead of setting a market clearing price. The results of this study are consistent with either hypothesis. Only with actual betting market volume, which sportsbooks typically strictly guard, can the difference between these two hypotheses be known.

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Appendix

Table 1: Betting Simulations – Baseball Totals 2006-2007
Data Arranged by Total Returns on Betting Strategy of "Bet All Unders"

	Number of Observations	Actual Return	Expected Return	Z-Test Fair Bet
All Games				
11 or more	112	0.1715	-0.0218	1.9809**
10.5 or more	422	0.0123	-0.0219	0.6816
10 or more	794	0.0145	-0.0219	0.9931
9.5 or more	1559	-0.0004	-0.0218	0.8146
9 or more	2263	-0.0103	-0.0218	0.5275
8.5 or more	2866	-0.0273	-0.0218	-0.2854
8 or more	3148	-0.0330	-0.0218	-0.6063
7.5 or more	3321	-0.0329	-0.0218	-0.6188
7 or more	3373	-0.0309	-0.0218	-0.5141
All Games	3376	-0.0318	-0.0218	-0.5627
Games where Bettor must Lay more Money on Over	Number of Observations	Actual Return	Expected Return	Z-Test Fair Bet
11 or more	43	0.2033	-0.0222	1.4412
10.5 or more	177	0.0105	-0.0221	0.4227
10 or more	328	-0.0032	-0.0221	0.3323
9.5 or more	624	-0.0192	-0.0220	0.0656
9 or more	955	-0.0128	-0.0219	0.2729
8.5 or more	1254	-0.0289	-0.0219	-0.2421
8 or more	1367	-0.0249	-0.0219	-0.1067
7.5 or more	1441	-0.0173	-0.0219	0.1690
7 or more	1473	-0.0162	-0.0219	0.2112
All Games	1476	-0.0182	-0.0219	0.1368
Games where Bettor must Lay more Money on Under	Number of Observations	Actual Return	Expected Return	Z-Test Fair Bet
11 or more	69	0.1518	-0.0217	1.3881
10.5 or more	245	0.0136	-0.0218	0.5351
10 or more	466	0.0269	-0.0218	1.0159
9.5 or more	935	0.0121	-0.0217	-0.0216
9 or more	1308	-0.0084	-0.0217	0.4604
8.5 or more	1612	-0.0260	-0.0217	-0.1673
8 or more	1781	-0.0392	-0.0217	-0.7114
7.5 or more	1880	-0.0448	-0.0217	-0.9676
7 or more	1900	-0.0423	-0.0217	-0.8682
All Games	1900	-0.0423	-0.0217	-0.8682

Peer Evaluation in an Active Learning Group Project

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Abstract

Peer learning is an effective teaching tool and is appropriate for group projects. However, students may be tempted to get a free ride in the group or fear that they will carry more than their share of the load. Peer evaluation is an effective motivational tool for stimulating group participation. However, students may be reluctant to provide critical evaluation of peers. A matrix-based algorithm for anonymous peer evaluation with variable degree of instructor control can be adapted for multiple groups and rubrics in a hands-on laboratory project to simplify the process for the instructor. This project builds on an active learning model used for a scale model reinforced concrete structure.

Introduction

Group projects are great for construction management students. The team concept develops necessary career skills. Group projects also encourage peer learning. Students may learn better from another student than from an instructor. Naturally, students working on group projects should be expected to evaluate the work of other students in the group. However, peer grading can be frustrating for the instructor for several reasons. Students tend to be lenient when evaluating the work of other members of the group. This lack of critical evaluation was observed on the peer evaluations performed by students that worked in teams to construct scale model reinforced concrete buildings in a reinforced concrete and formwork course (Bray& Manry, 2007). The amount of time required for grade calculation discourages instructors from using peer review with large classes. Many schemes are in use for distributing group grades. Grades may be weighted in various ways. Some algorithms do not allow the student to evaluate themselves. This paper is not intended to endorse any particular scheme for distributing grades. The main purpose is to show how a system can be devised to overcome some of the obstacles faced in peer grading in a fairly large group. The project used an existing simple but robust peer grading scheme (Feigenbaum & Holland, 1997). The chief addition was a computerized data collection method.

Background

A hands-on, active learning approach to teaching reinforced concrete and formwork design by building a scale model of a reinforced concrete structure has been shown to be effective in motivating construction management students to learn structural design concepts (Bray & Manry, 2007). Figure 1 shows a scale model reinforced concrete building. The scale is 1" = 1 foot. Students constructed the model in semiautonomous groups over a six-week period of a semester course. The student project represented almost 50% of the course grade and became a

reference for design examples and calculations for the remainder of the course. The project grade included peer grading. The fall 2007 semester was the fourth cycle for the group project.

The group selection and grading process was refined in both fall 2006 and fall 2007 to better model the construction process. The project was organized as close as practical to an actual construction project with 4 groups as shown in Figure 2. Each student in the class completed a questionnaire to determine their construction experience, understanding of the construction process and their area of interest. Key positions were selected by the instructor. Students performed the remaining group selections as described below. A management team of 7 students was led by a student acting as the project manager. This student was selected by the instructor using the questionnaire responses and interviews. The instructor used the same process to select a student for the role of assistant owner's representative to act as the instructor's primary contact on the project. Both of these students used questionnaire data and interviews to select their subordinates shown inside the dashed line in Figure 2. In addition, the project manager selected a foreman for each of the labor crews shown in Figure 2. This includes a concrete/earthwork crew, a formwork/alignment crew, and an ironworker crew. The foremen of the crews divided the remainder of the students among the labor crews by choosing one at a time in a closed meeting. The questionnaire responses were used in this selection process.

The instructor's primary contact on the project was the assistant owner's representative. The project was managed as if the project manager and subordinates was the general contractor. The concrete/earthwork crew, formwork/alignment crew and the ironworker crew functioned like subcontractors. Work was performed two class periods each week for 2 hours and 15 minutes each period for six weeks.

Peer Evaluation Method and Grades

The peer grading scheme had four groupings as shown in Figure 2. Each group had a clear set of grading criteria or rubric provided. An example rubric is included in Appendix A. This rubric was used to assign a grade to the project management team. The dotted line in Figure 2 encloses group 1, the project management team. The instructor developed a specific rubric for each group to assign the group grade. The first step in the peer grading process was for the instructor to evaluate the work of the four groups and assign a grade to each group.

The next step was for the members of each group to determine how the group grade would be distributed to members of the group. The peer grading scheme allows group members to assign a lower portion of the group grade to those members not seen to be doing their part. This helps address the "free rider" problem often present in groups.

In order to distribute the group grade in the group, members of the group completed an evaluation matrix assessing themselves and the other members of the group (Feigenbaum & Holland, 1997). At this stage, the group members were guided in their peer evaluations by an additional rubric. An example of this rubric is shown in Table 1.

Figure 3 shows the mathematical algorithm for distributing the group grades (Berryman, 1999). The Individual Evaluation Ratio (IER), a weighting factor, is calculated from the points assigned to individuals and the total number of points assigned. Figure 3 shows the calculation of the individual score using the IER. In this equation, the weight given to the peer evaluation versus the instructor can be controlled by varying the percent of grade controlled by the student as shown in Figure 3. The results of the peer evaluation calculations are summarized in Appendix B.

Data Collection Method

In the fall 2007 cycle, an innovative method was used to assist in the collection of and calculations for the peer evaluation data. A spreadsheet was developed to collect the group evaluations. Figure 4 shows the user interface of the spreadsheet. By using Visual Basic for Applications (VBA) in Microsoft Excel, the student only need select their name from a pull-down menu. The data input screen shown in Figure 4 is generated. The VBA code causes the form to be populated with the names of the group members. The student was prompted to evaluate each member according to the rubric. In Figure 4, each tab corresponds to an item in the rubric. The value of the slider bar is relative to the value of the rubric item. For example, in Figure 4, each rubric item is actually worth 20 points. However, the slider bar works on a percentage scale, so selecting a value of 75 on the slider bar will assign 15 points for this rubric item. The student uses the slider bar controls or the text box to rank each student. The student returns the saved spreadsheet to the instructor. VBA code facilitates completing the calculations as described above. The generated file cannot be opened without a password. This keeps data confidential even if the file is left on lab computers.

Results

The method used to collect the student evaluations was easy for the instructor, considering the amount of time needed to perform calculations for 53 students. In this class process required 786 separate peer evaluations. This is a fairly large burden on the instructor.

Students tended to hurry through the evaluations unless the assigned group grade was low. This was due in large part to having rather large groups. This was another lesson learned about group projects. The next cycle will use more but smaller groups with only four to six members.

The peer evaluations were performed on 3 separate occasions and accounted for nearly 50% of the course grade. The authors have since learned that a smaller percentage such as 10% is more typically selected.

No statistical analysis was performed on the data in Appendix B. However, anecdotal examination of the data shows that in general, the lower the assigned group grade the greater the range of the peer assigned grades. The notable exception in the concrete crew was for a student that dropped the class but was included in the peer grading.

In summary, the lessons learned were:

- Determine the weight desired for the peer grading. 10% or less of the course grade is probably reasonable.
- Develop a good rubric for assigning group grades. It is desirable to have a rubric that will distinguish between various levels of quality in the work. Amid all the enthusiasm to improve the efficiency of collecting data for peer evaluation, it is important not to neglect the rubric for distribution of the group grades. It was found that the rubric for the ironworkers was not adequate to appraise the efforts of the ironworker crew on phase one.

- Take care in developing the rubric group members will use for peer evaluations. If it is too lengthy students will grow weary in assigning group grades.
- Limit group size to six students.
- Evaluate algorithms for distributing the group grade. Other methods such as forced ranking or setting a minimum grade distribution for the evaluators may work.
- Develop an efficient method for collecting the data and automating the calculations.

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Appendix

Figure 1: Scale Model Reinforced Concrete Building

Figure 2: Project Organizational Chart and Peer Graded Groups

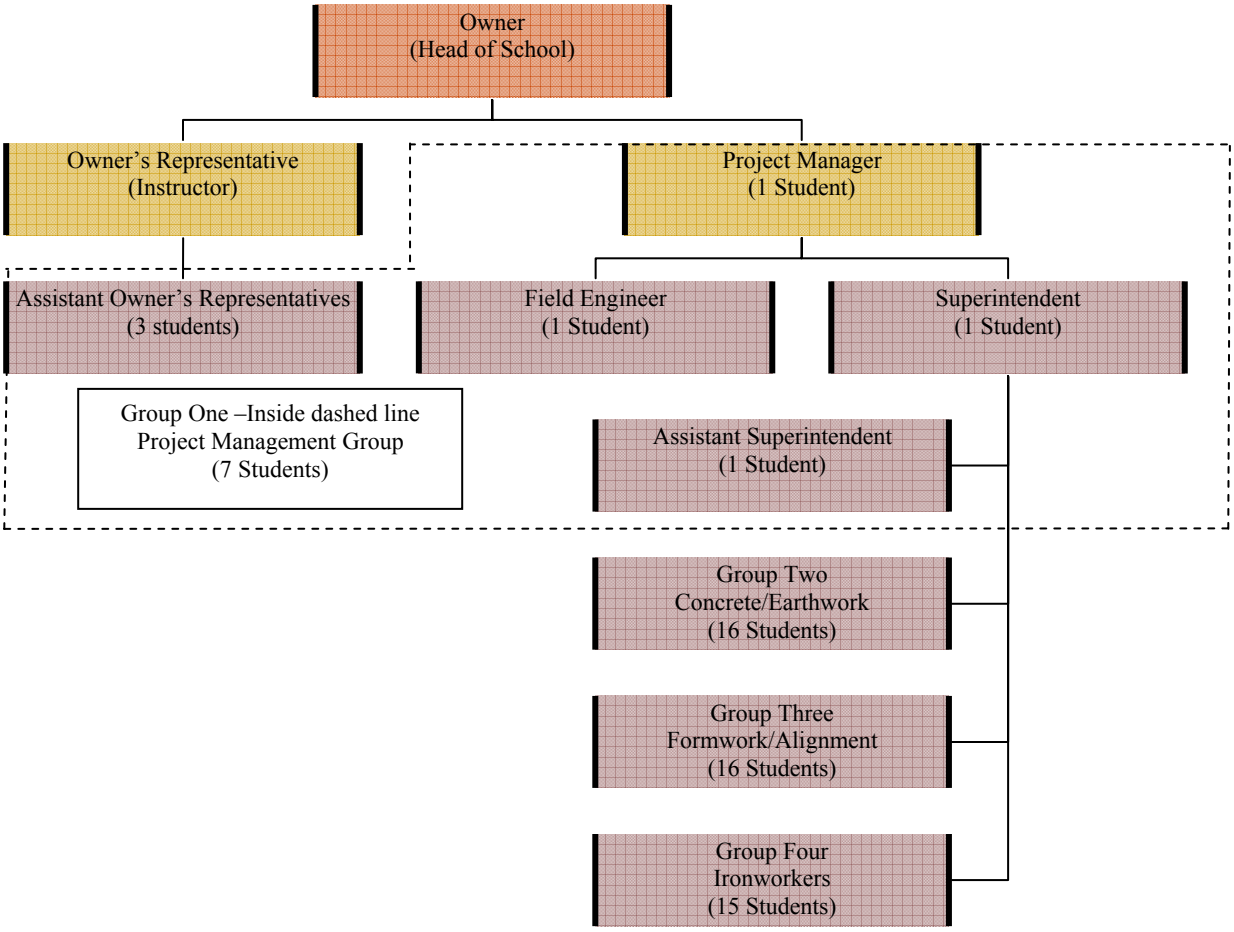

Figure 3: Individual Score Calculations

$$\text{IER} = \frac{\sum \text{Points Assigned to An Individual in the Group}}{\sum \text{Points Assigned}}$$

$$\begin{aligned}\text{Individual Score, \%} = &\left[\ \%\ \text{of Grade Controlled by Students} \times \text{Group Grade, \%} \times \text{IER}\ \right] \\ &+ \left[\text{Group Grade, \%} \times \left(1 - \%\ \text{of Grade Controlled by Students}\right)\right]\end{aligned}$$

Figure 4: Screen Shot of Input Form for Peer Evaluations

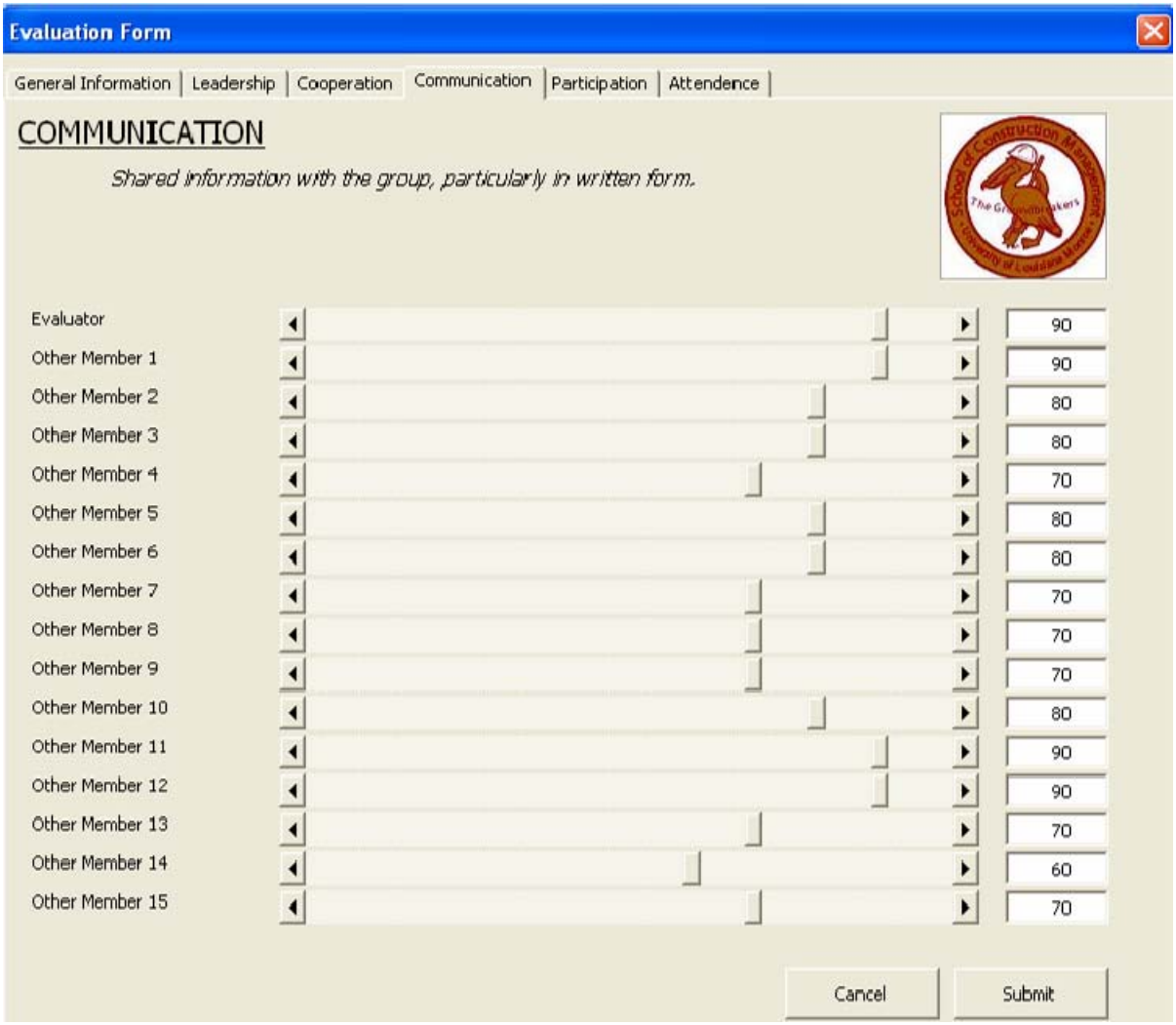

Table 1: Peer Evaluation of Project Management Team

Criteria	**Points**
Leadership-*Showed individual leadership in the form of preparation, enthusiasm, commitment, organization, and communication to the degree appropriate to the position within the group by taking initiative.*	20
Cooperation-*Willingness to work together to accomplish the job of the group.*	20
Communication-*Shared information with the group, particularly in written form.*	20
Participation-*Did the appropriate share of work.*	20
Attendance-*Present and on time for work.*	20
TOTAL	100

Table 2: Engineer's Evaluation of Project Management Team

Criteria	Points
The project is on or ahead of the scheduled progress.	10
Project clean up was performed according to the Engineer's instructions.	10
Contractor's safety plan was executed.	10
The project webcam collected project photos according the Engineer's instructions.	10
Purchasing procedures were followed and materials were used thriftily.	5
The project site plan for tools and storage was followed.	5
The Owner's Representative kept a daily log of the Contractor's activities.	5
A concrete yield test was performed and initial test cylinders were made according to the Engineer's instructions.	5
Test cylinders were made for each concrete pour. The cylinders were made and stored according to the Engineer's instructions.	5
Followed plans and specifications.	5
The progress was indicated on the project schedule.	5
The Owner's Rep was given 24 hours notice to check alignment before concrete pours.	5
Concrete cylinders were tested and a control chart of breaking strength was maintained according to the Engineer's instructions.	5
Quantity takeoff and batch calculations were submitted to the Owner's Rep 24 hours prior to the pour.	3
A system of files was maintained including the Project Documents and correspondence.	3
Owner's Rep had supervision on site when work took place on site.	3
Contractor had supervision on site when work took place on site.	3
Responded to Engineer in timely manner.	3
TOTAL	100

Table 3: Statistical Abstract-Peer Evaluations

PHASE	1	2	3		1	2	3
CONCRETE CREW	88.29	95.29	86.55	FORMWORK CREW	85.00	91.09	89.25
	88.32	95.29	86.50		84.25	92.06	91.02
	88.28	95.26	86.52		83.38	91.54	91.78
	88.32	95.30	86.38		87.11	94.04	95.09
	88.32	94.95	86.69		71.59	75.79	76.80
	88.32	94.91	86.15		80.92	87.38	86.26
	88.32	95.26	86.34		83.03	90.38	90.92
	88.32	94.93	86.42		72.18	76.24	76.16
	88.19	95.30	86.28		81.84	90.45	88.57
	88.32	95.25	86.55		86.74	94.51	95.00
	88.32	94.83	86.47		86.79	94.49	95.06
	88.32	94.95	86.58		86.81	94.56	94.85
	88.29	94.59	86.34		76.82	84.26	84.32
	85.27	92.81	83.23		87.24	94.15	94.96
	86.54	64.13	66.31		86.82	94.50	94.91
	88.30	94.95	86.69		87.47	94.56	95.04
RANGE	3.05	31.17	20.38		15.89	18.77	18.94
AVERAGE	88.00	93.00	85.00		83.00	90.00	90.00

PHASE	1	2	3		1	2	3
IRON WORKERS	103.06	79.98	100.37	PROJECT MANAGEMENT	86.34	87.27	78.08
	102.32	78.71	100.03		90.57	90.34	89.78
	102.77	79.92	100.40		83.45	85.54	83.23
	103.15	80.07	98.66		83.43	85.97	83.37
	102.80	79.73	100.76		90.31	90.26	87.97
	97.22	73.11	92.19		86.34	87.19	84.81
	91.56	64.66	88.83		88.55	89.44	87.76
	103.38	80.10	98.39	RANGE	7.14	4.80	11.70
	102.03	78.55	97.72	AVERAGE	87.00	88.00	85.00
	94.00	58.06	81.09				
	102.23	79.92	99.69				
	103.20	79.81	98.61				
	93.49	66.34	81.22				
	103.13	80.10	100.86				
	95.66	65.93	86.16				
RANGE	11.82	22.04	19.77				
AVERAGE	100.00	75.00	95.00				

Credit Card Traps: Educating College Students on How to Avoid Becoming Victims

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Abstract

A seminar was conducted for a large group of pre-business freshmen students. The seminar focused on credit cards, how credit cards work, and some of the "traps" associated with credit card debt. Surveys were given before and after the presentation to collect a demographic profile of the students, their credit card usage, and their attitudes toward credit card debt. Exit surveys show a marked change in attitude following the presentation. The goal was to see if the seminar presentation resulted in a change in the students' attitudes. This paper gives a literature review, along with a description of the presentation, an analysis, conclusion, and recommendations for further study. This assessment is the first step in a longitudinal study of the attitude of college students toward credit cards and how to educate college students on how to avoid becoming victims.

Introduction

Defining Traps
"Waking up one day and finding yourself in a position or situation that you can't get out of." (Professional Development Faculty, Florida A&M University, School of Business & Industry)

Overview

College students are faced with a number of traps as they pursue degrees in higher education. Some traps include not being focused, unclear career goals and objectives, academic traps, financial traps, social traps, relationship traps, lack of time management, bad credit, and credit card traps. One of the most serious traps that they are confronted with is credit card traps, which is the focus of this paper.

A number of studies have focused on credit card traps by looking at factors such as attitudes toward debt; credit and debt; credit and default; economic psychology of consumer debt; factors influencing credit card debt; regulation of credit card marketing on college campuses; profile of financially at-risk college students, etc.

The focus of this paper will be to describe a program designed to educate and inform students about credit card usage and credit card traps. Furthermore, survey data produced in coordination with the program will be analyzed to determine whether the program was effective

in changing the students' attitudes towards credit card usage. Finally, the paper will discuss possible future applications of the findings from this study; getting freshman students to be aware of credit card traps, and changing their behavior, so that they won't get trapped for a life time.

Literature Review

An important early study done in 1995 (Xiao, Jing J., et.al. 1995) drew on survey data collected in 1990 from a small sample of college students. This study developed a detailed methodology for analyzing the students' attitudes toward credit card usage. The results showed that over 50% of students had a positive attitude towards credit card usage, 46% were neutral, and only 2% were negative. Not surprisingly, the survey found a correlation between positive attitude and greater use of credit cards.

A later study done in 2001 (Roberts and Jones, 2001) analyzed spending patterns among college students. The results of that study showed that credit card usage by college students exacerbates the problem of compulsive spending. The authors quoted one school administrator who stated that his university may be losing more students to debt than to academic failure.

In 2002, a detailed study of college students' attitudes toward credit card debt was published by Hayhoe, et al. (Hayhoe, C.R., 2002). Citing a general "culture of indebtedness", she quotes other sources stating that nearly two-thirds of all college students received credit cards on or before their freshman year. Her study found that "students' high favorable credit attitudes may cause some to misuse credit" and that educators "…may need to add greater emphasis on the long-term effects of debt. Helping students realize how much the debt actually costs and how long it takes to repay may influence the amount of debt incurred." Further studies and reports from college and university campuses nationwide indicate that many college students get "sucked" into credit card debt during their freshman year. Students are a lucrative market because they have billions to spend, and whatever bank or issuer gets to the student first has the advantage. Xiang (2003) discusses how credit card marketing traps many students in debt. Several "gimmicks" have been used to lure students to apply for credit cards. T-shirts, Frisbees, radios, water bottles, baseball caps, and even iPods have been used as tools to entice the newbies on campus.

Priyambodo (2005) indicates that college students on average have monthly credit limits between $2,000 and $5,000 and typically has three credit cards in their names. Shah (1998) reported that a study conducted by Public Interest Research Group (PIRG) indicated that students who obtain credit cards from on-campus tables carry larger debts and pay off their balances later than those who do not. Dunleavey (2006), Stern (2006), Hitchcock and Mierzwinski (1998) all indicate that students applied for credit cards during their freshman year, many of whom said they were "just for emergencies." Jarvis (1999) said that "Kids are absolutely bombarded" by credit card companies that descend upon campuses "like confetti at a homecoming football game."

Many companies target low-income students who are financially independent for the first time and are unaware of the financial trap associated with credit cards may lead to major problems. According to Ivan Frishberg, Director of PIRG's Higher Education Project, outstanding credit card balances may lead to problems in the future. Other studies show that after students are "knee deep" in debt, the consequences cause major concern for parents and

educators. Examples of extreme consequences include suicides of students who could not handle the burden of maxed out credit cards (Jackson, 1999).

In 1982 Nellie Mae was established to provide federal and private education loans for undergraduate and graduate students and families. Since 1998 Nellie Mae has conducted several studies on student credit card debt because it was concerned about the impact of easy credit card availability and subsequent indebtedness accumulated by students.

These studies analyzed the credit card behaviors of Nellie Mae student loan applicants. According to the studies, "the proliferation of credit cards on college campuses is widening." One of the studies (2000) reported that undergraduates carried an average credit card balance of $2,748, up from an average of $1,879 in 1998. The time that it would take to repay a loan of that amount, at 18 percent annual percentage rate, would be about 15 years if the student made a minimum monthly payment of $75.00.

An overall review of the literature of credit card debt of college students indicates that credit card companies target new students, because they tend to be "big spenders." Even though the students may not be able to pay the bill on time, the companies are willing to issue the card, because they can charge additional cost to the account when the students fail to make payments on time. While the students are victims of marketing gimmicks of credit card companies, care must be taken to educate students on being financially savvy and credit card wise.

Methodology

Presentation

A seminar was conducted for a large group of pre-business freshmen students. The seminar was framed as a fun event, with a lively, interactive discussion of credit card usage, the importance of credit scores, testimonials from older business students, and a raffle with some cash prizes at the end.

At the beginning of the seminar, an entrance (pre-evaluation) survey was given to students to gather basic demographic information, data on the type and level of credit card use by student, and a group of questions about their attitudes toward credit card usage. At the conclusion of the seminar an exit (post-evaluation) survey was given to test attitudes. The goal was to see if the presentation resulted in a change in the students' attitudes.

The seminar started with a general discussion about building personal net worth, then we steered the conversation toward debt, and the various kinds of risks associated with debt. Students were asked if they knew about the "dreaded freshmen 15." The dreaded freshmen 15, those extra pounds that come from eating all those carbs in the school cafeteria, isn't the only thing your kids need to worry about when heading off to college. Sudden access to easy credit cards could get them into a heap of financial trouble." (Business Week, 2007).

The seminar went through a simple but thorough explanation of how credit cards work, including things like finance charges, minimum payments, late fees, etc. Charts were presented to demonstrate how debt increases over time if you do not pay off the whole balance every month. The seminar then went through some of the other hazards and "traps" involved with credit card debt, such as double-cycle billing, universal default, and various kinds of tricky fees and penalties.

From there, the seminar talked about the consequences of defaulting on credit card debt and how it impacts a student credit score, leading to higher interest rates on other debts such as

car loans. The seminar gave the students a brief overview of credit rating agencies and credit scores.

Four older students gave testimonials. The students spoke articulately and passionately about their personal bouts with credit card debt. The students had a lively questions and answers (Q&A) session. The seminar wrapped up with the exit surveys and some raffle prizes.

Analyses of Results

There were a series of questions presented in both the pre-presentation survey and the post-presentation survey which were designed to measure the students' attitudes toward credit card usage and credit card debt. The questions were deliberately framed in an informal idiomatic way, in order to elicit subjective feelings rather than rational or analytical judgments. The seven questions were as follows:

Is it OK to use a credit card to buy food?
Is it OK to use a credit card to pay rent?
Is it OK to use a credit card to buy clothing?
Is it OK to use a credit card to buy textbooks?
Is it OK to use a credit card to buy gifts?
Is it OK to use a credit card for travel?
Is it OK to sue a credit card for entertainment?

Students were asked to respond on a scale of 1 to 5, with 5 being "strongly agree" and 1 being "strongly disagree." We compiled the responses and focused on the change from the pre-survey to the post-survey. A weighted average score was calculated for each question, and then the percentage change was calculated. Score changes were as follows:

Food:	+ 6%
Rent	- 10%
Clothing	+ 21%
Textbooks	+ 13%
Gifts	+ 22%
Travel	+ 11%
Entertainment	+ 9%

The percentages labeled as positive indicate a less favorable attitude toward using credit cards, and the percentages labeled as negative indicate a more favorable attitude toward credit cards. On a combined basis, there was approximately a 10% shift from more positive to less positive.

Interpretation of results

The above 10% shift indicates that some amount of change in the students' attitudes took place as a result of the presentation they participated in. But looking more closely at individual items may give deeper insight into the effect of the presentation. If you look at rent as a "necessity," and items like clothing, gifts and entertainment as "discretionary" spending, then we see a more distinct pattern. There is more willingness on the students' part to use credit cards

for the item seen as a necessity (rent), and less willingness to use credit cards for items seen as discretionary.

Responses for "food" are somewhat ambiguous. This category may include groceries, which could be seen as a necessity, or restaurants, which could be seen as discretionary. In the same way, spending for "travel" could include both necessary travel costs to go home for summer, or for travel to internship jobs, for example, or it could be seen as discretionary travel, such as a vacation trip to Cancun.

The response for "textbooks" is puzzling and does not seem to fit the pattern of the other items. If we follow the above train of thought, then students appear to be looking at textbooks as discretionary spending. While this interpretation may not be surprising to some instructors, it is still not entirely clear what is driving this shift.

If we look only at the three items which may be viewed as more clearly discretionary in nature, we see a 17% (combined) shift in attitude, in the direction of being less willing to use credit cards. While this is not a giant shift, it is still a statistically significant change in the responses from the students.

We must point out certain considerations which qualify the validity of our interpretation. The first point is the way the questions were framed. During the presentation, it was made clear that using a credit card is neither inherently good nor inherently bad. It is, in fact, the way in which a credit card is used which causes problems. The survey questions literally ask whether it is "OK" to use credit cards, and logically speaking, the simple use of credit cards is not at issue. So there is a built-in ambiguity to the questions.

This approach was, however, chosen deliberately. We wanted to use simple, idiomatic language so that the students would not "think too hard" about the logic of the questions, but answer more candidly, more spontaneously, and more openly. With this approach, we hoped to get a truer reading on the students' attitudes rather than their analytical response. We believe it is the attitude, a more emotional and less rational part of the mind, which drives behavior in young people.

The second qualifying point has to do with the items picked for the survey questions. As noted above, the categories of "travel" and "food" cannot be clearly labeled as either necessary of discretionary, and so the results from these questions do not reinforce our interpretive result. This is a point which we will take into consideration for future surveys, and frame the questions in ways that distinguish more clearly between necessity and discretionary spending.

Our final conclusion from the survey data is that the presentation did have a positive effect on students' attitudes. As such, the presentation itself was effective. In addition, we further hope that given a change in attitude demonstrated by the survey data, we may have made a start toward changing students' actual behavior with credit cards.

Conclusion

Credit Card Traps

More and more college students are victims of credit cards companies. Those students who fall prey to the marketing lures of "free" items – cups, caps, radios, iPods, and even gas – so much so that they have been labeled as "hooked on credit." The credit card companies provide the catalyst for a trap of these *financially* under educated new college students. Many students get into trouble before the first midterm grades.

These traps can be so severe that the consequences are detrimental. Evidence of students resorting to suicide has been reported in several studies. In fact, some consumer groups use the deaths to criticize the practices of credit card companies. The marketing practice has been said to "pose a greater threat than alcohol or sexually transmitted diseases." To some, this trap is considered an epidemic compared to a drug addiction.

This study sought to evaluate the results of educating freshman students about the pitfalls of careless use of credit cards. Hopefully, a more informed college student will use credit cards in a more prudent manner.

This requires discipline, forethought, wisdom, both short-term and long-term planning, knowledge of credit cards, the importance of credit scores, the maturity to manage credit cards and credit, and the sophistication to know when to say yes and no to credit card usage.

Recommendations

The results of this study clearly point out that college students are challenged to make wise decisions about credit cards. To fully assess the attitude and usage of credit cards by college students require tracking over time. If students are more informed about the traps associated with credit cards, will they make better decisions and will it change their attitudes and cause them to make sound rational choices.

This study hopes to track the group of students surveyed to determine if their behavior and attitude toward the use of credit cards are different from those who are not well informed. Hopefully, this study will be able to track this cohort of students and compare them with typical college students who are not well informed about credit card traps. We encourage further studies along these lines that will hopefully enlightened college students nation-wide about the pitfalls of credit card traps.

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Dividends and Stock Performance: An Examination of Liquidity, Return, and Risk by Dividend Yield

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Abstract

The belief that dividend stocks outperform other stocks is worthy of exploration, especially in the areas of liquidity, return, and risk. This paper documents a study of stock performance by comparing the performance of dividend-paying stocks to non-dividend-paying stocks. The investigation is limited to New York Stock Exchange stocks in the health care sector to control for size and business risk. The performance measure for liquidity is the average market value of daily trading volume; the measure for return is average daily return; and the measure for risk is the standard deviation of daily returns. Results show that liquidity and return are greater, and risk is less for stocks that pay dividends versus those that do not pay dividends. These findings contribute to an understanding of market efficiency and are important to risk-averse investors, managers with a goal of stockholder wealth maximization, and regulators who require full disclosure to inform the investment community. This study is the first in a series of investigations that should explore other years and sectors.

Introduction

"Studies have shown that the shares of companies that pay [cash] dividends tend to beat those that don't, usually with a lot less risk." This statement was published by Karyn McCormack on *BusinessWeek online*, September 28, 2005. However, the article does not mention the studies, nor to what degree the dividend stocks beat those who do not pay dividends, and it also says nothing more about the risk factor. The belief that dividend stocks outperform other stocks is worthy of exploration, especially in the areas of liquidity, return, and risk. This paper documents a study of stock performance by comparing the performance of dividend-paying stocks to non-dividend-paying stocks. The investigation is limited to stocks listed on the New York Stock Exchange to ensure that companies of somewhat comparable size and liquidity appear in the study. In addition, the study is further limited to firms in the Health Care Sector, as a control for business risk. This sector contains about one hundred firms, with about half of those firms paying dividends. The performance measure for liquidity is the average market value of daily trading volume; the measure for return is average daily return; and the measure for risk is the standard deviation of daily returns. Performance data on stocks come from the http://finance.yahoo.com/ web site. Results show that liquidity is greater, return is greater, and risk is less for stocks in the health care sector that pay dividends compared to those stocks that do not pay dividends. These findings shed more light on the market efficiency debate and are critically important to risk-averse investors, managers with a goal of stockholder wealth maximization, and regulators who wish to keep the investment community informed. This study

is the first step in a series of investigations that should look for robustness across others years and sectors.

The paper proceeds with a review of the literature, a discussion of the methodology, a description of the data, a presentation of the results, and ends with a summary of important findings and suggestions for further research in the conclusion.

Literature

The impact that dividends have on stock performance is both a theoretical and empirical issue. Miller and Modigliani (1961) explore the theoretical issue. They challenge what they call the standard view, which says that firms paying high levels of cash dividends should be more valuable to investors relative to those paying low levels of cash dividends. Instead, the authors say that in a world of perfect capital markets, rational behavior on the part of investors, and perfect certainty as to the future profits of every corporation, different dividend payouts will not change stock performance. Furthermore, they say that relaxing the assumptions has little impact on the idea of dividend irrelevance with respect to stock performance, because given a certain investment policy, the distribution of returns between capital gains and dividends will not affect market valuations of stock. However, they also say that dividend increases may signal growth opportunities for a firm, even if they do not by themselves create value. The signaling argument is a basis to explore differences between firms according to their level of dividends because it suggests that dividends are important as a signaling device, and that firms that have growth opportunities but choose not to signal may be harming their shareholders. Shareholders should be informed about growth opportunities through dividends so that buy and sell decisions, and consequently capital gains, reflect this important information.

Another theoretical view of dividend policy and stock performance comes from Gordon (1963), who says that dividend policy changes will change share price due to investor aversion to risk and the increase in the uncertainty of future cash receipts. Thus when dividends are postponed, investors put less value on them due to the uncertainty of the future and the necessary increase in the discount rate applied to those future cash flows. Hence dividend policy plays a big role in stock performance, and this view also supports the study of stock performance between firms that pay dividends and those that do not pay dividends.

An empirical analysis of the impact of dividends on stock performance appears in Asquith and Mullins (1983). They find that firms initiating dividend payments have large positive excess returns. In addition, the same firms that later increase dividends have even larger positive excess returns than when they initiated a dividend. Although this study does not mention any control for business risk by type of sector or industry, and it only looks at dividend initiations and increases, it suggests that a look into the impact of dividends and stock performance could be worthwhile.

Methodology

The purpose of this paper is to examine the impact that dividends have on stock performance. Stock performance measures include liquidity, risk, and return. Liquidity is measured for each stock by average daily trading volume. Return is measured for each stock by the daily percent return after adjustments for cash dividends and stock splits. Risk is measured

for each stock by the standard deviation of daily percent returns. These measures will be computed for stocks that pay dividends, and also for stocks that do not pay dividends. Group means for these measures will be computed and compared to determine if differences exist. The null hypothesis is that group means for all three measures will be equal. If dividends are associated with enhanced stock performance, then the dividend-paying stock group will have means that show greater liquidity, higher return, and lower risk when compared to the non-dividend-paying stock group. Specifically, expectations consistent with extra value in stocks pay dividends are summarized in the following:

	Dividend-Paying Stocks		**Non-Dividend-Paying Stocks**
Liquidity:	Average Trading Volume	>	Average Trading Volume
Return:	Average Daily Return	>	Average Daily Return
Risk:	Standard Deviation of Returns	<	Standard Deviation of Returns

Data

The data for this study are daily market information for all New York Stock Exchange health care sector stock listings in 2007 found on the http://finance.yahoo.com/ web site. The health care sector stocks represent 105 different firms, five of which do not have daily returns for the entire year, and therefore these firms are not in the group of firms for this study. Of the 100 stocks in the study, 41 paid some form of cash dividend in 2007, and the others paid no dividend. Of those stocks that paid dividends, 28 paid a dividend four times during the year, four paid a dividend twice during the year, and nine paid a dividend once in 2007. Data for each firm include the daily closing price adjusted for dividends and splits, and daily trading volume in number of shares. This information allows for the calculation of a daily return in percent by taking the new closing price minus the previous day's closing price, divided by the previous day's closing price, all times 100. Then the mean of the daily return is calculated for each stock, along with the standard deviation of the daily percent returns. Another statistic calculated is the mean of daily trading volume for each stock. Finally, a dividend yield is obtained by dividing the sum of all dividends for the year by the unadjusted opening price for the year, where dividends are adjusted for any stock splits. The data allow numerous comparisons as described in the next section covering the results. The data are summarized in Table 1.

Table 1 provides a data summary for the 100 New York Stock Exchange health care sector stocks in the analysis. The stocks in the summary are grouped by the number of times cash dividends were paid in 2007. The first group is of stocks that paid dividends four times throughout the year, and consists of 28 stocks that had an average daily return of 0.02194 percent, a standard deviation for the group of 1.5878, a mean daily volume of shares traded of 4,626,341, and a mean annual dividend yield of 1.97 percent. Comparing this group with the others highlights possible significant differences in daily returns, daily return standard deviations, and daily trading volume. The next section uses multiple regressions to test for significant differences.

Results

The preliminary results for this analysis come from a single-factor analysis of variance done to compare differences in average daily return, standard deviation of daily returns, and average daily volumes between the group of dividend stocks and the group of stocks that paid no dividends. The results of the analysis appear in Tables 2, 3, and 4.

Conclusion

The examination of liquidity, return, and risk in New York Stock Exchange healthcare sector stocks suggests that Karyn McCormack might be correct in asserting that investors are often able to obtain the same or greater return, with less risk, from stocks that pay dividends compared to those that do not pay dividends. This study controlled for business risk by analyzing stocks from only one sector that qualify for listing on the New York Stock Exchange, suggesting that all the firms are of substantial size. Even within this somewhat homogeneous group, stocks that pay dividends seem to outperform those that do not pay dividends. Average daily returns for stocks that pay dividends are higher, but not statistically significantly higher, than returns for stocks that do not pay dividends. Standard deviations of daily returns for stocks that pay dividends are lower, and are significantly lower in a statistical sense. The same is true for average daily volume.

The implication of these results points to the idea that stocks that pay dividends may indeed provide at least the same return with lower risk and greater liquidity than for stocks that do not pay dividends. However, this study spawns many questions. For instance, why would investors buy stocks without dividends when returns are not greater, but risk is greater and liquidity lower? In addition, does this phenomenon exist in other sectors and time periods? Should an adjustment be made to trading volume to account for turnover of shares? Do the results hold for both domestic and international stocks? These are questions to be addressed in future research. Meanwhile, investors should take a serious look at stocks that pay dividends when looking for ways to maximize liquidity and return while minimizing risk. Dividends do seem to impact stock performance.

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Appendix

Table 1: Data Summary of 100 Health Care Sector Stocks on the New York Stock Exchange that have information for all trading days in 2007

		Means			
Stocks that paid:	Number of Stocks	Daily Return	Daily Return Standard Deviation	Daily Volume	Annual Dividend Yield
Four dividends	28	0.02194	1.5878	4,626,341	1.97
Two dividends	4	-0.0272	1.8103	590,669	16.52
One dividend	9	0.10143	1.5842	2,004,529	0.97
Any Dividend	41	0.0346	1.6087	3,657,097	3.17
No dividends	59	0.02928	2.1650	1,355,718	0

Table 2: Average Daily Return Comparison using a single-factor ANOVA between NYSE healthcare sector stocks that pay dividends and those that do not pay dividends

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Dividend	41	1.418463	0.034597	0.008106
No Dividend	59	1.727389	0.029278	0.01205

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.000684	1	0.000684	0.065549	0.798468	3.938111
Within Groups	1.023137	98	0.01044			
Total	1.023822	99				

Table 3: Standard Deviation of Daily Return Comparison using a single-factor ANOVA between NYSE healthcare sector stocks that pay dividends and those that do not pay dividends

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Dividend	41	65.95625	1.608689	0.264365
No Dividend	59	127.7321	2.164951	0.763103

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	7.48506	1	7.48506	13.37725	0.000412	3.938111
Within Groups	54.83459	98	0.559537			
Total	62.31965	99				

Table 4: Average Daily Trading Volume Comparison using a single-factor ANOVA between NYSE healthcare sector stocks that pay dividends and those that do not pay dividends

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
VolDiv	41	1.5E+08	3657097	4.3E+13
VolNoDiv	59	79987387	1355718	3.81E+12

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1.28E+14	1	1.28E+14	6.471093	0.012527	3.938111
Within Groups	1.94E+15	98	1.98E+13			
Total	2.07E+15	99				

Family Network Externalities: The Impact of Children on Adult Technology Use

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Abstract

This study addresses the impact that children have on an adult's decision to use technology. Numerous papers, including several in top tier journals, have included explanatory variables that control for the number of children in the household when studying technology use. However, these studies give little to no explanation regarding the expected sign or interpretation of their coefficients. To fill this gap in the existing literature I analyze the impact that having children ages 0 – 5, 6 – 12, and 13 – 18 has on adults' decisions when interacting with technology.

My results indicate that children have two separate influences on adults' decisions regarding computer ownership, online access, broadband access, e-mail use, online gaming, and E-Commerce participation. First, I find that having young children (ages 0-5) is a time and income drain on families, leading parents to be less likely to consume technology. Second, I find that having teenagers (ages 12-18) creates household level network externalities resulting in the parents of teenagers being significantly more likely to use technology than adults that do not have children. I then extend these results and find that this network effect is equally prevalent in Black households as it is in non-Black households.
JEL: D12, L81, O33

Introduction

There have been many empirical studies that have addressed various developments in the area of individual and household technology use. Several of these studies have focused on the "digital divides" in computer ownership and online access based on race, income, sex, and region of residence. Others studies have examined the determinants of electronic commerce (E-Commerce), along with the tax sensitivity of online shoppers. There has also been work on the benefits and consequences of computer and Internet use by children. Included in the majority of this research are explanatory variables that control for the presence of children in the household. However, the logic behind the inclusion of these variables is rarely mentioned and the expected signs and significances of their coefficients are often not discussed.

This paper fills the gap in the existing literature by dissecting the impact that children of various ages have on the probability that a family will use modern technology. I also extend the literature by examining what network[3] impact children may have on adults' technology

[3] Similar to Goolsbee and Klenow (1999) the concept of "network externality" and "spillover effect" is used interchangeably in this paper even though they have slightly different denotations.

decisions. I find that having young children is both a time and income drain which decreases the probability of computer ownership and Internet access in a household. Conversely, I find that as the number of teenage children living in a household increases so does the probability that the family will own a computer and connect to the Internet. Furthermore, I find evidence of family level network spillovers since adults living in homes with teenagers are significantly more likely than the general population to use the Internet for activities such as e-mail and online gaming. Finally, I find that Black households with teenagers are less likely than their non-Black counterparts to have technology in their homes, but are just as likely to experience household level spillovers.

Literature

The general technology literature finds that in the modern digital world it is important to develop computer skills and a familiarity with the Internet. Krueger (1993) finds that jobs requiring the use of a computer results in a ten to fifteen percent increase in workers' wages. Freeman (2002) updates this result and finds that workers who use computers still earn higher wages than those that do not. However, he further finds that jobs requiring Internet use result in even higher pay than those that require computer use alone. In an effort to help children take advantage of these future benefits the federal government has attempted to expose children to computers and the Internet as young as possible. Federal subsidy programs such as the Technology Opportunities Program (TOP), Community Technology Centers (CTC), and The Universal Service Fund for Schools and Libraries (E-Rate) have placed computers and electronic equipment in schools and libraries located in disadvantaged communities. Goolsbee and Guryan (2006) find that the E-Rate program alone has connected 68% more classrooms than would have otherwise been connected, and that the program has been especially successful in urban schools that are predominantly populated by Black and Hispanic students.

Parents have also recognized the importance of exposing their children to advanced technology at an early age. Studies by Lenhart et al. (2003) and Jackson et al. (2003) indicate that most parents believe that computers and the Internet will help their children succeed in school and aid them in attaining a good job in the future. Similarly, Fairlie (2004) finds that children living in households where computers are present are significantly more likely than their peers to stay in school. Each of these studies discusses the impact of computer and Internet use by children, however, there has been little to no reciprocal work regarding the impact on adults of children using technology as I discuss in this study.

Though many empirical studies include the number of children in the household as an explanatory variable in their regression analysis, very few give any logic behind their inclusion. Even fewer discuss the coefficient estimates of these variables. Examples of studies that omit discussions of these variables include Ono and Zavodny (2003b), Prieger (2003) and Scanlan (2005) in their analyses of the racial digital divide. Goolsbee (2001), Alm and Melnik (2005), and Scanlan (2007) estimating the tax sensitivity of online shoppers. Sinai and Waldfogel (2004) who study the level of Internet connectivity based on market size. Rice and Katz (2003) who compare Internet and mobile phone usage rates, and Ono and Zavodny (2003a) who focus on gender differences in Internet use.

Notable exceptions to the trend of not discussing the coefficient on variables measuring the presence of children in the household include Fairlie (2004, 2005). Both studies find that having older children[4] in a family greatly increases the probability of computer ownership. Fairlie explains that students' exposure to computers and the Internet at school increases the likelihood that their families will own computers. Goolsbee and Klenow (2002) help explain this result by finding that some schools promote curricula that encourages families to buy computers for their children.

The final area of research that is relevant for my study relates to network externalities. A good review of the origins of this literature in general can be found in Economides (1996). An analysis of the impact of network externalities on computer ownership directly is presented in Goolsbee and Klenow (2002). They focus on the impact that neighbors and communities have on a family's decision to buy a computer. They find that living in a community with a large percentage of computer owners increases the probability that a family will purchase a computer. Also, they find that the technology spillover among friends and family is closely tied to e-mail and Internet use. They note that there may be family level spillovers from teenagers' exposure to computers at school, but they do not fully investigate this occurrence. My study confirms their hunch by finding household level network externalities relating to e-mail use and online gaming.

Data and Methodology

The data used in this study comes from the most recent national survey of computer and Internet activity conducted by the federal government, the 2003 Current Population Survey (CPS). I use the "Computer and Internet Use" supplement of the CPS, which is jointly sponsored by the U.S. Census Bureau and the Bureau of Labor Statistics. The 2003 sample is drawn from 55,135 households with a reference person[5] answering for each person in the household. A complete description of the survey's design and methodology is available in United States Census Bureau (2002). The survey records the online habits of all individuals 16 years of age or older in a household. Since I focus exclusively on adults' actions I limit the sample to those who are over 18 years of age.

The various dependent variables employed in this study are all binary in nature; I therefore employ a probit regression model for each. In the first model the value of the dependent variable equals one if an individual owns a computer and equals zero otherwise. The probability that an individual owns a computer is likely to depend on a variety of demographic and household characteristics. The model is given as:

$$Y_i^* = X_i\beta + u_i \quad (1)$$

Where X_i is a vector of explanatory variables, β is their corresponding coefficient estimates, and u_i is the error term. The observable outcome is defined as

$$\begin{aligned} Y_i = \quad & 1 \; if \; X_i\beta + u_i > 0 \\ & 0 \; if \; X_i\beta + u_i \leq 0 \end{aligned} \quad (2)$$

[4] Farilie (2005) uses ages between 10 and 17 while Fairlie (2004) uses ages between 6 and 17.
[5] The reference person is usually the homeowner.

In addition to computer ownership I estimate several discrete dependent variables relating to online access and Internet activities using the above model.

One concern with the CPS questions relating to online access is that they are asked conditional on computer ownership, while questions regarding Internet activities are asked conditional on having online access. To avoid any selection bias that may result from having conditional dependent variables I use the Heckman Two-Step process (Heckman 1979). This is done by including an inverse mills ratio (Lambda), or nonselection hazard, as an explanatory variable for each conditional specification. Lambda is defined as:

$$Lambda = \frac{f(z)}{F(-z)} \tag{3}$$

Where z is the estimated value from the probit selection equation, f is the standard normal probability density function, and F is the cumulative density function for a standard normal variable. For identification purposes in the Heckman Two-Step process multiple exclusion restrictions are included. Variables relating to computer use at work and school are included in the computer ownership regression but are subsequently excluded from the online access specification. Similarly, explanatory variables measuring whether an individual uses the Internet at school, uses the Internet at work, and whether she owns her own business are included in the online access specification but are omitted from ensuing Internet activities regressions.

Results

Table 1 presents the results from six separate multinomial probit regressions based on three dependent variables. For each dependent variable I run two separate regressions, one that includes a variable equal to the total number of children in a household, and a second that breaks the number of children in the household up by age group. The age groups are comprised of toddlers (ages 1-5), preteens (ages 6-12), and teenagers (ages 13-18). The marginal effects for each of these coefficients are presented in Table 1.[6] Other explanatory variables include whether the respondent lives in a metro area, age, race, household income, education, marital status, gender, business ownership, and regional dummies.

1. Computer Ownership and Internet Access

Computer ownership, online access, and broadband connections are each household level variables rather than measures of an individual's actions. Therefore, Table 1 describes the impact that the presence of children in a household has on the probability that a family owns a computer or connects to the Internet. Column (1) indicates that the number of children in the household has a positive overall effect on the probability of computer ownership. Columns (3) and (4) indicate that, similar to Fairlie (2004) and (2005), having more preteens and teenagers in the household increases the probability of computer ownership. This is likely due to an increased need by school aged children to use computers for assignments and to stay in contact with friends. It also reflects the fact that as the number of individuals in a household increases the benefits of computer ownership get spread over additional people while the cost remains

[6] Only the explanatory variables of interest are presented in Table 1, the coefficient estimates for the remaining variables and their interpretations can be found in Scanlan (2005).

fixed. Conversely, column (2) indicates that the more toddlers there are in a family the less likely a family is to own a computer. This is the result of the considerable financial and time constraints that accompany having very young children.

The dependent variable relating to online access is conditional on computer ownership and asks whether there is online access of any type in the household. Column (1) indicates that, similar to Alm and Melnik (2005)[7] and Scanlan (2007), the number of children in a household is negatively related to the probability of Internet access. Columns (2), (3), and (4) however indicate that this result is driven primarily by families that have preteens and toddlers. In fact, as the number of teenagers in a household increases so does the probability of online access. This suggests that many computer activities designed for young children do not require Internet access while teenagers value access to e-mail, research sites, online gaming, social networking communities, and online journals (blogs) that require Internet access.

The final household level dependent variable analyzed is broadband access. Broadband connections give users a much faster connection to the Internet allowing for quicker searches and downloads, and smoother online game play. Column (1) indicates that, similar to Prieger (2003), increasing the number of children in the household does not change the probability of broadband access in general. However, when children are broken up by age group I find that families with young children are significantly less likely to have high-speed access, while families with teenagers are significantly more likely to do so. This result makes intuitive sense since teenagers often use the Internet for activities that are suited for broadband connections such as downloading music or playing online games.

In conclusion, while previous research has found seemingly unrelated results regarding the impact of children on household computer ownership, Internet access, and broadband connections when I break children up by age group a clear pattern emerges. Similar to previous studies that include the number of children in a household as an explanatory variable column (1) indicates that the number of children in a household has a positive effect on computer ownership, a negative effect on Internet access, and no impact on broadband access. Columns (2) – (4), however, indicate that the number of toddlers in a household has a negative impact on all three dependent variables while the number of teenagers has a positive effect on each of them. These results convey a likely time and income constraint from having toddlers that decreases the probability that a household will invest in computers and the Internet. The results also indicate that families with teenagers experience sufficient per person benefits from these technologies that they own computers and connect to the Internet at a higher rate than the general population.

2. E-mail, Online Gaming, and E-Commerce

Goolsbee and Klenow (2002) find network externality effects among friends and neighbors with respect to computer ownership and e-mail use; I find that this spillover effect also exists at the household level between children and adults. This household spillover is likely due to a combination of affects. First, as children start to use computers and the Internet more regularly parents increasingly familiarize themselves with these technologies in order to assist, and monitor, their children's activities. Second, as more family members use online functions such as e-mail, MySpace, and blogs the benefit to additional family members from exploiting

[7] Alm and Melnik do not ask about the number of children in the household directly, but include an explanatory variable that indicates the number of people in the home.

these technologies increases. Finally, as teenagers become more adept at using technology they can teach their parents how to effectively navigate the Internet.

To check for a household spillover effect I investigate what impact children have on adults' e-mail use, online gaming participation, and E-Commerce habits. Column (1) of Table 2 indicates an apparent lack of household network effects with respect to e-mail use since the coefficient on the number of children in the household is negative and highly significant. However, when children are broken down by age group, as in columns (2) – (4), there is strong evidence of a network effect. Adults that have teenagers in the household are more likely to use the Internet for e-mail than the general population[8] while those with preteens and toddlers are significantly less likely to do so. This indicates either a desire by adults to share e-mails with their teenage children, or adults being taught by their older children how to use this online function.

An alternate activity that older children are likely to expose their parents to is online gaming. Column (1) of Table 2 indicates that as the number of children living in a household increases so does the likelihood that adults in the family will play games online. When separated by age group I find that parents of toddlers are less likely to play games online while parents of preteens and teens are more likely to do so. This finding is likely the result of a household spillover effect since once a game is purchased and setup for an older child the marginal benefit from playing the game is likely to exceed the marginal cost for adults in the household. This result may also reflect the fact that online games allow users to interact in real-time with other people from around the world, therefore parents need to understand and monitor these games to keep their children safe online.

The final variable that is checked for household externality effects between children and adults is online shopping. Since E-Commerce usually requires a credit card to complete a transaction children are not likely to shop online independent of their parents. Therefore, I would expect to see little to no spillover effect from children of any age over to adults with respect to E-Commerce. Instead, the presence of children in a household is likely to cause a time and income constraint with regards to buying goods in general. The results in Table 2 are consistent with these expectations and indicate that the more children there are in a household, regardless of their age, the less likely adults in that household are to shop online. This finding could result from parents valuing the information gathered when their children try on clothing before purchasing them, or from parents valuing the ability to exchange items at local outlets. Thus, I find that the presence of teenagers in the household does not always have a positive impact on adult's online activities; instead the spillover only occurs when the activity is also one teenagers are likely to do.[9]

Interactions

To check whether the preceding results are sensitive to the race of the adults in the family I interact a race variable with the number of children in the household. The race variable is

[8] This is done after controlling for computer ownership and online access.

[9] I did similar checks on other activities that adults would participate in but children would not by using "online finances" and "searching for government information" as dependent variables instead of "shop online" and find qualitatively similar results.

created as a dummy that equals one if the respondent describes themselves as Black and equals zero otherwise.[10,11] Minority households are expected to be less likely to own computers and connect to the Internet as the number of children in the household increases since minority children are less likely to be exposed to these technologies at school. Table 3 confirms this prediction and indicates that Black households with teenagers are significantly less likely to own a computer or to connect to the Internet than are their non-Black cohorts. Surprisingly, Black families with toddlers are found to be more likely to connect to the Internet than are non-Black families.

Finally, Table 3 indicates that the e-mail spillover effect between children and adults is the same in Black households as it is in non-Black households. This suggests that adults in Black households receive a similar spillover effect from their children as other races. Therefore, while Black families with teenage children are not as likely to own a computer or to go online as non-Black families, those that do go online exhibit similar household level network externalities as other families.

Conclusion

Similar to previous research I find that the number of children living in a household significantly impacts the technology decisions of that household. However, I further find that the impact that children have on these decisions depends on the age of the children in the household. I find that as the number of teenagers living in a home increases so does the likelihood that the family owns a computer, accesses the Internet, or has a broadband connection. This result is driven by teenager's use of computers and the Internet for school, to e-mail friends and family, to access social networking sites, to download music, and play games online. Conversely, I find that households with toddlers face income and time constraints that make them less likely than the general population to own a computer, have Internet access, or to have broadband connections.

I also find evidence of a household level spillover effect from children's use of the Internet onto adults' use. Specifically, I find that the more teenagers there are in a household the more likely adults in that household are to use the Internet for activities such as e-mail and online gaming. In contrast, the more toddlers there are in the household the less likely adults are to do these activities. These findings are an extension of Goolsbee and Klenow's (2002) finding that families living in neighborhoods with high levels of e-mail activity are more likely to adopt this activity themselves than families in neighborhoods with fewer people using the Internet for e-mail. My findings indicate that this result holds true at the household level as well and is strongest as the number of teenagers in the home increases.

Finally, I use interaction effects to check whether my results differ across households based on race. I find that Black teenagers have a smaller influence on a household's computer ownership and online access decisions than do their non-Black counterparts. This is likely the result of a lower level of exposure to these technologies at school. I also find that once Black

[10] Black is chosen since it represents the second largest racial population in the survey after White, and since it is the race most often discussed within the digital divide literature.

[11] See Appendix A for an outline of the interaction method used in this paper.

homes do have Internet access the spillover effect from teenagers to adults is similar to the spillover effect in non-Black households. For policy makers this could indicate that subsidizing technology in the classroom can be efficient way to help close the digital divide since it will increase the likelihood that parents will use technology as well as children.

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Appendix

Table 1[12,13,14]

Dependent Variables	(1) Have Kids of Any Age	(2) Have Kids Ages 1-5	(3) Have Kids Ages 6-12	(4) Have Kids Ages 12 and up
Own a Computer	0.034*** (0.002)	-0.019*** (0.003)	0.033*** (0.003)	0.085*** (0.003)
Have Online Access	-0.003* (0.001)	-0.011*** (0.002)	-0.007*** (0.002)	0.015*** (0.002)
Have Broadband Access	0.002 (0.002)	-0.028*** (0.004)	-0.005 (0.003)	0.034*** (0.004)

Table 2[15,16,17]

Dependent Variables	(1) Have Kids of Any Age	(2) Have Kids Ages 1-5	(3) Have Kids Ages 6-12	(4) Have Kids Ages 12 and up
E-mail	-0.0002*** (0.00004)	-0.0004*** (0.0001)	-0.001*** (0.0001)	0.0003*** (0.0001)
Play Games Online	0.012*** (0.002)	-0.012** (0.004)	0.012*** (0.003)	0.028*** (0.004)
Shop Online	-0.011*** (0.002)	-0.001 (0.005)	-0.011** (0.004)	-0.018*** (0.004)

[12] Where* $p<0.05$, ** $p<0.01$, *** $p<0.001$

[13] Online access is conditional on computer ownership while broadband access is conditional on having Internet access.

[14] The marginal effects and their standard errors are given in the table.

[15] Where* $p<0.05$, ** $p<0.01$, *** $p<0.001$

[16] Shopping online, e-mail, and playing games online are all done conditional on having Internet access.

[17] The marginal effects and their standard errors are given in the table.

Table 3[18,19,20]

Dependent Variables	(1) Black * Kids of Any Age	(2) Black * Kids Ages 1-5	(3) Black * Kids Ages 6-12	(4) Black *Kids Ages 12-18
Own a Computer	**0.034*** (0.002)**	**-0.019*** (0.003)**	**0.033*** (0.003)**	**0.085*** (0.003)**
Have Online Access	**-0.003* (0.001)**	**-0.011*** (0.002)**	**-0.007*** (0.002)**	**0.015*** (0.002)**
E-mail	-0.006* (0.003)	0.0001 (0.005)	-0.018*** (0.005)	0.0001 (0.410)

[18] Where* p<0.05, ** p<0.01, *** p<0.001

[19] Online access is conditional on computer ownership while broadband access is conditional on having Internet access.

[20] The mean marginal effects and the mean standard errors are given in the table.

Since the dependent variables in my regressions are discrete and require probit analysis the coefficient and standard error on the interaction term cannot be used to determine the sign, magnitude, or significance of the interaction effect. Ai and Norton (2003) find the appropriate interaction effect for a probit regression is found using the cross derivative of the expected value of y where the expected value of y is given as

$$E[y \mid x_1, x_2, X] = \Phi(\beta_1 x_1 + \beta_2 x_2 + \beta_{12} x_1 x_2 + X\beta) = \Phi(\bullet) \quad (4)$$

where Φ is the standard normal cumulative distribution, x_1 and x_2 are the interaction variables, and X is a vector of the remaining independent variables. The interaction effect proposed by Ai and Norton (2003) is therefore

$$\frac{\partial^2 \Phi(\bullet)}{\partial x_1 \partial x_2} = \beta_{12}\Phi(\bullet) + (\beta_1 + \beta_{12} x_2)(\beta_2 + \beta_{12} x_1)\Phi''(\bullet) \quad (5)$$

Instead of the usual marginal effect of the interaction term given by

$$\frac{\partial \Phi(\bullet)}{\partial (x_1 x_2)} = \beta_{12}\Phi'(\bullet) \quad (6)$$

Under this setup the magnitude and statistical significance of the interaction term can vary by observation, therefore results must be confirmed across all observations.[21]

[21] This is done by using the "inteff" program written by Ai and Norton for Stata 9.1.

Correlation between Perceived Benefits and Successful Performance in Principles of Accounting Courses

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Abstract

Principles of Accounting courses are taught in the core curriculum at most, if not all business programs in the United States. Many students who take these courses struggle for one reason or another. We believe that one explanation for their struggle is that many students do not appreciate the relevance of these courses to both their personal and professional lives. Therefore, we believe it is imperative that Accounting professors help their students to understand the relevance of accounting concepts, as these concepts will no doubt assist them in their daily lives. This study investigated whether there is a relationship between academic performance of students taking Principles of Accounting courses and their perception of the relevance of these courses to their personal and professional lives. Results from the study, using Pearson Correlation Analysis indicated that there is a positive relationship between academic performance and students' belief that curriculum content learned in Principles of Accounting courses are relevant to both their personal and professional lives.

Introduction

Business students in colleges and universities throughout the United States are required to take Principles of Accounting courses as part of their core requirements for graduation. Principles of Accounting courses are a part of the business curriculum primarily to introduce accounting knowledge to students who plan to work in the area of business, as this is a necessary part of doing business. Unfortunately, these students find it difficult to understand and deal with the principles, rules and assumptions presented to them. Many, including accounting majors, struggle in this area to such a degree that they are petrified of taking any accounting courses. The accounting profession has lost many "used-to-be" accounting majors because of the struggles to comprehend and successfully complete Principles of Accounting courses. Additionally, "there is evidence that both accounting and nonaccounting students do not perceive much value from the first accounting course," (Turner et al, 2006). This lack of value results from students not being convinced that Principles of Accounting courses will help them to be successful in their careers (Turner et al, 2006).

Prior research on students' performance in Principles of Accounting has focused on critical thinking skills (Kealey et al. 2005); worked examples versus problem-solving exercises (Halabi et al. 2005); development of higher-order skills (Springer and Borthick 2007); and students' approaches to learning (Duff and McKinstry 2007). As pointed out by Kealey et al. (2005), additional research has focused on academic aptitude (Doran et al. 1991; Eskew and Faley 1988; Gist et al. 1996).

"Accounting principles courses frequently have high failure rates" Kealey et al. (2005). One possible suggestion may be that students taking accounting principles courses are not convinced of the relevance of these courses to their chosen career path. Poor performance among students may suggest that students need to be convinced of the importance of Principles of Accounting by their instructors. We developed a survey with questions relating to the perceived benefits (relevance) of Principles of Accounting to students' personal and professional lives.

The purpose of this study is to determine if there is a correlation between students' performance and their perception of the relevance of Principles of Accounting courses as part of their program of study. That is, do students who believe Principles of Accounting courses are beneficial to them in the future, personally or professionally, perform better than those who believe there is no benefit to them?

The remainder of the paper is organized in the following manner: a review of the literature, which include the research hypotheses in relation to relevance and performance; an outline of the methodology, followed by results of the study, and conclusion.

Literature Review and Hypotheses Development

Performance of students in Principles of Accounting courses are of major concern to many Accounting professors. Increasing the relevance of accounting education and students' learning are the two topics that will be covered in the following review of the literature.

Increasing the Relevance of Accounting Education

Increasing the relevance of Principles of Accounting courses to students is one of the primary responsibilities of accounting instructors. Professors' responsibilities do not stop at merely providing instruction. It is imperative that said instruction is provided in a manner, which will convince students that the information being provided is relevant. Students should not believe that a Principles of Accounting course is just another obstacle they confront in achieving their goal of obtaining an undergraduate degree. The problem is that educators struggle to present accounting in an interesting manner and make it relevant to students (Danvers, 2006). Danvers (2006) also pointed out that it is sometimes difficult for students to connect textbook theory to what actually takes place in the real world. He identifies five ways he believes will increase the relevance of accounting to students. These are as follows:

1. Students should participate in tours to local businesses.
2. Students should complete an Excel-based Financial Planning and Decision Analysis case.
3. Students should be trained on accounting software used in business.
4. Students should complete a folder with accounting-related articles from The Wall Street Journal and other publications. The students should summarize these articles.
5. For those who plan to become practitioners, they should get certified.

While most of the suggestions by Danvers (2006) may be more applicable to accounting majors, these suggestions can easily be modified for other business majors. At the Principles of Accounting level, these suggestions may be modified to be less vigorous than they would be for junior-level and senior-level accounting majors.

Many will agree that a primary task of educators is to motivate students (Turner et al. 2006). While there is no blueprint on how to achieve this monumental task, some believe that convincing students of the relevance of accounting courses to them in their careers and private

lives is imperative. Not only will they perform better in these accounting courses, they will also be able to speak the "language of business". Turner et al. (2006) following this line of reasoning sought to determine if motivation could be increased by convincing students of the relevance of accounting to their main concentration of study. The findings of their study revealed that "relating accounting concepts to chosen professions clearly enhances the learning process, and makes accounting more interesting and relevant to accounting majors and other business and nonbusiness students" (Turner et al.).

"Bringing the real world to the classroom" is another way of helping accounting students understand the relevance of Principles of Accounting courses, not only to accounting majors, but to both other business and nonbusiness majors. The results of a survey of 158 accounting majors in Intermediate and Cost accounting classes revealed that 98 percent of the students said that CPA guest speakers improved their understanding of the accounting profession (Metrejean and Zarzeski, 2001). While these were all accounting majors, we believe that other business and nonbusiness students would also benefit from having speakers from the "real world" as guest speakers, enlightening them on the importance of a basic knowledge of accounting to their careers.

Students Learning

Do students perform better when their preferred method of teaching is used in the classroom? Can instructors help students to see the relevance of Principles of Accounting courses if they were to use the students preferred methods of learning? Beets and Lobinger (2001) found no significant differences in the learning and performance of students who were exposed to three different pedagogical techniques (use of presentation software, use of an overhead projector, and use of a chalkboard). However, the study found that students' performances might improve when their preferred method of instruction is used (Beets and Lobinger, 2001). Again we believe that while there may not be a direct link between students learning and the use of their preferred method of instruction, there is a link between performance and their perception of the relevance of accounting principles to their lives.

Based on the review of the literature on students' performance and the relevance of accounting, we are lead to the following hypotheses, stated in the alternative form:

H1: Students who perceive accounting as relevant to their personal lives will perform better in Principles of Accounting courses than those students who do not share this belief.

H2: Students who believe accounting to be relevant to their professional lives and academic goals experience better performance in Principles of Accounting courses.

Methodology

The sample for the study consisted of 357 Principles of Accounting students at two accredited regional universities, one HBCU in Georgia and the other university in Oklahoma. The sections of the Principles of Accounting courses were taught by different professors. Exams were generally comprised of multiple-choice, exercises, and true-false questions but were not standardized among professors. All the participating students were given the option of completing the survey. Appropriate steps were taken to ensure that all students were 18 years of age or older.

A survey instrument was used to gather pertinent information on the participants. The survey comprised of fifteen questions, with one question being a three-part question. The first

seven questions gathered demographic data, while the other eight questions addressed attitudes toward, and perceived relevance, of taking Principles of Accounting courses. To gather data on these eight questions, a Likert scale ranging from "1 = Strongly Disagree" to "5 = Strongly Agree" was used. The measure of students' performance was the final grade received for the course at the end of the semester.

Results

Table 1 reveals the following results. The gender of the participants in this study resulted in females representing 59.6%, males 39.8% and no response 0.6%. Of the participants, 88.5% were age 18 to 25, 10.9% were 26 or older and 0.6% gave no response. With respect to classification in college, 44% were sophomores, 29.4% were Juniors, 15.1% were seniors, 9% were freshmen, graduates represented 1.7%, and 0.8% gave no response. Additionally, 62.5% of the participants were business students, 32.5% were non-business students and 5% provided no response. Finally, 26.3% had taken an accounting course before, 73.4% were taking an accounting principles course for the first time and 0.3% gave no response.

TABLE 1. Demographic Characteristics of Sample (N = 357)

Characteristics	*N*	Percent
Gender		
Male	213	59.6
Female	142	39.8
No response	2	0.6
Age		
18 to 25	316	88.5
26 or older	39	10.9
No response	2	0.6
Classification		
Freshman	32	9.0
Sophomore	157	44.0
Junior	105	29.4
Senior	54	15.1
Graduate	6	1.7
No response	3	0.8
Degree Pursuing		
Bachelors	330	92.4
Masters	12	3.4
None	11	3.1
No response	4	1.1
Declared Major		
Business	223	62.5
Non-Business	116	32.5
No response	14	5.0
Prior Accounting		
Yes	94	26.3
No	262	73.4
No response	1	0.3

Perception and Performance

With regards to the eight questions addressing the relevance of Principles of Accounting courses, the following results were revealed. Participants' results indicate that 70.3% either *agreed* or *strongly agreed* that they had a positive initial attitude about their Principles of Accounting course (Table 2). Towards the end of the semester 77.6% of the participants either *agreed* or *strongly agreed* that they still had a positive attitude about their accounting principles course (Table 3). Of the respondents, 68.6% and 90.7% either *agreed* or *strongly agreed* that they perceived the course to be relevant to their personal lives and something taught in the course will be beneficial to them in the future, respectively (Table 4 and Table 5). Additionally 84.6% *agreed* or *strongly agreed* that they perceived the course as being relevant to their academic goals (Table 6), while 89.4% *agreed* or *strongly agreed* that they believed something taught in the course will be beneficial to their professional lives (Table 7). Results indicate that 54.2% of the participants would recommend the course to someone who is not required to take it (Table 8). Finally, only 47.7% indicated that they would consider taking another accounting course that is not required for their academic goals (Table 9).

Results from Table 10 indicate that of the 357 participants, 88% earned a C or better, while 68.4% earned a B or better. Interestingly, 40.9% of the participants earned an A. Even more interesting is that only 12% of the participants earned a D or worst.

TABLE 2. **Initial Positive Attitude about Course (AcctQ8)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	15	4.2	4.2	4.2
	Disagree	27	7.6	7.6	11.8
	No Opinion	64	17.9	17.9	29.7
	Agree	132	37.0	37.0	66.7
	Strongly Agree	119	33.3	33.3	100.0
	Total	357	100.0	100.0	

TABLE 3. **Positive Attitude about Course at Semester's End (AcctQ9)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	26	7.3	7.3	8.1
	No Opinion	51	14.3	14.3	22.4
	Agree	141	39.5	39.5	61.9
	Strongly Agree	136	38.1	38.1	100.0
	Total	357	100.0	100.0	

TABLE 4. **Perception of Course Considered Relevant to Personal Life (AcctQ10)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	3.1	3.1	3.1
	Disagree	32	9.0	9.0	12.0
	No Opinion	69	19.3	19.3	31.4
	Agree	144	40.3	40.3	71.7
	Strongly Agree	101	28.3	28.3	100.0
	Total	357	100.0	100.0	

TABLE 5. **Course Is Beneficial to Personal Life (AcctQ11)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	13	3.6	3.6	4.5
	No Opinion	17	4.8	4.8	9.2
	Agree	140	39.2	39.2	48.5
	Strongly Agree	184	51.5	51.5	100.0
	Total	357	100.0	100.0	

TABLE 6. Perception of Course Considered Relevant to Academic Goals (AcctQ12)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.4	1.4	1.4
	Disagree	17	4.8	4.8	6.2
	No Opinion	33	9.2	9.2	15.4
	Agree	145	40.6	40.6	56.0
	Strongly Agree	157	44.0	44.0	100.0
	Total	357	100.0	100.0	

TABLE 7. Course is Beneficial to Professional Life (AcctQ13)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.4	1.4	1.4
	Disagree	7	2.0	2.0	3.4
	No Opinion	26	7.3	7.3	10.6
	Agree	123	34.5	34.5	45.1
	Strongly Agree	196	54.9	54.9	100.0
	Total	357	100.0	100.0	

TABLE 8. Would Recommend Course to Someone Not Required to Take It (AcctQ14)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	23	6.4	6.5	6.5
	Disagree	40	11.2	11.2	17.7
	No Opinion	100	28.0	28.1	45.8
	Agree	113	31.7	31.7	77.5
	Strongly Agree	80	22.4	22.5	100.0
	Total	356	99.7	100.0	
Missing	System	1	.3		
Total		357	100.0		

TABLE 9. Consider Taking another Accounting Course Not Required (AcctQ15)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	36	10.1	10.1	10.1
	Disagree	51	14.3	14.3	24.4
	No Opinion	99	27.7	27.8	52.2
	Agree	94	26.3	26.4	78.7
	Strongly Agree	76	21.3	21.3	100.0
	Total	356	99.7	100.0	
Missing	System	1	.3		
Total		357	100.0		

TABLE 10. Participants Performance in Accounting Principles (PerfScore)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	F - < 60	12	3.4	3.4	3.4
	D - 60 to 69	31	8.7	8.7	12.0
	C - 70 to 79	70	19.6	19.6	31.7
	B - 80 to 89	98	27.5	27.5	59.1
	A - 90 to 100	146	40.9	40.9	100.0
	Total	357	100.0	100.0	

Correlation Analysis

Pearson Correlation Analysis was used to determine if any relationship exist between students' perception of the relevance of accounting principles courses to their personal/professional lives and their performance in those courses. Results indicated that there is a positive relationship between students' perception and their performance. Based on results provided in Table 11 there is clear evidence of this with all statements dealing with students' perception. Responses to the following statements indicate that there is a positive significant correlation at the .05 level between the perception of the relevance of accounting principles and the performance of the students.

AcctQ8 – My initial attitude about this course was positive.

AcctQ11 – I believe something taught in this course will be beneficial to my personal life in the future.

AcctQ12 – I perceive this course as relevant to my academic goals at this time.

Additionally, responses to the following statements indicate that there is a positive significant correlation at the .01 level between the perception of the relevance of accounting principles and performance.

AcctQ9 – My attitude about this course at this time is positive.

AcctQ10 – I perceive this course as relevant to my personal life at this time.

AcctQ13 – I believe something taught in this course will be beneficial to my professional life in the future.

AcctQ14 – I would recommend this course to someone who is not required to take it.

AcctQ15 – I would consider taking an accounting course that is not required in my academic goals.

TABLE 11. Results of Pearson Correlation Analysis

	Statements on Relevance of Accounting		PerfScore
AcctQ8	My initial attitude about this course was positive.	Pearson Correlation	.114(*)
		Sig. (2-tailed)	.032
		N	357
AcctQ9	My attitude about this course at this time is positive.	Pearson Correlation	.257(**)
		Sig. (2-tailed)	.000
		N	357
AcctQ10	I perceive this course as relevant to my personal life at this time.	Pearson Correlation	.164(**)
		Sig. (2-tailed)	.002
		N	357
AcctQ11	I believe something taught in this course will be beneficial to my personal life in the future.	Pearson Correlation	.131(*)
		Sig. (2-tailed)	.013
		N	357
AcctQ12	I perceive this course as relevant to my academic goals at this time.	Pearson Correlation	.136(*)
		Sig. (2-tailed)	.010
		N	357
AcctQ13	I believe something taught in this course will be beneficial to my professional life in the future.	Pearson Correlation	.140(**)
		Sig. (2-tailed)	.008
		N	357
AcctQ14	I would recommend this course to someone who is not required to take it.	Pearson Correlation	.184(**)
		Sig. (2-tailed)	.000
		N	356
AcctQ15	I would consider taking an accounting course that is not required in my academic goals.	Pearson Correlation	.247(**)
		Sig. (2-tailed)	.000
		N	356
PerfScore		Pearson Correlation	1
		Sig. (2-tailed)	
		N	357

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Conclusion

This study provides evidence that there is a positive correlation between students' performance and their belief that Principles of Accounting courses are relevant to both their personal and professional lives. As a result, professors of accounting need to find ways to impart to students the importance of Principles of Accounting courses and the relevance to their lives. While this may not be easy for all teachers of accounting, we believe the benefits of students understanding the relevance of accounting to their lives far outweigh the additional effort that may be required of their professors. Turner et al. (2006) found that "tying accounting concepts to career applications can be used successfully in an introductory accounting class." Their research also revealed that when accounting concepts were related to students chosen professions, the learning process was enhanced (Turner et al. 2006). Danvers (2006) found that it was difficult for students to connect textbook theory to what actually happens in practice. Therefore, we believe it is imperative that professors make an effort to bridge this gap by seeking to convince students of the relevance of taking Principles of Accounting courses.

While we are confident in our findings that students' perform better if they are convince of the relevance of accounting to their personal and professional lives, we believe making generalizing the results is the major limitation to this study because of the small sample size of 357 students. However we believe that while the sample size was relatively small, the quality of the information gathered was of such that the results can be relied upon. We would like to see this research extended to other disciplines to see if similar results are indicated.

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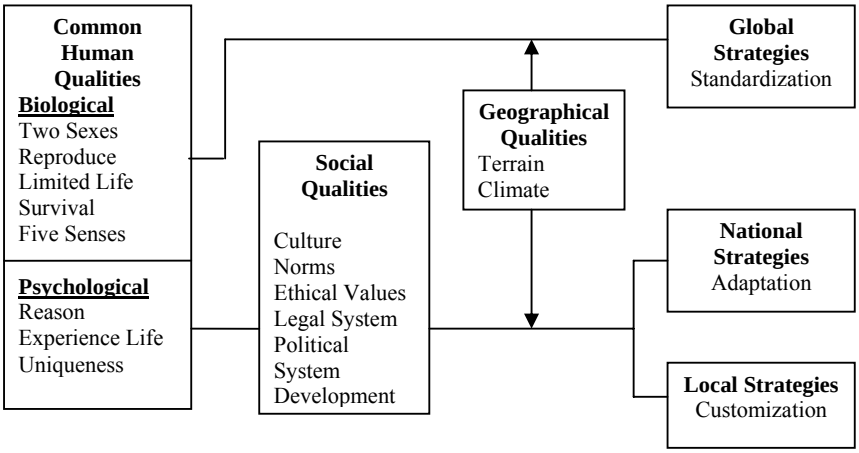
Appendix

Figure 1: Proposed Framework for Marketing Strategy in the Global Marketplace



How Students Cheat on Online Tests and How Professors Can Prevent Them from Doing So

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Abstract

Administrators love online courses. They have increased enrollments while at the same time decreased classroom costs. Professors like them because it frees them up from classrooms and gives them more time to engage in research. Students like the convenience of being able to log onto a course whenever they want to and not having to attend courses in person. And of course, students like them because they simply have a better opportunity to cheat on online tests. How extensive is online cheating?

Cheating is common in higher education (Ford 1996; Cizek 1999; Lathrop & Foss 2000; Dick et. al 2003). In 1963, 63% of all college students admitted to cheating at least once, by 1993 that percent had risen to 70% (McCabe and Trevino 1993). Another study done in 2003 indicates that 75% of all college students admitted to cheating sometime in their college career (Dick 2003; George & Carlson 1999; Burgoon et. al 2003). Another disturbing finding was that 95% of students who admitted they cheated also noted that they never got caught (Bushweller 1999).

This paper examines the various ways that students can cheat when taking an online test and then proposes solutions to stop them. Ways identified of cheating included paying other students to take tests, "the group test," copying the online test and making up excuses such as getting kicked off the server. The paper also examines ways that cheating on tests can be prevented such as the use of webcams, lockdown browsers, and proctored tests. The paper provides valuable recommendations to professors who are interested in preserving the integrity of online education.

Introduction

"I have been paid to take quizzes for other students online. I have been paid to take tests for other students online. I have been a part of a group of students who joined together to take tests. I have had quizzes printed out and handed to me. I have had tests printed out and handed to me. I have also printed out tests and quizzes for others. I have written papers for others. I have looked up answers while taking tests and quizzes"

- Anonymous student (2007)

Administrators love online courses. They have increased enrollments while at the same time decreased classroom costs. Professors like them because it frees them up from classrooms and gives them more time to engage in research. Students like the convenience of being able to log onto a course whenever they want to and not having to attend courses in person. And of course, students like them because they simply have a better opportunity to cheat on online tests. How extensive is online cheating?

Cheating is common in higher education (Ford 1996; Cizek 1999; Lathrop & Foss 2000; Dick et. al 2003). Numerous studies have shown that a significant number of students cheat while in college at some time or another (Michaels & Miethe 1989; Whitley 1998; Brown & Emmett 2001). In 1963, 63% of all college students admitted to cheating at least once, by 1993 that percent had risen to 70% (McCabe and Trevino 1993). Another study done in 2003 indicates that 75% of all college students admitted to cheating sometime in their college career (Dick 2003; George & Carlson 1999; Burgoon et. al 2003). Another disturbing finding was that 95% of students who admitted they cheated admitted that they never got caught (Bushweller 1999).

Cheating on tests is huge problem since in many courses tests make up the majority of the final grade component. In one study between 40% and 60% of students admitted to cheating on at least one exam (Davis et al. 1992; McCabe & Bowers 1994). Online testing, because students and faculty do not interact directly, offers unique opportunities for academic dishonesty (Kennedy et al 2000). Professors need new savvy to detect and prevent cheating online (Carnvale 1999). Is cheating on online tests on the rise? It appears likely that the use of technology such as online tests may facilitate or amplify the problem of cheating and that digital forms of academic cheating are indeed on the rise (Lester & Diekhoff 2002, McCabe 2005; McCarroll 2001; Sterba & Simonson 2004). In a recent study, 44% of students admitted they had cheated on an online test and another 54% of students admitted they knew someone who had cheated on an online test (Walker et. al 2007).

What Students Say about Online Cheating

1. Students are more likely to cheat on an online test because it's easier to do so.

The general consensus in higher education is that online courses provide greater opportunities for academic dishonesty than traditional face-to-face instruction (Kennedy, Nowak, Thomas & Davis 2000). Online exams offer a heightened opportunity to collaborate with other students, a greater possibility to use unapproved resources, and an increased probability that someone other than the student (enrolled in the course) is taking the exam (Eplion & Keefe 2007). Students in our study agree! One student said "Online classes are some of the easiest classes students can take. Who ever would have thought the day would come when students could take a test unsupervised?" Many students say that since there is no teacher to watch or monitor you, the temptation (to cheat) is there. Is it really easier to cheat on an online test? Are online courses are easier than traditional courses because it's easier to cheat online? Is cheating more prevalent online and easier to do and does this increase the temptation? According to Kennedy et al. (2000) both faculty and students believe that it's easier to cheat in an online environment than in a traditional classroom setting. And since it's easier to cheat online it becomes more tempting (Rowe 2008).

Another student said "Online cheating is one of the easiest ways to cheat." Another said "I know for a fact that a great many students who take online classes cheat." The question that arises is how would one get caught? It is true that online cheating has a lesser chance of being discovered. How can the professor know a student is cheating? The answer is that the professor has no way of knowing if a student cheated on an online test. Thus, the fear of getting caught is eliminated. According to Carnevale (1999) there have been few, if any, cases where disciplinary action has been taken for cheating in online courses.

Our statistics revealed that 70.3% of students felt that it was easier to cheat on an online test than a classroom test. 46.6% of students said they would cheat on an online test if they were sure they could not get caught. 72% of students agree that it is more tempting to cheat on an online test.

2. ***Most students who have taken online courses have cheated in one way or another.***

One student said "the majority of students who have taken an online class have cheated in some form or fashion." Another said "very few people I know who have taken an online course have done their own work." Just how prevalent is cheating in online courses? What percent of students have cheated? What percent of students have not done their own work? Grujalva, Nowell, & Kerkliet (2006) found that only 3% of students in an online class had cheated. However, most experts believe online cheating is far more common. In a recent study, 44% of students admitted they had cheated on an online test and another 54% of students admitted they knew someone who had cheated on an online test. (Walker et al 2007).

3. ***Is cheating unfair for those students who don't cheat?***

One student said, "it's unfair for students who don't cheat, because the cheaters will make better grades and not get caught." Do cheaters punish honest students who don't bother to cheat? Our statistics reveal that only 25% of students felt that cheating on an online test was unfair. 23% of students believed that online tests are too hard and cheating is justified.

4. ***Cheating is something that will always be around.***

Statistics clearly indicate that academic dishonesty is increasing (Hardy 2002). In fact, cheating has become a major concern on college campuses (Fishbein 1993). One student said "cheating has always been around. There will always be someone that finds a way to beat the system and cheat". Another said "as long as there are online classes students will find a way to cheat." Is this something professors will have to live with?

Method

Students in three different classes at a business college at a small, public southeastern university were asked to write an essay about online cheating. They were specifically asked to write about how students were able to cheat on online tests. A total of 64 essays were collected from a marketing class, a computer information systems class and a hospitality management class. The essays were examined via content analysis for anecdotal stories about cheating online. These stories are found throughout the paper.

In addition, 120 students in several classes were administered a 21 item survey instrument that asked questions about cheating online. 65% of the sample was male and 35% of the sample was female. The mean age of the sample was 21. 58% of the sample was Caucasian, 35% of the sample was African American, and 7% was Asian or Hispanic. The average student was a junior in college. The mean GPA of the sample was 2.75. Results of the findings are summarized at the end of the study. A copy of the survey can be found in Appendix A.

Five Ways Students Can Cheat on Online Tests

1. ***The student can pay another student to take the test for him or her.***

The easiest way to do this is for a student to find someone who has taken the course before, made a good grade and would be willing to take tests in place of the student registered for the class. Just because a student is an A student may not mean that they adhere to ethical behavior. It is well known that some students put themselves through college by writing papers for other students. With the advent of the online test it seems that this may open up opportunities for students to make additional income by taking tests for registered

students. Some students may be lazy and simply not want to take the effort to learn the material and would rather pay another student to take tests for them. One student said "to me, this is the worst form of cheating…to have someone take a test for you or a class for you." A number of students admitted they had heard of students hiring other students to take a test for them or take the entire course for them. Another student admits "I have been paid to take quizzes for other students online and I have been paid to take tests for other students online." This behavior may be more prevalent than many professors suspect. I myself have had 2.0 students ace an online test and I have questioned "who really took that test?"

The results of our study indicate that only 4.2% of students admitted to paying someone to take the test for them. Another 9.3% of students admitted to getting paid to take a test for someone else. 12% of students did not see anything wrong with paying someone to take a test for them. 19.5% of students did not see anything wrong with getting paid to take a test for someone. Yet, 49.2% of the sample indicated they knew of either a student who paid someone to take a test or a student who received money to take a test for someone.

How can Professors make sure that the student registered for the course is the one who is taking the test?

The easiest way to do this is to have all students take the tests in class and make them show a picture id that matches their name on the roll. In other words, have a proctored in class exam. According to Carnevale (1999) this is the best way to avoid the possibility of cheating. Most colleges and universities are equipped with student testing centers and for small fee will allow non students to take an exam that has been supplied to the testing center ahead of time.

However, this defeats the purpose of having a truly online class. If you have students who work full time, live a great distance from the university or want to go home over summer school or intersession and yet take an online course, this limits the versatility of the online classroom. They will not sign up for the class initially. I have had students go home to France, Texas, Pennsylvania, Florida and they would not have signed up for the online class if they were not able to take tests online.

Another method that will prevent cheating is the use of secure cam or web-cam. Here the student is required to have a web cam when taking the online test (Carnevale 1999) The camera records a picture of the student so the professor will know who is taking the test. Troy University in Alabama uses a "secure cam" which captures a 360 degree image, records audio and video (Garrett & White 2007). The device is called "remote proctor" and costs $150. It verifies the test-takers fingerprints before filming and a camera records the entire test-taking experience to enforce that the fingerprints of the test taker are the same fingerprints as the student enrolled in the course. It sounds like Professors will have to resort to James Bond type spy techniques to prevent cheating in the future!

2. The Most Common Method of Cheating is the "Group Test"

Here students sit down together with their books and take the assessment with the aid of other students. In other words, the students take the test as a group. One format is for one student who is taking the test to call out the question to the group and then all of the students will look for the answer in a book. This "group test" may involve taking the test with other students in a computer lab or in a wireless area with laptops and sharing answers. When taking the test as a group, each student has their book open and is ready to look up answers.

Another format is to form a "test group" by letting one person in the group take the test first, while writing down all the questions and answers. Then other members of the test group would take the test at later date.

Another format of the group test is to take the test together with a friend. One person takes the test, while another looks up the answers. Then the second student takes the test, while the first student looks up answers.

One student said "whenever we have a test or quiz, we find out who has already taken it and they sit with us during the test and give us the answers to the test. We change who has to take the test first, so it's fair." Another student says

> *"A friend of mine took a CIS class a few semesters ago and the tests were online. He never studied for these tests because he had a system worked out to take the tests. While one person took the test, the other would look up the answers. Then after the first person took the test, he would print out the answers and then the other person would take the test. Then the second person would look up the answers from the book and the previous test. "*

Our statistics indicate that that group tests are by far the most common method of cheating. Nearly 52% of students admitted they had taken a group test and had other students look up the answers for them. 49% of students freely admitted they had taken group tests and looked up answers for other students. Finally an astounding 74% of students admitted they knew of someone who had taken a group test with other students.

How can a professor stop the Group Test method of cheating?

One method is to have proctored tests which meet in class. They would show a picture id or fingerprint id and this would match the name on the roll. By having students take proctored tests, they would be unable to give each other answers. Unfortunately, this defeats the purpose of having a truly online course where students can go home for the summer or go to Europe or South America and still take the course. Some students will not sign up for the class knowing that they will not be able to meet in a proctored classroom.

A better method is to have a bigger computerized textbank. I use Respondus 3.5, which is a software program, to create online tests. Normally, I might pick a book where each chapter has a textbank of seventy to eighty questions. If I were to give a five chapter test then Respondus 3.5 will have a pool of three hundred and fifty to four hundred questions to pick from. If you ask Respondus 3.5 to generate a test with fifty questions from the pool of four hundred questions, each student will get a different test with questions in different order and most of them will not get very many of the same questions. From a student perspective it does not make it worth while to look up answers for other students if that student is not going to get some of the same questions. In other words, the larger the textbank is, the less likely it will be that students will see any advantage in a group test. Eplion & Keefe (2007) agree that using a software program that scrambles test questions so that each student gets a different test is very effective. Eplion & Keefe (2007) also recommend a large database of questions.

Another method to prevent the success of the group test technique is when creating the test, select the option that only lets the student view their score when everyone in the class has taken and completed the test. In addition, select the option that only lets students see their overall score. This method does not let students review the question itself, the correct answer, or other possible answers. If a student wants to know which questions they missed, ask them to make an appointment with you and go over the test in your office. By doing this, students will not be able to copy down questions, know the correct answers and create a student textbank of your test that will be kept on file at some fraternity or sorority house. I tell any student who wants to know what questions they missed that they can come by my office and look at their test and which questions they missed.

Eplion & Keefe (2007) also recommend using Blackboard to log IP addresses so that the location (and time) from which the exam was completed is recorded. If two or more students take the exam from the same location at the same time, there is a possibility that cheating has occurred.

3. ***Another easy way to cheat on an online test is to somehow acquire the test and answers prior to the test by copying the test while taking it.***

> "A *big problem with online assessments is that it is hard to ensure that all students take the test at the same time. Otherwise earlier students can supply answers or at least questions to later students, if some of the same questions are used*" – anonymous student.

A big problem with online assessment is that it is hard to ensure that all students take the test at the same time (Olt 2002). Because of this, one student can take an exam earlier than another one and supply questions and answers to the second student.

One way to do this is to copy the test while taking it. Students can and do take "screen shots" or copies of what is on screen, print the page off and then look up answers to the questions. This is something fairly easy to do with most operating systems. I have tried this myself and while it is a somewhat slow and painstaking procedure, it can be done. Normally I have found that students can copy one page at a time by using a cut and paste method. The entire "test" can be copied to another document such as a word document. Generally there are two multiple choice questions per page so a student using this method would have to cut and paste twenty five times with a fifty item multiple-choice test. Once the test is copied to another document, then the remaining students who have not taken the test can look up the answers.

This is an especially attractive alternative for students if the professor gives the student multiple attempts to take a test. Why would a professor give students multiple attempts to take a test? I have found in the past that students do very poorly on online tests. I am not sure why, but I suspect that students are engaging in passive learning rather than active learning. In other words, they are not in class listening to a professor explain concepts, rather they are having to learn concepts by simply reading a book. They are not receiving the benefit of an in-class lecture where a professor might give examples of concepts and ask students to think of examples that apply. Anyway, rather than having to curve a test fifteen points if the average grade is 60, many professors opt to give students a re-test, knowing that the software program will generate a new test for each student. Unfortunately, if enough students have copied the first test and looked up the answers then the second test will be much easier for them.

Another way for students to acquire the test and answers beforehand is to purchase the complete computerized testbank and answers online. Web sites like StudentDump.com (http://www.studentdump.com) advertise themselves as helpful to students. As soon as you access the web site you realize that hundreds of college textbanks are being offered for sale. One entrepreneur advertises himself as TestbankRUS@gmail.com. A student can simply log in and go to the "help me" section which is advertised as "Stuck On A Homework Problem?" or "Need Help With An Upcoming Essay, Test Or Assignment." Students can post what they need and list their email address and let someone contact them. I have noticed that the textbook publishers are monitoring these sites and many posts are being removed as violations of copyright infringement. Another seller sbooks4sale@hotmail.com offers over 150-200 electronic testbanks or solutions manuals for sale for $35 each. Many of these are instructor resource CDs. Popular areas are accounting, finance, economics, and statistics.

"A friend of mine who is a production operations teacher recently gave an online exam. Seven students (31% of the class) cut and pasted the answers to the exam from a solutions manual that probably was purchased online. The solutions manual had one mistake and all seven students gave the exact same wrong answer. The work turned was identical to the solutions manual. The students who were accused of cheating complained and said they were insulted. The teacher was told by the Dean and other members of the team-taught class that he had to give the students a re-test. So what was the result? Not even a slap on the wrist."

How prevalent is copying an online test? Our statistics indicate that 24% of students admitted to copying an online test while they took the test. 21% of students admitted they had a copy of an online test before they ever took the test. 45% of students said they knew of a student who had copied an online test.

How can professors prevent the online test from being copied or prevent students from acquiring testbanks?

Here again, the easiest way to prevent this is to give an in-class proctored exam. Respondus makes a custom browser called Respondus Lock down browser. This is a "custom browser that locks down the testing environment within WebCT or Blackboard." The lock down browser prevents the student from printing, copying, going to another URL, or accessing any other application during an assessment. The Respondus lockdown browser must be installed on each computer prior to taking an assessment. Thus the student taking the online test must take the exam in a computer lab at the university and can not take the exam at home.

If the professor wants to allow students to take the test at home, then other options must be examined. Knowing that there is a possibility the test will be copied, the best option for the professor is to have a very large textbank of questions. A textbank of eighty to one hundred multiple choice questions per chapter will ensure that on a five chapter test, most students will not get many, if any, of the same questions as other students. This will ensure that each student will not have the same questions on their test. Thus, it would be self defeating for a student to copy questions knowing that it will not be of much help to other students if they will not get the same questions. Olt (1999) recommends using randomized question pools, limiting the amount of time one has to complete the test, and restricting the number of times a student can access the exam.

Another alternative for the professor is to make the test timed so that students have only about a minute per question. Generally, I give students about 55 minutes on a fifty question multiple choice test. If a student spends time copying and pasting the test, he or she probably will not have much time to think about the questions and will not do well on the test. It would seem logical that a student would prefer to do better on the test and spend more time thinking about each question, than spend time trying to cut and paste the test.

If a professor ascertains that a student has a solutions manual or testbank, one way to prevent this is to contact the publisher about any website that seems to be marketing and selling these. This is a violation of copyright infringement and websites don't want to get shut down. More often than not, the web site will delete the post (from the message board). I have seen textbook reps make posts warning that violators will be prosecuted. If a professor sees that his or her solutions manual is being sold online, the answer is to simply make up your own problems and not to rely on a solutions manual.

The reality is that you can't prevent a test from being copied, especially if you allow students to take a test from home. But you can make the alternative of copying a test a risky

and unwise decision. Given a time limitation, students will not have enough time to copy and test and do well on the test at the same time.

4. ***Another way to cheat while taking an online test is to "Google" the answer online***

One student says. "I have heard many students say they prefer online classes to traditional in class classes because during the tests they can type in keywords of the question into a search engine and find the answer."

Search engines such as Google can be used to look up the answer to any question. And since the student is at the computer anyway search engines are readily available. Many professors use E-Paks for the convenience of teaching an online course. E-Paks are online courses designed by the textbook publisher and save professors valuable time in designing and building online courses. These online courses are downloaded and installed in minutes. Unfortunately these same E-Paks have search engines built into the course. Thus, any professor who has an E-Pak installed simply makes it easier for students to use a search engine, and this time the search engine is one that is built into the course and will do a much better job than Google.

How prevalent is the use of Google or another search engine while taking an online test? Our statistics indicate that 36% of students admitted they had googled the answer while taking a test. 21% of students admitted they had used the search engine built into the course. 39% of students said they knew of a student who had used a search engine while taking an online test.

How can the professor prevent search engines from being used?

One way is to have an in class proctored exam. Here the Respondus lock down browser would be used that would not allow students to use Google or another online search engine. The professor would also need to disable the E-Pak search engine prior to test time. If that is not done, the online student can easily make use the search "tool" to answer test questions during the online exam. "Search" is listed under "course tools". In Blackboard, the professor goes into "manage course" before and test and removes "search tools" before a test, then the student will not have access to a search engine built into the course. This is easy enough to do but how many professors are smart enough to do this?

Another way to prevent search engines being used is to make each question is individually timed so that students don't have time to look up the answers. Unfortunately Blackboard CE6 does not have this option. Respondus 3.5 lock down browser will prevent a student from Googling an answer that but will not stop a student from picking up a cell phone and asking a fellow student to Google the answer. You can also put a restriction on an answer so once the question is answered it can not be viewed again. Blackboard CE6 does allow you to do this but I like to give students the opportunity to revisit questions.

5. ***The student can call or email the professor and say my computer crashed or I got kicked off the server.***

In this scenario, the student calls the professor or emails the professor and says that his or her computer crashed or that the server went down and he lost his or her internet connection. One student told his professor that during a test he lost connection with his server and lost power and test answers. He needed to start over and this gave him extra time to check for answers. The professor often has no option but to reset the test and give the student another chance. I have had students taking online tests who called my office secretary who then gave them my cell phone or home phone number. Then they proceeded to call me and say that their internet connection went down or Blackboard froze up and they were

unable to complete the test. How does the professor know if this is simply a fabrication or not?

5% of students admitted they had called or emailed a professor and lied about getting kicked off a server so they could retake a test without penalty. 20.3 % of students said they knew of students who had done this.

How to prevent students from lying about a computer crash or server being down.

Students can only play this "game" so many times. I suggest having a timed test and you can select the option that closes a test out once a student exceeds the maximum amount of time. Here again, having a large test bank of questions is desirable. Once a professor resets a test, the student will get entirely different questions. The larger the textbank is the smaller the likelihood that the student will get any of the same questions. I just created a five chapter test with a textbank of 500 questions where the test will select 50 questions from the textbank for each student. Even if a student gets to take a retest is it very unlikely that they will get many (if any) of the same questions.

It is possible to go online and view the students test via blackboard to see if their story rings true. The professor can see how many questions were not answered, how much time the student spent taking the test and if the student logged off. If the student's story checks out the professor has no reason not to reset the test and give a student another chance.

Conclusions

Online cheating is widespread and prevalent. College Professors owe it to themselves to understand the various methods by which college students might engage in cheating on online test. Today, numerous professors are "feeling their way" through their first online course (Roach 2001). It is naïve for a professor to think that cheating does not occur. Today's students are more technologically savvy than ever before, and many are more knowledgeable than professors about the internet. After all, they grew up with it. Advanced technology has offered students new and easier ways to cheat with online courses, but the same technology can give professors easier ways to catch and prevent cheating (Carnevale 1999). It is hoped that this paper will help professors understand how widespread the problem of cheating on online tests is and how it can be stopped, minimized or prevented.

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Appendix

Table 1: Summary Statistics

	% agreed
Student paid another student to take an online test for them	4.2%
Student was paid to take an online test for another student	9.3%
Didn't see anything wrong with paying another student to take a test for them	11.9%
Student didn't see anything wrong with getting paid to take a test for someone	19.5%
Student heard of other students getting paid or paying others to take tests	48.8%
Student had taken a group test and let other students look up answers	51.7%
Student had taken a group test and looked up answer for others	49.2%
Student knew of other students who had taken group tests together	73.7%
Student had copied an online test while taking it.	23.8%
Student had access to a copy of a online test before taking it.	21.1%
Online tests are too hard, therefore students are justified in cheating.	22.0%
Student knew of someone who had copied an online test.	44.9%
Did not think it was fair for students who cheat to get better grades	25.5%
Googled a question while taking a test to find the answer	35.6%
Used a search engine within the course to find an answer to a test question	21.2%
Heard of other students who had used search engines while taking tests.	38.8%
Would cheat on an online test if no way they could get caught.	46.2%
Lied to a teacher about server or computer crashing.	5%
Heard of other students who lied to a teacher about server/computer crash.	20.3%
Agreed that it's easier to cheat on an online test.	70.3%
Agreed that it's more tempting to cheat on an online test.	72.1%

Online Cheating Survey

Please agree or disagree with the following statements with 1 = strongly disagree, 2 = slightly disagree, 3 = neutral, 4 = slightly agree, 5 = strongly agree. Circle the number that best represents your answer to each question. <u>Your answers are completely confidential and anonymous!</u>

Strongly Disagree	**slightly disagree**	**neutral**	**slightly agree**	**strongly agree**
1	**2**	**3**	**4**	**5**

1. I have paid someone to take an online test for me.
   1 2 3 4 5

2. I have been paid to take an online test for another student.
   1 2 3 4 5

3. I don't see anything wrong with paying another student to take an online test for you.
   1 2 3 4 5

4. I don't see anything wrong in getting paid to take an online test for someone else.
   1 2 3 4 5

5. I have heard of other students who have received money to take online tests or have heard of students who have paid other students to take tests for them.
   1 2 3 4 5

6. I have taken an online test with other students present who looked up answers for me.
   1 2 3 4 5

7. I have taken an online test with other students present and I looked up answers for them.
   1 2 3 4 5

8. I know of students who have taken an online test together.
   1 2 3 4 5

9. I have copied an online test while I was taking it.
   1 2 3 4 5

10. I have had access to a copy of an online test before I had to take it.
    1 2 3 4 5

11. Online tests are too hard and therefore students are justified in cheating because the tests are simply unfair.
    1 2 3 4 5

12. I know a student who has copied an online test.
    1 2 3 4 5

13. I don't think it's fair that students are able to cheat on online tests and get away with it.
    1 2 3 4 5

Please agree or disagree with the following statements with 1 = strongly disagree, 2 = slightly disagree, 3 = neutral, 4 = slightly agree, 5 = strongly agree. Circle the number that best represents your answer to each question. <u>Your answers are completely confidential and anonymous!</u>

Strongly Disagree	**slightly disagree**	**neutral**	**slightly agree**	**strongly agree**
1	**2**	**3**	**4**	**5**

14. I have Googled a question to see if I could find the answer online while taking an online test.
1 2 3 4 5

15. I have used a search engine built into an online course to find answers while taking online tests.
1 2 3 4 5

16. I know of other students who have used search engines while taking online tests.
1 2 3 4 5

17. If I knew that I could not possibly get caught, I would cheat on an online test.
1 2 3 4 5

18. I have called or emailed a teacher while I was taking an online test and lied, saying I got kicked off the server or my computer crashed, so I could retake the test.
1 2 3 4 5

19. I know of students who have called or emailed teachers while taking online tests and lied about getting kicked off the server or having a computer crash, so they could retake a test.
1 2 3 4 5

20. It is easier to cheat on an online test than a test taken in a traditional classroom.
1 2 3 4 5

21. It is more tempting to cheat on an online test because you know you won't get caught.
1 2 3 4 5

Please answer the follow confidential questions about yourself (check one)

22. Gender (check one) male _____ female _____

23. Age 17-19 ____ 20-22 ____ 23-25 ____ 26-28 ____ 29 and over _____

24. Ethnicity Caucasian _____ African American _____ Other _____

25 . Class Freshman _____ Sophomore _____ Junior _____ Senior _____ grad student _____

26. GPA 2.0 to 2.49 _____ 2.50 to 2.99 _____ 3.0 to 3.49 _____ 3.50 to 4.00 ____

Comparison of the Ownership and Growth of Family Businesses and Small Firms

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Abstract

This study examines ownership structure and its affect on the growth of family businesses as compared to small firms. A sample of small manufacturing firms (327) was used to determine if goal conflict exists between managers and owners in small firms. *T-tests* were used to compare the mean growth rates of net sales relative to industry growth rates of various ownership structures. Analysis of the growth of manager-controlled non-family firms versus owner-controlled family firms found manager-controlled firms did not experienced significantly greater relative growth; nor did non-family firms compared to family firms. Various sub-groups of ownership type did demonstrate significant differences as agency theory predicted.

Introduction

How do family businesses' and small firms' ownership structure affect the growth realized by the firm? Agency theory suggests a relationship between the firm's ownership structure and the strategies the firm pursues; strategy ensues from the ownership structure of the firm, the form of the contract between owners (principals) and managers (agents).

Hoy and Vesser (1994) suggest family business research should examine several topics, two of which are growth of the firm and the ownership of firm. Brockhaus (1994) advances the need for comparative studies contrasting family businesses and non-family businesses. There is very little research combining these topics, comparing family versus non-family businesses (Chrisman, Chua & Litz 2004; Corbetta & Salvato 2004; Daily & Dalton 1992; Daily & Dollinger 1992; Daily & Thompson 1994). A few studies have compared other issues (Donckels & Frohlich 1991, Kleinsorge 1994, Gallo 1995).

Agency theory suggests executives pursue personal goals in their strategic decisions which may conflict with owners' goals. Managerial goals include growth, smoothed income streams, enhanced power bases, reduced employment risk and enhanced compensation. These objectives of managers frequently appear to conflict with the profit maximization or increasing shareholder wealth goals of owners. Because of these conflicting goals, owners incur agency costs associated with executive incentive programs and monitoring activities (Stahl & Grigsby 1992). The ownership structure of the firm affects who exercises control of the firm, and for the purposes of this study ownership structure and control will be used interchangeably.

Small firms, as well as large firms, pursue growth-oriented strategies (Cohn & Lindberg 1974; Kuhn 1982). The research on the structuring of organizations suggests that successful firms evolve through several ownership and strategic stages from entrepreneurial single-owner-single business firms to corporate-form diversified firms (Chandler 1962). Research bearing on the efficacy of growth-oriented strategies indicates that growth-oriented small businesses survive at twice the rate of non-growing firms (McConaughby, Matthews & Fialko 2001; Phillips & Kirckhoff 1989). These streams of research provide small business managers/owners with incentives to grow.

A large body of research focuses on the Fortune 500 companies in the United States and similar sized firms in other countries. Several researchers report a systematic relationship between diversification strategy and economic performance for Fortune 500 businesses (Rumelt 1982, 1986; Montgomery 1982; Palepu 1985). A few studies examine the strategies of mid-sized firms (Kuhn 1982), but very little research focuses on small businesses. The Fortune 500 firms make up less than 1/10 percent of the firms in the United States. Family businesses make up the majority of firms, mostly small firms and 38 percent of the Fortune 500 (Harris, Martinez and Ward 1994), generating approximately 50 percent of the gross national product (Ward & Aronoff 1990). Small firms, business with less than 500 employees, make up the majority of firms, provide half the jobs and over 40 percent of business sales, a major force in the United States economy (Government Printing Office 1991). The cumulative effects of family and small business strategies have important consequences for the economy as well as for the individual firm.

Research Question

Agency theory has been supported by studies of large firms, but does the theory help small family firms make decisions? How are ownership structure and growth related in family and small businesses?

Agency theory suggests different levels of ownership control of the firm should result in different growth rates. Manager controlled firms should have a preference for high growth to minimize the managers' risks (Amihud & Lev 1981). Owner controlled firms should prefer lower growth (and higher profit) (Holl 1975). Owners, being more risk seeking than managers, would seek higher profits at the risk of less growth. However, family firms, with a long term commitment may be more interested in growth than profit, contrary to non-family owner managed firms and similar to manager controlled firms (Harris, et al 1994).

Research on small businesses identifies several conditions distinguishing small firms from large firms (d'Amboise & Muldowney 1988; Dilts & Prough 1989) that could lead to different results for small firms. First, the restricted options of small firms due to size and resource constraints affect the strategies chosen by the small firm. Small firms may not, for example, have requisite resources or managerial skills to implement diversification strategies. Second, since small firms analyze and interact with their task environment differently than large firms (Shuman & Seeger 1986), a different set of alternatives would be recognized by small firms compared to large firms. Third, the extended internal, interpersonal, interaction found in small firms compared to large firms (Greenwood 2003; Schulze, Lubatkin, Dino & Buchholtz 2001; Schulze, Lubatkin & Dino 2003; Neilson 1974) should lead to greater goal congruence among owners, managers, and employees of small firms. These factors suggest that the effects of agency theory on the small firm may be different than the effects found in the study of large firms. Family firm research is lacking definitive research in many of these factors, but suggests family interests as opposed to business and/or management interests impact these considerations, thus family businesses may act differently from other firms (Hoy & Vesser 1994).

Theories of organizational growth provide insight into the strategies that owners might use and the relationship to ownership and control. Thompson (1967) argued "our" culture prefers success over failure, and fitness for future action dominates the measure of organization success, not past accomplishments. Using comparison with other organizations as the measure of success, the relative growth of the firm provides a common measure of the firm's fitness. Size differences in firms affect the scale of opportunities and resources, and also affect the methods of accomplishing objectives.

Hypothesis

Holl (1975) argued that on average, management controlled firms will exhibit higher growth rates and lower profit rates than owner controlled firms. A plot of rates should result in two subgroups of points. His results suggest that owner controlled firms have higher profit rates and lower growth rates than manager controlled firms, with variance and skewness being greater for owner controlled firms as hypothesized. The same results occurred when removing the bias of size among the firms, using matched pairs. When controlled for industry effects using matched pairs, however, these and measures of variance of profit, skewness, and distribution ratio varied in the hypothesized manner but not significantly, suggesting that control type does not affect growth.

McEachern (1978) argued that non-manager owners prefer profit maximization more than owner-managers who may opt for nonpecuniary benefits ("perks"). He found owner-managed firms tended to retain more earnings and accept more stock market risk than either outsider owner-controlled or manager-controlled firms. Returns on common stock were highest for owner-manager firms, then for externally controlled firms, and lowest for managerially controlled firms (Scherer 1980).

Daily and Thompson (1994) found no significant relationship between ownership type and growth in their limited sample. Daily and Dalton (1992) found no differences in financial performance between founder and professional management. However, Daily and Dollinger (1992) did find that family firms pursued more active, growth-oriented strategies than professionally managed firms. Hufft (1994) found the growth of manager controlled small firms was higher than owner controlled small firms.

The extended interaction of owners, managers, and employees of small firms should better align the preferences of owners and managers than would be expected in large firms, thus eliminating agency effects. Thus, both manager controlled and owner controlled small firms, as well as family firms, should exhibit the same goals. Conventional economic wisdom suggests the goal should be profit maximization not growth. Research distinguishing attitudes and behaviors of entrepreneurs (principal purpose profit and growth), small business owners (principal purpose furthering personal and family goals), and family (long term commitment, importance of family harmony, generations of leadership) provide other views (Carland & Carland 1990; Timmons 1990; Harris, et al 1994). An entrepreneurial owner controlled firm or a family business may exhibit the same preference for growth as a manager controlled firm. Thus, family and small firms may be expected to exhibit similar goals regardless of ownership structure, but what that goal should be differs depending on viewpoint.

The following null hypotheses tests these relationships:

(1) Non-family businesses will exhibit similar growth rates as family businesses

(2) Manager controlled small firms will exhibit similar growth rates as owner controlled small family firms

For comparison:

(3) *Manager controlled small firms will exhibit similar growth rates as owner controlled small firms*

Sample

This study used the population of small firms on the personal computer compact disc version of the Disclosures database (1989), consisting of over 12,000 publicly held firms

(2971 manufacturing firms), and containing information from annual and quarterly reports, and SEC 10-K filings (Hufft 1993). This study defined "small" as firms with less than 500 employees, total assets of less than $150 million, and annual sales of less than $20 million. These points provide the upper bounds of most definitions used in small business research (D'Amboise & Muldowney 1988).

Considering only manufacturing firms, firms in Standard Industrial Classification (SIC) codes 2000 to 3999, minimized, but did not eliminate, industry effects (838 firms). To further minimize the industry bias, the sample included only industries containing small firms with a variety of ownership structures and strategies. An additional constraint on the sample resulted from using only those firms with sufficient data, 327 small firms (see Table 1 for characteristics).

Methods

Ownership structure and growth constitute the constructs for this study. A continuous ratio variable measured growth rate for *t-tests*. The compound change in net sales for the period 1987 to 1990 for each firm measured the growth of the sample firms. To provide a relative comparison of firms in various manufacturing industries, the study compared the firm's growth to the average industry growth of its primary industry, and then used this relative growth to compare firms. The primary industry of the firm provided the factor used to determine relative growth on the assumption that the largest industry the firm participated in had the most effect on growth. The study did not use a composite average due to a lack of data on the size of each market for the firm. The 1992 Business One Irwin Business and Investment Almanac (1992) provided the mean growth rate of manufacturing industries from 1987 to 1990 used to determine relative growth.

The categorical variables categorized the firms as manager controlled, weak owner controlled, strong owner controlled, manager controlled family firm, weak owner controlled family firm, and strong owner controlled family firm to measured ownership structure. The determination of family versus non-family owned businesses is a matter of much discussion and little consensus. This study defined family businesses as firms owned and managed by one family. The primary determinate was that two or more individuals with the same last name were officers and/or directors of the firm and they owned an interest in the firm, using the SEC 10Q information reported by Compact Disclosure. Daily and Dollinger (1993) examined several methods for distinguishing family firms, both qualitative and quantitative, from directory information, and surveys, to developing a discriminant function and found that they all provided similar results, thus lending support to the simple method used in this study.

In manager controlled firms, the managers and insiders own less than five percent of the firm' stock. Weak owner controlled firms have managers with between five and 30 percent of the stock, and strong owner controlled firms have managers with greater than 30 percent of the firm's stock (see Hufft(1993) for more detailed definitions).

T-tests comparing the means of the growth of the various ownership structures tested the hypotheses.

Analyses

The research questions focus on the differences in rates of growth between different types of ownership structure. Table 2 provides the mean relative growth of net sales for each ownership segment of the sample. *T*-tests provide the method of analyses for testing the

hypotheses. Table 2 also provides the tests comparing family owned firms to other small manufacturing firms using several ownership structures.

We can not reject the null hypothesis of no difference among family and non-family business by the comparison of all the firms in the study. There was no significant difference between the mean relative growth of net sales of family managed (.0422, n=59) and non-family managed (.0885, n=268) businesses (t=1.11). However, non-family managed firms exhibited growth of twice that of family firms which agrees in direction with agency theory. But, Table 2 demonstrates a variety of means among the several possible ownership types. Thus, tests of subsets of the sample provide differing results.

The second null hypothesis of no difference between strong family owned firms and manager controlled non-family small firms also can not be rejected. There was no significant difference between the relative growth of strong family (.0623, n=46) and manager controlled non-family (.2599, n=70) firms (t=1.61). But, manager controlled firms did exhibit much higher mean growth as agency theory would predict. The test of the third null hypothesis of no difference between owner controlled and manager controlled small firms found significant differences between the groups, thus rejecting the null hypothesis. Manager controlled small firms (.2535, n=72) did exhibit higher mean growth than strong owner controlled firms (.0409, n=154, t=1.84, $p<.10$) and weak owner controlled small firms (.0165, n=101, t=2.01, $p<.05$). Comparing only small non-family owned firms found similar results. Thus, the whole small firm sample found support for using agency theory as a means for understanding small firms, results similar to Hufft (1994) using Mann-Whitney tests.

Dividing the family-managed firms into subgroups found 46 of the 59 family firms were strong owner controlled firms (i.e. ownership greater than 30 per cent) whose mean growth (.0623) was similar to non-family manager controlled firms (.2599, n=70, t=1.61), similar to the whole sample results supporting the null hypotheses 1 and 2. Two family firms had ownership with less than five percent controlled by the family, an unexpected level for family firms. The sample size was too small to draw meaningful conclusions; but, mean growth for the two firms was one third the growth of strong family controlled firms and one tenth the growth of non-family manager controlled firms. Eleven (11) family firms were classified as weak owner controlled with a mean relative growth rate of -0.0394 which was significantly less than the manager controlled non-family firms (t=2.27, $p<.05$), rejecting the null hypothesis and supporting an agency theory explanation. There were no significant differences between strong owner controlled firms and weak owner controlled firms, either family or non-family firms.

Discussion

This study found that there were no significant differences between the growth rates of family managed and non-family managed businesses, though non-family businesses did exhibit twice the growth of family firms. The study found as the managers' ownership of the small manufacturing firm increased (the firm became more owner controlled), the rate of growth of the firm declined as predicted by theory whether family controlled or not. Interesting, strong owner controlled family firms were not significantly different than non-family manager controlled firms, contrary to agency theory, suggesting that the long term commitment of the family may lead to greater emphasis on growth similar to manager controlled firms. Weak owner controlled small firms and family firms both have significantly lower growth rates than manager controlled firms supporting agency theory. This suggests that the dilution of ownership in the weak owner controlled firm may be a primary reason that both non-family and family firms, with manager ownership in the 5 to 30 percent range, have less growth than other firms, possibly due to a different set of goals.

Manager controlled small firms exhibited higher rates of growth than owner controlled firms. This supports agency theory and the proposition that managers act in their own behalf, not necessarily the firm owners' behalf. However, the two manager controlled family firms had significantly less growth (.0295, $t=1.9$, $p<.1$) than the non-family manager controlled firms. This could be due to much higher net sales ($14.4M vs. $7.5M) and gross profits ($8.0M vs. $2.8M) than the other manager controlled firms and all other firms in the sample. Dilution of ownership perhaps goes hand in hand with increased size. If the firms went from weak control to manager control perhaps profit goals are still the primary goals, not additional growth.

This study provides a means to determine the growth posture of small manufacturing firms based on their ownership structure. These results suggest families, small business owners and/or investors should determine their objectives for the firm, explicitly communicate the objectives to the family and non-family managers, and monitor the performance of the firm to insure the decisions made by managers support the owners' objectives, not the managers' objectives.

Future study should examine all types of family firms to determine if similar relationships exist. Additionally, different measures of the outcomes of ownership strategy should be explored to determine the factors that influence performance the most to better inform decisions.

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Appendix

Table 1: Descriptive Statistics - Representative Measures

Measure	Total sample Mean	SD	Non-Family Mean	SD	Family Firms Mean	SD
Net Sales $M	7.56	5.69	7.45	5.69	8.06	5.72
Gross Profits $M	2.85	2.85	2.85	2.91	2.85	2.55
Employees	89.9	68.9	88.1	66.7	98.2	78.3
Growth Net Sales	.1260	.519	.1353	.565	.0839	.205
Industry Growth Net Sales	.0436	.0329	.0443	.0329	.040	.0332
Relative Growth Net Sales	.0802	.4995	.0885	.5442	.0422	.1932
Manager Ownership %	22.2	26.4	20.1	24.2	31.6	33.5
Sample Size	327		268		59	

Table 2: Comparison of Relative Growth of Net Sales by Ownership Structure

Ownership Type	NonFamily vs. Family					Manager vs Subgroups			Small Firms			
	Nonfamily Firms		Family Firms		Difference In Means	Manager Controlled		Difference in Means	Manager Controlled		Difference In Means	Sample Size
	Mean	SD	Mean	SD	*t*-value	Mean	SD	t -value	Mean	SD	*t*-value	(NF/All)
Nonfamily Firms	.0885	.544	.0422	.193	1.11							327
Manager Controlled						.2599	1.0	-	.2535	.9872	-	70/72
Weak Owner Controlled						.0233	.1852	1.88^	.0165	.1851	2.01*	90/101
Strong Owner Controlled						.0318	.1966	1.88^	.0409	.1964	1.84^	108/154
Family Firms	-	-	-	-	-	.0422	.193					
Manager Controlled						.0295	.028	1.9^				2
Weak Owner Controlled						-.0394	.1832	2.27*				11
Strong Owner Controlled						.0623	.1964	1.61				46
Sample Size	268		59									

(^ $p<0.10$, * $p<0.05$)

Fear and Loathing in the United States Automotive Industry: Illustrating Opportunities of Tata Motors of India

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Abstract

Changing environmental conditions including rising oil prices, climate change, technology advances, foreign competitors, global economic uncertainty, the United States credit crunch, and shifting demographics have created chaos in the United States automobile industry. Long beset by high quality imports, United States' domestic manufacturers General Motors and Ford, and more recently the new Chrysler, face strong and well documented economic problems ranging for poor customer perceptions, to high production and administrative legacy costs such has retirement and health care commitments. The position of this paper is that, in combination, this situation has created unique opportunities for new foreign competitors to enter the United States automobile market with special concentration on underserved segments. This paper considers the macro-environmental factors affecting the United States automobile industry, and illustrates emerging opportunities using Tata Motors of India as a prime example. Tata Motors is selected because of its unique, global strengths, its absence from the United States market, and its announced development of a $2,500 car for basic transportation in India.

Introduction

For many decades, but particularly during the period 2007 and 2008, the global automobile industry has struggled with problematic national economies, a worldwide credit crunch particularly affecting the United States, and rapidly rising oil prices. These conditions have led many Americans to seek more fuel efficient and less expensive vehicles. The major United States (US) car manufacturers, Ford and General Motors, have lagged Toyota and Honda in customer perceptions of quality and in fuel efficiency. Overall, US auto manufacturers have failed to produce low capital investment and low operating cost vehicles that meet the needs of today's customers, while foreign competitors, particularly Toyota and Honda, have better met US customer needs and have gained market share. However, as with US manufacturers, even these leaders of innovation and quality have experienced declining sales in today's economic and energy climate. The premise of this paper is that while the current economic and energy environment have hurt the best know automobile manufactures, rising oil prices and current economic conditions are opportunities for companies that can quickly introduce new technological applications to provide low capital cost and low operating cost vehicles. This opportunity is illustrated using the case of Tata motors.

Background – Tata Motors

Several companies have taken advantage of the economic and product situation of the US automobile market. For example, Kia Motors recently introduced new models emphasizing cost and quality. Toyota, Honda, Ford, General Motors and others, including

European car makers, have all introduced hybird" (gas and electric vehicles), and the European "Smart Car" is currently being introduced to the US market. In addition, companies that have not participated in the US market in the past are now eyeing the United States market. Of special significance is Tata Motors of India for the purpose of illustrating how harsh market conditions can create opportunities for new market entrants.

In 2008, Tata Motors announced plans to launch a $2,500, 60 miles per gallon (MPG) car into the Indian market. Tata Motors is the largest Indian manufacturer of heavy trucks and the second largest make of cars and small trucks. Tata is comprised of 98 companies, and has $7.2 billion in assets. With operations in Spain, Nepal, Italy, United Kingdom, South Africa and Australia, Tata Motors enjoys strong brand loyalty among its customers. The Tata Indica is the largest selling midsize car in India and is also successful in Spain, Italy and South Africa. Tata is the only car manufacturer in India having a safety crash test division. Since 1997, Tata's vehicles have been recognized by customers as being safe, durable, and affordable. Tata recently acquired Land Rover and Jaguar from Ford, and strategic alliances with Daewoo and Fiat demonstrate the fast paced movement that is occurring in the international automobile market. Tata is particularly well positioned for international competition due to extensive backward and forward integration. Tata steel is the world's sixth largest steel company, and Tata has also acquired auto parts subsidiaries in Bangladesh. Tata Finance, Ltd provides dealer financing for Tata vehicles. The impending launch of the "world's cheapest car," the fuel efficient Tata Niño, helps Tata maintain a strong media Image, and the announced price of $2,500 has generated international Media exposure and interest among consumers and competitors.

Strategic Opportunities and Challenges

Although no plans have been formally announced, introducing the Niño, even at a higher than $2,500 price in the US market may be an important strategic opportunity for Tata Motors. The current economic and energy upheavals of the US market have made US automobile buyers open to new personal vehicle options from here-to-fore "unknown" companies. Still, a new and foreign entrant such as Tata may face significant challenges. Among these, safety under expected operating conditions may be the most significant in terms of engineering, manufacturing cost, and US government regulations. This was demonstrated at the Geneva motor show when Managing Director Mr. Rattan Tata announced that Tata will launch Niño into Europe with a four-star safety rating. It is expected that this will establish Niño in the future Tata European sales mix. If Tata can succeed in implementing European safety requirements, they can also succeed with United States safety regulations. Currently, Niño meets Indian safety requirements which are not as strong as those of the United States and Europe. Additional considerations will be environmental protection regulations, but with a 60 MPG target, it is reasonable to expect that emission guidelines can be met.

Distribution

Distribution is a key to any successful market entry. Having purchased Jaguar and Land Rover from Ford, Tata may be expected to have the basics of a dealer network in place. Here also, however, Tata faces challenges as Jaguar and Land Rover are high end brands that traditionally appeal to a very different target market segments than that for which the Niño is intended. Still, with sales of both brands down due to the economic and fuel cost issues

noted, Niño may receive a good welcome if these dealers are offered first chance at distribution, particularly since some will continue to offer the Ford line of economy cars.

Physical Logistics

Added shipping fuel costs will add cost to the Niño in European and United States markets, but these costs are not expected to offset the alternative cost of direct investment in US manufacturing. Therefore, it may be expected that the Niño would be initially imported from India, although minor assembly and optional equipment might be added in the United States. This approach will maintain a low cost strategy on which the Tata market entry would be based. There is a long history of foreign automobile manufactures using this strategy to enter the US market, including Volkswagen, Honda, Toyota and KIA. However, as demonstrated by the Yugo, the low cost entrant strategy must be tied to reliability and quality control.

Product Limitations

Nano's current maximum 54 miles-per-hour (MPH) speed, while acceptable in India, will probably be a marketing challenge in both Europe and the United States. While this speed limitation will probably have to be increased for US market acceptance, it may also be noted that many Americans use their cars for urban driving and for short trips near home, and on roads with speed limits below 45 MPH. Although US manufacturers have tended to focus on large, powerful cars capable of rapid acceleration and high top-end speeds, previous foreign manufactures have demonstrated American acceptance of less powerful, fuel efficient compacts. This is one area in which extensive market research, including focus groups, may be needed to better understand American automobile consumers' driving habits and beliefs. Today, with oil prices exceeding $100 per barrel and gas exceeding $3.50 to $4 per gallon, significant market segments may be emerging and re-emerging that may find highly desirable a cost effective car for typical urban driving. Tata Niño may not be suitable for driving from Jackson MS to Boston on 70 MPH interstates, but the car's low price and fuel efficiency may be advantages to consumer segments focused on short distance travel. That said, Tata should continue to invest in research and development regarding engines, body, safety and alternate fuels to assure that it will be able to meet government regulations, and so that it will be positioned to capitalize on its initial success in the US market by introducing new products to serve additional segments such as the mid-sized Tata Indica automobile (with dominant market share in the Indian market at $8,000) and the Ace mini truck. R&D based product development can provide an advantage over key competitors and substitutes (such as the used car market), but can also provide opportunities to address legal and ethical issues such as pollution and safety.

Conclusion

Tata Motors' aggressive movements to expand through diversification, mergers and acquisitions, Tata's opportunity to use Jaguar and Land Rover distribution, previous success in South American and Europe, and ongoing investment in research and development regarding safety and emission standards, and manufacturing costs in India, have positioned to Tata take advantage of the strategic window of opportunity presented by current considerations of rising oil prices and economic uncertainty. Conditions are favorable for the launch of the world's cheapest car, the Tata Nano in India and subsequently in Europe and

the United States. While challenges remain, particularly in the United States, Tata's ability to develop reliable new products at affordable prices, and Tata's brand loyalty among their current customers provide a solid foundation for entry into the world's largest automobile market, the US market, which has been shaken by high oil prices and harsh economic conditions. The position of Tata Motors in the current environment amply demonstrates that while changing macro-environmental conditions can disrupt traditional market leaders, changing conditions can provide opportunities for innovative thinkers with flexible views of both technology and markets.

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Maslow's Hierarchy of Needs: Implications for Ethical Motivation in Accounting

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Maslow's Hierarchy of Needs (MHN) Theory is widely used in industries such as healthcare, marketing, and management to motivate employees by satisfying their basic needs. The theory centers around the idea that unmet needs motivate behavior, subsequently, the more an individual's basic needs are satisfied the more "ethically minded" they become. This paper applies MHN within the context of an accounting environment and analyzes how the use of motivational factors can facilitate the ethical performance and professionalism of accountants.

Society and the accounting public expect accountants, as professionals, to uphold high ethical standards. The American Institute of Certified Public Accountant's (AICPA's) Code of Professional Conduct describes the accounting public as "clients, credit grantors, governments, employers, investors, the business and financial community, and others who rely on the objectivity and integrity of certified public accountants to maintain the orderly functioning of commerce" (AICPA Section 53). The adherence to or violation of the profession's ethical standards influences the reputation of the profession as a whole and the confidence of the accounting public. Consequently, unethical behavior that causes a significant decline in the public's confidence could render the accounting profession ineffective. Undoubtedly, accountants hold a position in society which requires them to possess the highest sense of integrity and bear paramount ethical responsibilities while serving those who use their professional services. With this in mind, analysis of the use of motivational factors to facilitate ethical performance and professionalism of accountants is investigated. This paper presents the Theory of MHN that can be considered when discussing motivational strategies to promote ethical behavior in the profession of accounting. Additionally, this paper will apply Maslow's theory to two studies by Yves Gendron and explain how MHN can be applied in an accounting context. MHN is a content-theory of motivation used widely throughout the world. Industries such as healthcare, counseling, marketing, and education use this theory to motivate their employees and students and effectively cater to their clients. Similarly, I believe that the accounting profession can use MHN to motivate ethical behavior in accountants.

Abraham Harold Maslow was born in New York City in 1908. He received his doctoral degree in psychology from University of Wisconsin (Boeree 2006) and is known today as "one of the foremost psychologists of the twentieth century" (Zalenski and Raspa 2006, 1121). Early in his career, Maslow conducted research with monkeys. During this time he observed that certain needs take priority over others.

> "For example, if you are hungry and thirsty, you will tend to try to take care of the thirst first. After all, you can do without food for weeks, but you can only do without water for a couple of days. Thirst is a "stronger" need than hunger" (Boeree 2006).

Then, in 1938, after conducting research with the Blackfoot Indians in Canada, Maslow was convinced that people across many different cultures equally share common

needs and drives. These research findings eventually led him to formulate his theory of motivation known as MHN (Hoffman 1988, 79).

Maslow's theory explains specific reasons for a person's motivation. The individual's motivation is "the psychological process through which unsatisfied needs or wants lead to drives that are aimed at goals or incentives (Borkowski 2005, 113). Maslow's theory centers around this idea that unmet needs motivate behavior. It is composed of five different levels of needs: physiological, safety, love/belonging, esteem, and self-actualization. The hierarchy is often represented as a triangle, shown in Figure I, divided horizontally into five levels. Physiological needs occupy the lowest level of the triangle while self-actualization needs are placed at the top. These levels exhibit prepotency, in that the needs of lower levels are more influential than those of the higher levels. As Maslow explains,

> …what happens to man's desires when there is plenty of bread and when his belly is chronically filled? At once other (and higher) needs emerge and these, rather than physiological hungers, dominate the organism. And when these in turn are satisfied, again new (and still higher) needs emerge, and so on. This is what we mean by saying that the basic human needs are organized into a hierarchy of relative prepotency" (Maslow 1954, 83)

Therefore, only when lower level needs are generally satisfied will a person's behavioral choices be influenced by the higher level needs.

The needs that create the "starting point for motivation theory," known as the first level of MHN, are the physiological needs (Maslow 1954, 80). These needs are the most basic biological needs. They include the need for air, food, water, shelter, sleep, and sex. Maslow argues that, "If all the needs are unsatisfied, and the organism is then dominated by the physiological needs, all other needs may become simply nonexistent or be pushed into the background" (Maslow 1954, 82). Consequently, the person's only motivation is to satisfy their physiological needs.

Once the physiological needs are substantially satisfied, the second level of needs, known as the safety needs, emerges. These include the need for order and structure, stability, security, and freedom from fears and anxiety. These needs often manifest themselves in healthy adults as the desire for "a job with tenure and protection, the desire for a savings account, and for insurance of various kinds" (Maslow 1954, 87). Another example of a safety need is an adult's desire for a home in a safe neighborhood. These needs can dominate a person's thoughts in the same manner as the physiological needs; and, without the relative satisfaction of the safety needs, the person will never progress to the higher level.

The third level of MHN is the belongingness/love needs. A person in this level "will hunger for affectionate relations with people, in general, namely, for a place in his group, and he will strive with great intensity to achieve this goal" (Maslow 1954, 89). Borowski applies this level to an employee-employer relationship by describing that in this level "employees seek the approval and acceptance of their peers and supervisors" (Borkowski 2005, 115-16). According to the theory, once the belongingness/love needs are sufficiently fulfilled, a person begins to be motivated by the fourth level of needs.

Maslow's fourth level of needs is known as the esteem needs. This level of needs can be grouped into two sets. The first set covers *internal* esteem and includes the desires for achievement, strength, self-respect, confidence, and autonomy. The second group involves *external* esteem in which humans are motivated by their need for social and professional status, appreciation, reputation, prestige, and the respect of others. The esteem needs as well as the three lower levels of needs are viewed by Maslow to be deficit needs. Clarification of Maslow's deficit needs idea has been offered: "if any of these motivators [deficit needs] are

not satisfied, they create an inner tension within the individual that must be relieved" (Borkowski 2005, 116). Once the deficit needs are relatively well satisfied, humans begin to feel the need for self-actualization, Maslow's fifth level of the hierarchy.

Maslow describes self-actualization needs (fifth level) as the desire "to become everything that one is capable of being" (Maslow 1954, 92). He states, "What a man *can* be, he *must* be" (Maslow 1954, 91). Maslow describes people who are fully self-actualized as "self-actualizers." These people are reality-centered in that they can differentiate between pretense/deceitfulness and sincerity/veracity.

> They had a different perception of means and ends. They felt that the ends don't necessarily justify the means that the means could be ends themselves, and that the means—the journey—was often more important than the ends…. And they resisted enculturation, that is, they were not susceptible to social pressure to be "well adjusted" or to "fit in"…. They had a quality Maslow called human kinship or *Gemeinschaftsgefühl* – social interest, compassion, humanity. And this was accompanied by a strong ethics, which was spiritual but seldom conventionally religious in nature. (Boeree 2006).

Those classified as "self-actualizers" in the highest level of MHN, can more ably withstand the pressures of the business world and make better ethical decisions. Self-actualization is the pinnacle of human life; however, individuals are rarely able to remain in this level of the hierarchy. They are often disrupted by different events, such as the loss of a job or physical illness, that cause their lower level needs to be compromised or threatened. During such events, humans return their attention to their lower level need and are, once again, completely motivated by the desire to fulfill that unsatisfied need.

From this discussion of MHN, it is reasonable to consider this theory as a tool to increase one's understanding of the ethical attitudes, behaviors, and motivations of the accounting professional. Gendron and Suddaby (2004) provide an example to which this theory can be applied. The study was performed to examine accountant's viewpoints about professionalism prior to the Enron scandal. One finding of the study indicated that participating accountants expressed "significant doubts about the notion of auditor independence" (Gendron and Suddaby 2004, 85). As part of the study, the researchers interviewed an audit partner in one of the Big Five firms whose job description included setting the firm's professional standards. The interviewee stated

> I think that the inherent conflict around independence is not nonaudit services. The inherent conflict is the client pays your fees and as long as that is in place it doesn't matter about all the rest of stuff…That is a career-limiting move in any firm. And the big career-limiting move is losing a client, a big client. Even if you do no consulting work, that is the conflict. (Gendron and Suddaby 2004, 93)

MHN Theory can be used to rationalize the accountant's statements. The audit partner notes that auditor independence and, thus, sound ethical judgment, is challenging because the clients pay the auditor's fees. The first and second levels of MHN, the physiological needs and safety needs, explains the motivation behind this attitude. The assumed loss of the monetary income directly threatens the auditor's source of food, water, and shelter. Additionally, the possibility of losing the client and their fees endangers the auditor's sense of job security. According to Maslow's theory, the auditor in this situation would be focused solely on protecting his physiological and safety needs rather than upholding ethical

standards. Therefore, all ethical considerations would be irrelevant if they did not aid the auditor in meeting his level one and level two needs.

Another example of the application of MHN Theory explains unethical behavior among auditors. This study attempts to determine the means by which audit committee effectiveness can be internally developed. An external auditor interviewed for the study states:

> I would speculate that the audit committee takes a recommendation from management regarding retention or the consideration for replacement of the audit firm. So if the CFO is unhappy because, and look we have lost clients like this, where you have to make some hard calls. And you [i.e. the external auditor] say, sorry, you can't do this, this way of presenting your financial information isn't right. So the CFO says, fine I will go along with you and then he is unhappy. So the CFO says, I am unhappy with the services for such and such a reason, and out goes the audit engagement for tender. The CFO administers it and selects who the new ones are going to be, comes up with the reasons why it is appropriate and puts it to the audit committee, the audit committee goes along with it….The other thing when there is a change in auditors, the Securities Commission requires you…to put out a notice saying if there were any disagreements, qualified opinions or anything like that because they think that should be brought into bear. Now, how many [audit] firms do you know put qualification in a report because there are disagreements? You put that in there, you aren't going to get any work. Nobody's going to want you. They won't hire you again. (Gendron and Bédard 2006, 227)

This auditor's outlook, once again, illustrates the difficulties accountants face in an ethical dilemma. The auditor explains that should he/she take the ethically sound action and confront the CFO of a company demanding a change in the financial statements, he/she will lose that firm as a client. Even with the new provisions that call for an independent audit committee, the auditors still view their physiological and safety needs as being threatened. This auditor also stated that audit firms do not put qualifications about management/auditor disputes in reports to the Securities and Exchange Commission because they know that if they did, they would never be hired again. Once more, according to MHN, the accountant's ability to act ethically is hindered by their desire to fulfill their physiological and safety needs.

MHN applies to other realms of accounting also. Consider the case where the controller of a corporation is being pressured by the Chief Financial Officer (CFO) to record sales that occurred in 2008 in the 2007 financial statements. The controller knows that both the Chief Executive Officer (CEO) and CFO receive bonuses contingent upon the company's net income for the year. They are also close friends. Consequently, the controller does not feel that the CEO will be compelled to influence the CFO to act ethically and stop pressuring her to record sales incorrectly. The controller does not know of any other outlet within the company that would cause the CFO's actions to be rectified. Essentially, she feels she has two options: act ethically by refusing to record sales incorrectly and be fired or record the sales as the CFO directed and keep her job. In this situation, the controller is experiencing a direct threat to her safety needs. She perceives that her job is in jeopardy. According to MHN, this threat to her safety needs will motivate her to eliminate the threat and satisfy her need for stability and security. Unless ethical behavior aids her in accomplishing these tasks, she will not be inclined to act ethically in the situation at hand.

In the tax world, accountants are equally as susceptible to ethical dilemmas. For example, an accountant in a tax practice is preparing a return for a prominent businessman.

The client is adamant that the accountant allow him to deduct certain unallowable expenses on his return. The client insists that either the accountant signoff on the return or he will take his business elsewhere and encourage his friends to do the same. Similar to the previous examples, the accountant's physiological and safety needs are threatened by this situation. The accountant must decide to either sign off on the tax return and, therefore, safeguard his need for food, water, shelter, safety, and job security or choose to act ethically and refuse the client's requests. Applying Maslow's theory, the accountant will be motivated to sign off on the tax return since this action removes the threat to his physiological and safety needs. Again, the accountant's desire to satisfy his needs discourages ethical behavior.

Everyday, accountants around the world are faced with ethical dilemmas. Current laws and codes of conduct, however, do not amply provide accountants with a means to satisfy their needs and act ethically. Even though the AICPA Code of Professional Conduct states that "The Principles call for an unswerving commitment to honorable behavior, even at the sacrifice of personal advantage" (AICPA Section 51), how can we expect accountants to behave honorably at the risk of losing their source of food, water, shelter, safety, security, and belonging? Nancy Borowski explains "Content theories [like Maslow's Hierarchy of Needs] help managers understand what arouses, energizes, or initiates employee behavior" (Borkowski 2005, 114). In the same way, I believe that Maslow's Hierarchy of Needs can help the profession to arouse, energize, and initiate ethical behavior in accountants. By using the principles found in Maslow's theory, the profession can construct new laws and standards that allow accountants to act ethically while simultaneously maintaining and satisfying their multiple levels of needs. If the accountants are assured that their lower level needs are satisfied, then they move to and are motivated by the higher level needs, thus freeing them to act in a more ethical manner. Eventually, the accountant is motivated to behave in a self-actualizing manner, the most ethical of all.

The vitality of the accounting profession relies on the ethical behavior of all accountants. As seen during the Enron/Arthur Andersen debacle, "one bad apple can ruin the entire bunch." As the accounting profession strives to attain ethical purity, standards and policies should be coupled with motivational strategies to achieve optimal results. Rules and regulations alone will not inspire the ethical behavior of the profession. By safeguarding the accountant's basic needs, the profession equips its members to fulfill their ethical responsibilities. Maslow's Hierarchy of Needs Theory provides a logical basis for addressing these basic needs and motivating behavior.

Figure I
From http://www.sherpatrek.com/weblog/?p=105

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Noise Trading and Pointspread Movements in the NCAA Football Betting Market

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Abstract

Pointspread movements in the NCAA Football betting market are examined using a highly detailed data set that includes every movement during the week with a corresponding timestamp. It is found that pointspread movements do not appear to represent information, as following a simple strategy of betting *against* early pointspread moves, presumably the actions of informed bettors, is found to reject the null hypothesis of a fair bet. Furthermore, following a simple strategy of betting *against* the pointspread movement from market open to market close wins often enough to not only reject the null of a fair bet, but also earns statistically significant profits.

Introduction

Steven Levitt (2004), in his paper "Why are Gambling Markets Organized So Differently From Financial Markets" stated that instead of attempting to balance the betting dollars on each side of the proposition, as commonly assumed in previous models of sportsbook behavior, sportsbooks set pointspreads (prices) to maximize profits. As sportsbooks have the power to set prices in this market, they can choose to not set a market clearing price, but can use their information and insight into common behavioral biases of bettors to set prices to maximize their profits.

In relation to price movements in this market, however, Levitt (2004) assumes that pointspread movements are irrelevant, as he states that line moves are "small and infrequent". Compared to price movements in stock markets, this assumption could be the case, but we contend that these pointspread movements are important to understanding the market and actually give further credence to the Levitt (2004) model of sportsbook behavior.

Under the Levitt (2004) model, sportsbooks set a price that purposefully attracts more money on one side of the wager than the other. The sportsbook understands betting biases within the market and sets the price accordingly. They cannot deviate too far from an unbiased pointspread on the game, as informed bettors will have incentives to bet on the less popular side of the proposition when long-run win percentages exceed the transactions costs within this market (win percentages of greater than 52.38% which overcomes the vigorish on bets).

The question arises, however, if sportsbooks are not setting prices to clear the market and are setting prices to maximize profits, when would they move the pointspread? It is not when the betting action is simply unbalanced, as suggested in the original models of sportsbook behavior such as Gandar, et al (1988) and Sauer, et al (1988), as they aim for a degree of imbalance already. Our contention is that sportsbooks will only move the pointspread when the *actual* betting imbalance differs from the *anticipated* betting imbalance. We contend that sportsbooks do not have perfect foresight into which games

informed bettors (Wiseguys) are going to bet and they do not have perfect foresight into which teams the public will overbet.

We consider three ways in which the pointspread could move. In the first case, new information comes to light on the game. This could be due to injury updates, suspensions, weather, etc. These movements exist, but do not likely account for the large number of movements that occur during the trading week. The second case for a pointspread movement is that movements contain information as informed bettors are wagering on games with more insight than the sportsbook. The last, and most likely case, is that these movements occur when the general betting public significantly overbets certain teams. These games receive an unbalanced amount of betting action in excess of what was originally anticipated. Therefore, the sportsbook determines that the actions of the betting public (noise) will dominate any actions of informed bettors. Therefore, the sportsbook is comfortable in moving the pointspread to attempt to gain even greater profits than originally anticipated.

It is important to note that at this point that the sportsbooks have advantages over informed bettors in this market. First, they set binding limits that are aimed at wiseguys. These limits restrict how much money professional gamblers or gambling syndicates can wager on a given game. This practice is often referred to as "booking to face" as known wiseguys and their associates are restricted in their wagers or denied wagers altogether. It must be remembered that the betting market is not truly free and open, as the sportsbooks are allowed to limit or deny any bet. Therefore, when noise trading dominates the market, the sportsbooks can use this in their favor to further gain profits.

Our contention to be tested is a very simple one. If pointspread moves are all because of new information that becomes available on games, betting with or against these movements should not have any distinct advantage or disadvantage for bettors. If pointspread movements are because of actions of informed bettors, betting with these pointspread movements should win more than 50% of the time and may even be profitable (win percentage greater than 52.38%). If pointspread movements are due to noise betting by the betting public, the sportsbook is moving the pointspread because they believe they have an even greater advantage and, therefore, betting against these pointspread movements should win more often than 50% of the time and could be profitable.

The data set that we use to test this contention is very detailed as it includes every pointspread movement that occurred in this market from open to close, with a time stamp noting the time of each move. This data is available for the previous season and the current season at www.wagerline.com. Linking their data to other available data on-line, it was deduced that the wagerline data comes from the major on-line sportsbook, www.pinnaclesports.com. We have chosen to use the 2006 college football season to examine the role of pointspread movements in this market. We chose college football due to the large number of games, given only one season of this detailed data, and the likelihood of information asymmetry that occurs in this market.

In college football, as opposed to the NFL, there are varying degrees of coverage of teams that exist across conferences and within conferences. There is also a major difference between which teams are frequently televised and which are not. Therefore, many biases may exist in the college football market including biases toward bigger colleges, traditionally more successful colleges, those that have the biggest alumni base, and those that have received the most television coverage, etc. All of these biases may be easily recognizable to the sportsbook, and perhaps to informed bettors, and may shed light on how and why pointspreads move in this office.

The 2006 college football season had 666 games with a posted closing pointspread. Of these 666 games, 530 had different closing pointspreads than opening pointspreads. Therefore, 79.58% of games had some pointspread movement occur during the week that led

to a different closing line. From the time stamps, it's also possible to know that 409 games had a pointspread movement in the first 24 hours of activity (college pointspreads are typically released the Sunday or Monday before the games are played – typically on Saturday – meaning there is usually 6 days of trading activity that occurs in this market), accounting for 61.41% of games and 187 games had a pointspread move within the first 2 hours of activity (28.08%). With the wide majority of games having some sort of pointspread move, many occurring early in the trading week, these movements are likely important and need to be examined.

Pointspread Movements: Returns to Contrarian Betting Strategies

First, we attempted to determine whether pointspreads in the college football betting market move because of the actions of informed bettors (Wiseguys) or uninformed bettors (the general betting public). With the detailed data set that we obtained, which has data on every pointspread movement that occurs from market open to the start of the game, we believed there was a chance to decipher this information. Betting that occurs early in the trading week is likely the result of professional handicappers, who study this market intently. Many of these gamblers and gambling syndicates compute their own pointspreads on games using power ratings and statistical models. When pointspreads are released by sportsbooks early in the week for the next week's games, these presumably informed bettors will wager when their numbers are significantly different from the ones that are released by the sportsbooks at market open.

The general betting public does not typically bet before the day of the game. Most illegal local bookies, where the majority of betting dollars is presumably wagered in the United States, do not take bets until the day of the game. Therefore, early movements in pointspreads are likely to capture the betting tendencies of presumed informed traders, as they are the active participants in this market early in the week.

To attempt to ascertain if these bettors add information to the market, we observed simple betting simulations of following the movement in pointspreads (prices) early in the week. If these informed bettors do have better information than the sportsbooks, betting with the pointspread move should outperform a fair bet (50%) and could yield profits (52.4%).

In a result that may be surprising, the early trading market for college football games does not appear to be informative. In fact, betting with these early pointspread movements yielded more losses than wins. The results for the first pointspread movement (without respect to time), the first twenty-four hours of betting, and the first two hours of betting are shown below. Results are given for simple betting strategies of betting *against* the pointspread movement as a result of early wagering within this market. All wins and losses are calculated for the pointspread that was available at the immediate end of the observed period (after the first two hours or after the first twenty-four hours of trading). Accompanying the wins, losses, and win percentage of the strategy are the log-likelihood ratio tests with null hypotheses of a fair bet and no profitability. The log-likelihood ratio tests are used as they do not impose an equal mean and median restriction on the forecast errors (Even and Noble, 1992).

The results show that the early bettors in this market, which we presumed would be professional football handicappers and gambling syndicates (or at least a sample that is different than the general betting public), do not seem to add information to the betting pointspread. The pointspread movement appears simply to be in the wrong direction and a simple contrarian strategy of betting against the early traders won more than 50% of the time. The results were found to be statistically different from a fair bet for the sample of first moves and for movements in the first twenty-four hour sample.

Given the availability of the data, we also examined betting activity that occurs late in the betting week. Betting that occurs during this time frame is likely dominated by recreational bettors, but it is possible that informed bettors wait until near game time to disseminate all of the game information or to make wagers to counter the whims of the betting public. To examine late market behavior, we calculated the last pointspread move on a game (without restrictions on time), moves that occur in the last twenty-four hours, and moves that occur within the last two hours before the game kicks off. As in the early market table above, given the results, the null hypotheses of a fair bet and no profitability are calculated for simple strategies of betting *against* the pointspread movements.

Late market trading in the NCAA Football betting market does not provide evidence of informed wagering either. Win percentages of betting against the pointspread movements all exceed 50%, although win percentages are not sufficiently high to reject the null hypothesis of a fair bet. There is not evidence that following the actions of late bettors, when the market pointspread moves, earns anything but losses for bettors.

The most striking result in this data set, however, comes from observing the overall pointspread movements from opening to close. Table 3 presents the results of following a simple contrarian betting strategy of betting *against* pointspread movements that occurred from market open to market close. Betting the opposite direction of the price movement in this market yielded the following results.

A simple strategy of "bet against all pointspread movements in college football" was found to reject the null hypotheses of both a fair bet and no profitability. The win percentage of 56.23% was large enough to earn statistically significant profits during the 2006 college football season.

This result gives support to the notion that sportsbooks are willing to move the pointspread when they receive a larger imbalance in bets than they anticipated and when they believe that this imbalance is due to noise, not information. By moving the pointspread in the direction of the whims of the public (backing the more popular team, the team that is on a winning streak, etc.), it becomes more likely that the less popular team will cover the pointspread, as the price becomes artificially inflated, and likely leads to even greater profits for sportsbooks.

Wiseguys, who are likely contrarian bettors in this market, are likely backing the same side as the sportsbooks, due to the sportsbooks being willing to accept an imbalance in bets and not clearing the market (Levitt, 2004). These informed bettors, however, cannot take all of the potential profits away from the sportsbook as the sportsbooks set the rules to control the market. Through setting binding limits on informed bettor activity, the sportsbooks have the power to capture these profits themselves, rather than transferring them to informed bettors.

Discussion and Conclusions

Using the sportsbook model of Levitt (2004), where sportsbooks set pointspreads to maximize profits, not clear the market, the issue of pointspread movements are addressed and studied for the college football betting market in 2006. Although dismissed as "small and infrequent" in the Levitt (2004) study of sportsbook behavior, pointspreads were found to have changed from its opening value in nearly 80% of the 666 contests with a posted pointspread. Moreover, using the detailed data set obtained from www.covers.com, we were able to discover that 61.41% of all games had a pointspread movement in the first 24 hours of trading and 28.08% of games had a movement in the first 2 hours of trading. Therefore, it is likely that these movements in pointspreads are important to the market and deserve to be studied.

Our contention studied in the paper is that if pointspread movements are a function of informed bettors (wiseguys), then a simple strategy of betting with the pointspread movements should win at least half of the time, and possibly, generate profits. On the other hand, if pointspread movements are due to noise trading by the general betting public, the sportsbook is likely making the pointspread movement because they believe the public to wrong. By moving the pointspread in the direction of public sentiment, the sportsbook is making it more likely that the less popular side of the proposition will cover the bet and therefore it likely increases sportsbook profits by an even greater margin than suggested by Levitt (2004). If this is how the sportsbook is behaving, a simple strategy of betting against the pointspread movements should win more than half the time and potentially generate profits.

Through a detailed data set, with time stamps on the movements of pointspreads throughout the trading week, it was determined that early movements in pointspreads do not contain information. In contrast, these movements appear to be wrong more often than they are correct. As the general public seldom bets before the day of the game, the supposed informed traders, who are attempting to exploit inaccurate pointspreads posted by the sportsbook, appear to be losing money as a strategy of betting *against* the first pointspread move, the pointspread move in the first twenty-four hours, and the pointspread move in the first two hours, all had winning percentages above 50%, with the first moves and first twenty-four hour moves being statistically significant compared to the null hypothesis of a fair bet (50%). Late moves were also examined as potential sources of informed betting action, but again, betting against these pointspread movements revealed winning percentages greater than 50%, although not statistically significant.

The most significant result from this data set was found by taking a simple contrarian strategy of betting against all pointspread movements from market open to market close. Following this strategy won 56.23% of the time during the 2006 season. This win percentage not only rejected the null hypothesis of a fair bet, but was also enough to statistically overcome the vigorish incorporated into bets (following a rule of betting $11 to win $10) and could statistically reject the null hypothesis of no profitability.

It appears that noise trading dominates the college football market as taking a simple contrarian strategy of betting against pointspread (price) movements yielded profits. Sportsbooks may set initial pointspreads (prices) to maximize profits rather than clear the market, but they are also quite active during the week of betting (trading) in moving pointspreads when public sentiment differs from their initial market perceptions. When the betting public decides to wager more on some teams than initially anticipated, the sportsbook is fully willing to move the pointspread when they surmise that the betting is a result of noise betting from the generally uninformed betting public, rather than information.

Sportsbooks can accomplish this because they have some control over the actions of informed traders as they can limit the size of their bets through house limits and practices such as “booking to face”. Therefore, when the betting action of the public is enough to overwhelm the likely constrained wagering of informed bettors (wiseguys), the sportsbook is perfectly content to move the pointspread in the direction of the noise trading. This makes it more likely that their profit-maximizing pricing strategy yields even higher returns. Informed bettors may be making money in this market by being contrarian, but due to constraints imposed upon them by sportsbooks, the uninformed public bettors dominate the market leading to greater sportsbook profits.

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Appendix

Table 1: Betting Simulations – Early Market Trading – 2006 NCAA Football Season

Strategy	Wins	Losses	Win Percentage	Log-Likelihood Ratio Test Fair Bet	Log-Likelihood Ratio Test No Profits
Bet Against First Pointspread Movement	333	275	54.77%	5.5413**	1.3947
Bet Against First 24 Hour Pointspread Movement	223	186	54.52%	3.3518*	0.7595
Bet Against First 2 Hour Pointspread Movement	105	82	56.15%	2.3361	1.0690

The log likelihood test statistics have a chi-square distribution with one degree of freedom. Critical Values are 2.706 (for an α=0.10), 3.841 (for an α=0.05), and 6.635 (for an α=0.01). * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 2: Betting Simulations – Late Market Trading – 2006 NCAA Football Season

Strategy	Wins	Losses	Win Percentage	Log-Likelihood Ratio Test Fair Bet	Log-Likelihood Ratio Test No Profits
Bet Against Last Pointspread Movement	321	291	52.45%	1.4712	0.0012
Bet Against Last 24 Hour Pointspread Movement	227	213	51.59%	0.4455	
Bet Against Last 2 Hour Pointspread Movement	69	65	51.49%	0.1194	

In situations where the win percentage of the strategy does not exceed 52.38%, the log-likelihood ratio test for no profitability is not presented as earnings are negative. The log likelihood test statistics have a chi-square distribution with one degree of freedom. Critical Values are 2.706 (for an α=0.10), 3.841 (for an α=0.05), and 6.635 (for an α=0.01). * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 3: Betting Simulations – Betting Against Overall Pointspread Movements: 2006 NCAA Football Season

Strategy	Wins	Losses	Win Percentage	Log-Likelihood Ratio Test Fair Bet	Log-Likelihood Ratio Test No Profits
Bet Against Overall Pointspread Move	298	232	56.23%	8.2402***	3.1545*

The log likelihood test statistics have a chi-square distribution with one degree of freedom. Critical Values are 2.706 (for an α=0.10), 3.841 (for an α=0.05), and 6.635 (for an α=0.01). * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Optimal Combinations of the Current Accounts: A Solver Application

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Abstract

This paper provides a methodology and a pedagogical template for the discovery of the optimal combination of a firm's inventory, accounts receivable, and other current assets through the utilization of Excel's Solver. As for an application of the methodology, relevant data taken from Starbuck's annual reports for the years of 1998-2007 are utilized. Optimization, as determined by Excel's Solver, is a combination of current accounts consistent with the portfolio's minimum variance. A three – asset portfolio is created by considering accounts receivable, inventory, and collectively all other current assets. The weights associated with each asset component are determined initially on the basis of what prevailed during the 1998-2006 time period. Solver's optimization process is then utilized to determine the minimum variance for these categories and the weights consistent with the estimated minimum variance. The original percentage breakdown, according to the annual reports, indicates Starbucks' allocations of current assets are; 14 percent to accounts receivable, 38.18 percent for inventory, and the remaining 47.82 percent to the miscellaneous category. Solver indicates the optimal combinations would call for 76.71 percent of the current assets to be redistributed to accounts receivable, 17.65 percent would go to inventory, and the remaining 5.64 percent to the miscellaneous category. Clearly, according to the optimization process a wholesale reallocation of short-term assets would be called for if management were to adopt variance minimization as its goal. Management might choose such a goal in an effort to minimize such cost categories as administrative, search, and transaction costs associated with acquiring additional short-term financing, carrying unnecessary inventory, and the administrative time and effort involved in managing, transferring and seeking cost effective sources of financial and physical resources. Theses findings are significant in that, if it so chooses, management can utilize this methodology, and alternative combinations of accounts as a means of allocating its scarce resources in such a way as to reduce the volatility of the distribution of its short-term resources over various current accounts. Consequently, assets in excess of this optimal distribution can be more effectively utilized elsewhere by the firm.

Introduction

One purpose of this paper is to provide a methodology for the optimization of working capital policy by discovering that combination of selected current assets that correspond to their minimum variance. Another objective is to provide, for instructional purposes a template for the determination of this optimality subject to the limitation that a number of the significant current accounts are grouped together into one category. This methodological abridgment is made in order to maintain the paper within a tractable scope. A full treatment of the paper's thesis would, or course, provide a model where optimality is achieved with all accounts entered independently. From an operational standpoint, the gist of

the methodology is conveyed by focusing on accounts receivable and inventory with the rest of the current accounts being regulated to the miscellaneous category.

That is not to imply that such accounts as cash and marketable securities are less important. These accounts are more closely aligned with the financing function of the firm. By choice, the thrust of this paper is to provide a model for the optimization of those accounts that are more closely related to the operational activities of the firm rather than financing. We do not imply that these two functions are separate and distinct. They are very much intertwined with the degree of interaction increasing and decreasing as the firm moves over the sales cycle. Indeed the main purpose of seeking to minimize the variance of the three current-asset categories is to better manage these interactions so as to reduce those costs, implicit and explicit, mentioned above.

Each net working capital component, according to Mannes and Zietlow (2005) can be said to have three characteristics to a greater or lesser degree: solvency, liquidity, and financial flexibility. Since accounts receivable and inventory are singled out for special concentration, a self-imposed limitation of the paper is that not as much attention is given to the liquidity and financial flexibility features. To give these features the full attention they deserve would extend the paper beyond manageable limits. Needless to say liquidity and financial flexibility cannot be completely ignored. Doing so would ignore the interactions among the three features. Thus, liquidity and financial flexibility are mentioned only to the extent the featured account categories are significantly affected by these characteristics.

We readily acknowledge that many accounts in addition to accounts receivable and inventory are affected by operational decisions. These accounts include prepaids, and accruals. However it is felt that compared to accounts receivable and inventory, these categories are secondary in nature; thus they are regulated to the miscellaneous category.

The construct of the paper is as follows. The next section is devoted to a review of the literature - followed by a section that provides an explanation of the methodology used here within. The fourth section is devoted to a presentation of the paper's findings. The summary, conclusions, and implications are contained in the final section.

Literature Review

Intentionally or unintentionally working capital is treated in a manner that fails to distinguish those accounts most associated with, and affected by operations, from the accounts that are essentially financial in nature. This practice is curious considering the modern trend of many business organizations to focus on the operational aspects instead of such traditional criteria, net income, earnings per share, etc. One of the early works to recognize this distinction was a paper by Shulman and Cox (1985). In their piece they separate the current accounts into two categories solvency and liquidity according to their primary characteristics. The former they labeled working capital requirements and the latter net liquid balance. In their effort to test for cross-industry working capital policy differences Hawawini, Viallet, and Vora (1986) used a comparable dichotomization. For comparable purposes they standardized their data on a per-unit-of-sales basis. This technique enables the researcher to make comparisons of different sizes of firms, across industries, and across different time periods. Hawawini, Viallet, and Vora (1986) found a statistically significant difference in the amounts of working capital requirements and net liquid balance and concluded there was evidence that differences in net working capital needs and policies were industry sensitive. This standardization process is fairly common and thus is followed in our paper. Although for purposes of our paper, we do not dichotomize the current accounts into the working capital requirements and net liquid balance categories, we nevertheless apply the per-unit-of sales technique to relevant Starbucks' working capital data for the period 1998-

2006. Also, we follow the spirit of Shulman and Cox (1985) by recognizing the distinction between those asset accounts that primarily embody the characteristics of solvency and those exhibiting liquidity features.

In a forthcoming paper, Gurley, Johnson, and Newman (2007), dichotomize Starbucks net working capital into Shulman and Cox's (1985) net working capital requirements and net liquid balance categories, and utilized Excel's Solver to optimize the portfolio composed of these two combinations. For the time period of the analysis, Starbucks' historical distribution of net working capital was 59 percent allocated to the net working capital requirements category, and the remaining 41 percent was invested in the net liquid balance. Utilizing Markowitz"s (1952) portfolio methodology, Solver found the local optimality, i.e. minimum variance, requirement was met with a 95 percent allocation to working capital requirements and just a 5 percent allocation to the net liquid balance. When a test for liquidity adequacy was conducted, it was discovered that the five percent distribution had a probability of only one chance in a thousand of resulting in inadequate liquidity. Consequently, Starbucks' management should be able to reallocate working capital resources from the net liquid balance to such accounts as accounts receivable and inventory with impunity. In addition to indicating the optimal combination of the categories, the variance minimization approach also suggests that the controller and/or financial manager can economize on administrative, search, and transactions costs by utilizing this approach. Funds and resource transfers between account categories, inventory ordering costs, and credit and collections policies associated with accounts receivable management, and those transactions costs associated with acquiring extra financing could all be optimized through utilization of the variance minimization methodology. A model utilizing this methodology is presented in the next section.

The Model

Much of the literature and discussions concerning net working capital management treat such principles and techniques for accounts receivable, inventory management, and the management of other current account categories as separate entities rather than within a portfolio optimization context. The implication of this omission is the assumption that each of these categories will have negligible influence, i.e. "spillover effects" on the other current account variables when in fact the opposite should be true. One can easily surmise, that for the vast majority of businesses, statistically significant correlations and covariances exist between the major categories net working capital. Consequently, a portfolio diversification model would address this issue and provide better insight as to the inner dynamics between the various accounts. Hence, controllers, financial managers, and managerial executives in general can gain a better insight as to the harmonic interactions among the current accounts and repercussions of their decisions.

All three of the current asset categories of our study are functionally related to the sales cycle. However, we surmise accounts receivable and inventory are more spontaneously related to the sales cycle than the miscellaneous category. That is they move in concert with fluctuations in the sales cycle in a more correlative manner. Consequently, their financing requirements may be, depending on the cash flow time line and its management, largely self-sustaining. Self-sustainment, or course, would be management's ultimate goal. To the extent self-sustainment is not possible, limited and/or periodic financing augmentation from the other working capital sources, or a draw on secular capital may be required. Or as an alternative, exogenous sources of capital may be utilized. Temporary fluctuations in the sales cycle, or collection cycle, in all likelihood will impact receivables and inventory balances and will directly, or indirectly, affect any, or all, the categories we have circumscribed. Thus,

management should continuously monitor and manage these, and related financial resources over the sales cycle.

Short - term increases in receivables and inventory financing are most likely financed by draws on the balances of the liquidity accounts. Likewise short-term diminishments in the financing needs of these accounts would likely be reflected in augmentations of the liquid accounts. There is an opportunity cost associated with holding excessive amounts of liquidity. An attractive alternative might be to hold what is considered to be an optimal amount of liquidity and to rely on pre-established lines of credit to meet uncertain and temporary financing needs. More sustained financing needs must be obtained from alternative sources. Internally these secular financing needs might be obtained from a reallocation, or sale, of existing long-term assets if financing needs from these sources can be met quickly enough.

External alternative sources include, but are not limited to, a draw-down of existing capital, reliance on pre-established lines of credit, the issuance of additional equity and/or debt, or some combination of all the above. Management must distinguish increased demands for net working capital according to the longevity of these needs. Secular increases in net working capital should be met from permanent sources. Whereas seasonal needs could be more appropriately met from some of the more liquid resources or other short-term financing sources mentioned above. Although these issues must be addressed by good short-term financial management, our model is truncated with respect to this dimension. At this point, our model addresses only the optimal combination of accounts receivable, inventory, and other current assets treated as a collective category as well as the weights appropriate for the calculation of the optimal combinations of the three current asset categories. Nor, in keeping with this vector of thought, the net profitability of incremental changes in accounts receivable and inventory will be explored.

Those in academia as well as practitioners often neglect the importance of optimizing the different working capital components. Those efforts that are expended toward determining desirable levels of net working capital components usually use some form of stand-alone methodology that seeks the optimal level of the component in question without considering the "spillover" implications of a change in short-term finance policy. The model outlined here within seeks to capture the ebb and flow of those interrelationships between the current asset categories outlined above as they shift among themselves over the sales cycle.

Our objective is to provide a methodology that will enable the analyst to ascertain the optimal combinations of desired current assets subject to the constraints placed on the model by the analyst in addition to any constraints embedded in Solver's programming. For purposes of illustration, as mentioned above, we have elected to utilize Solver to find the optimal combination of Starbucks' accounts receivable, inventory, and the rest of the current assets taken collectively as a third category for the 1998 – 2006 time period. Optimality is defined as that combination of the asset categories that provides the minimum variance. As a "byproduct" of the minimization process Solver provides the proportional weights that are consistent with the optimal combination, i. e, the percentage of each category with respect to current assets is optimized as part of the process of solving for the minimum variance associated with the three categories of current assets. For purposes of illustration, the Solver add-in that is usually provided with Excel is utilized. For more professional usage, analysts might wish to purchase one of the more expanded versions of Solver. Some vendors provide Solver add-ins that can handle as many as 200 hundred variables, in some cases more. With such a package an analyst could easily solve for all the optimal combinations of all the net working capital line items. For our purposes the three category stratification is sufficient in order to illustrate the procedure and thus avoid the likelihood that the calculations will become unmanageable for purposes of this paper. Our model follows a three- asset variant of

the portfolio methodology developed by Harry M. Markowitz (1952). As justification for our three -asset truncation, Benninga (2006) points out that the number of covariances will increase exponentially as the number of variables to be optimized increases. To illustrate, a three-asset portfolio will have three covariances and a four-asset portfolio will have six covariances, etc. Thus, if one wishes to optimize a much larger number of variables then a much more complex Solver add-in is required. Likewise for the sake of brevity Starbucks' complete financial statements for the time period are not presented. Rather, only the data relevant for our analysis are provided. Prior to presenting our findings however, it would be fruitful to provide a brief explanation of Solver and its process. A Solver tutorial is far beyond the scope of this paper, but we feel a brief explanation of its process will be fruitful. An explanation of optimality should be especially useful at this point.

Depending on the model structure, Solver is capable of solving for several optimal points. In the latter case, the optimum positions could be any one of a number of data "peaks" or "spikes," That is, local optimal points. In that case, Solver's designation of optimality would be a function of its starting point. Select another starting point and solver could conceivably find a different local optimality. This dilemma could present itself for nonlinear modeling and optimization. For our purposes this is not an issue because our model is specified as short-term in nature thus linear with respect to its functions. Thus a single local optimization point can be expected. Solver's approach to optimization is iterative in nature. That is, it makes incremental changes in the data. As long as a reduction in the variance results from these changes, Solver continues in that direction. Once the marginal changes begin to increase the variance, Solver reverses course. Thus, by successive approximation Solver arrives at the optimal combination of variables consistent with a minimum variance. Thus, for a global optimal surface characterized by data "spikes" the number of optimal combinations equals the number of "spikes."

Other uses of Solver include optimal resource allocation over multiple time periods, capital budgeting allocation over multiple projects, net works for scheduling work, deliveries, and manufacturing processes, as well as budgeting, and in the case of economics macroeconomic optimization. The latter is easily susceptible to global optimality. In this paper, as stated, our application of Solver is short-run in nature, constrained to linear relationships, and illustrates only a minor portion of the capability and usefulness of this often neglected tool. Consequently, for our constrained model, global optimality is not a serious concern.

The Results

As mentioned previously, our model is constrained to seek only the optimal combinations of Starbucks' 1998-2006 current assets, inventories, and a miscellaneous category that contains all other current assets. In the Appendix Table 1 contains the historical data and statistics that prevailed for the 1998-2006 time period. For these data, no attempt, we assume, on the part of management was made to optimize these combinations. One has to assume that Starbucks' management had some rationale, or plan, underlying these resource allocations, but it is our supposition that guidelines predicated on an optimization model were not utilized. Table 2, provides the Solver optimization results.

Table 1 indicates that for the time period in question the annual reports indicate 14 percent of Starbucks' current assets are absorbed by accounts receivable. Inventory utilizes 38 percent of the current assets, and the remaining 47 percent of current assets are consigned to the miscellaneous category

Through the optimization process, Solver discovers the optimal proportions to be allocated on the basis of 76 percent to accounts receivable, 18 percent to inventory, and the

remaining 6 percent to the miscellaneous category. As a result the variance decreases from 4.737 to 0.336 – a 93 percent decrease. Optimization indicates a significant reorganization of current assets would be called for. Such a realignment of current assets would also dictate a restructuring of short-term financing. The decision would be firm specific and not undertaken without consultation with all interested parties. In addition to management, other stakeholders include creditors, stock holders, suppliers, investment bankers, etc. An additional issue is whether a five percent allocation to the miscellaneous category is adequate. Emery's Lambda statistic can shed some light on this concern. By dividing the mean by its standard deviation provides a reference that can be utilized along with for a left-tail Z table statistical test. Since Solver indicated that only five percent of current assets should be allocated to the miscellaneous category, the probability that such an allocation should be adequate should be determined. As indicated in Table 2 multiplying the miscellaneous category values by the weight 0.05 to reflect the optimal redistribution to reflect the optimal weighted average, a mean value of 0.561 and its sigma of 0.217 were obtained. Then, dividing the latter into the former a Lambda value of 2.58 is obtained. Using the Z table this Lambda value indicates there is a 0.5 percent chance that this allocation will be inadequate.

Thus, our template for analysis should just be the beginning of the decision process. First management should determine whether the optimal allocations would provide adequate allocations to the accounts - specially the liquid accounts. Secondly, management should get a sense of how receptive some of the other stake holders would be to such a resource reallocation. For example, what would be the position of stock holders, and equally important the creditors. A crucial question, of course, would be what would be the expected net benefit of the resource reallocation? Would the reallocation manifest itself in an increase in expected profits? If so, how much of an increase could be expected? Such issues are also beyond the scope of this paper, but two analytical techniques can be suggested but are not explored here within. Two such measures of incremental policy changes are the incremental profits method and a modified net present value technique. The former is a variation of sensitivity analysis whereby the analyst determines the incremental change in net income by developing two different sets of pro forma financial statements. One set is predicated on the assumption that no policy changes are made. The second set reflects the results expected from the policy change. In our case, the change would be a redistribution of current assets among the three categories.

The other technique is incremental in nature also except it considers the difference between the net present value of expected cash flows based on the assumption that the existing policy remains unchanged and the net present value of cash flows that are expected to result from the policy change. Although the two methods usually provide the same accept/reject results, the latter is preferred by many because it is frequently more precise, and it can be formulated so as to provide the optimal credit period and optimal cash discount, Mannes and Zietlow (2006). A through optimization analysis would in all likelihood consider such methodologies in addition to some technique similar to ours. Complete optimization of all relevant data involves a comprehensive treatment and commitment of all levels of management. The model and results presented above provide evidence that such a review would be worth while and warrants additional research and consideration.

Summary, Conclusions, and Implications

Despite its usefulness and the years of availability Excel's Solver is largely underutilized by both academia and practitioners. Although it is an excellent add-in, and for the most part user friendly, for providing optimal solutions for many business and economic

decisions it has not received the attention and usage it deserves. In this paper we attempt to illustrate its attractiveness and utility by utilizing it to estimate the optimal combinations of accounts receivable, inventory, and a combination of all the other current assets for Starbucks' for the 1998-2006 time periods as published in the firm's annual reports. In order to make intertemporal comparisons, each account's data are divided by that year's annual sales. Thus, the current accounts are expressed on a per unit of sales basis. Prior to optimization Starbucks annual financial data reflect 14 percent distribution of its current assets to accounts receivable, 38 percent to inventory, and 47 percent of its current resources to the miscellaneous category. Solver's optimization process indicates that ideally 76 percent of its current assets should be diverted to accounts receivable, 18 per percent should be invested in inventory, and the remaining 6 percent of current assets consigned to the miscellaneous category. The reallocation of current assets to Solver's optimal proportions reduces the variance by approximately 93 percent. Clearly such a reallocation would necessitate drastic policy changes by management. Credit and collection policies could be changed, as well as inventory management policies. Likewise policies that affect liquidity issues should be addressed. Such a drastic reorganization of credit and collection policies must be contingent on the nature of the market in which the firm operates, i.e. how feasible is it to adjust credit sales, credit standards, and collection practices in order to meet this objective. Likewise, management's ability to modify its inventory practices would depend not only on management's inventory management skills, and desires, but on the reliability of its suppliers and their willingness and ability to meet the new practices and requests. In addition, management should address the concerns of other stakeholders such as the stockholders, creditors, regulatory authorities, and the investment banking community as well as competitors.

In conclusion we hope by directing attention to Solver's potential, and the many benefits of optimization methodology, and Solver's contributions to such, financial managers and controllers will realize the benefits to be obtained and will utilize them as practical, as well as pedagogical, opportunities present themselves. Our example illustrates how a firm, through the reallocation of financial statement accounts, can discover optimal combinations of the different accounts, thus reducing such costs associated with administrative time and effort, search activities, transaction costs, etc.

There are many implications to be drawn from the thesis of this paper. Among these are the opportunities that are implied by the optimization methodology. The simple template presented in this paper should enable many application ideas to germinate. Likewise, another implication of our optimization template is it provides an opportunity to realize that a much more extensive Solver add-in can address many more complex issues and applications than what we addressed here. Hopefully, in some modest way, our treatment of this useful, but frequently overlooked tool will inspire financial managers, comptrollers, analyst, model builders in other disciplines, and others to consider the many benefits to be gained through the utilization of this tool.

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Appendix

Table 1: Starbucks' Current Assets as a Percentage of Sales* (For the years 1998 – 2006)

Year	Accounts Receivable %	Inventory %	Other Current Asset %
2006	4.9145	8.1703	8.5951
2005	2.7289	8.5771	5.3848
2004	2.4748	7.9834	21.4323
2003	2.8082	8.4146	11.4399
2002	2.9666	8.0017	14.801
2001	3.4377	8.3523	10.6543
2000	3.5215	9.2964	8.3799
1999	2.8361	10.936	9.4027
1998	3.8947	10.936	10.9414
Average CA %	3.287	8.9630889	11.225711
Variance	0.5113463	1.2479241	18.874304
Cov(AR,I)	0.0652193		
Cov(I,OAC)	-1.5523386		
Cov(AR,OAC)	-1.1848455		
Total CA %	23.4758		
Percentage in Accounts Rec.	0.1400165		
Percentage in Inventory	0.3818012		
Percentage in Other Current Assets	0.4781823		

Portfolio Statistics	
Average	9.2502884
Variance	4.741624
Sigma	2.177527

* Calculations are based on historical pre-optimization data.

Table 2: Starbucks' Optimal Statistics (For the Years 1998 – 2006)

Percentage in Accounts Rec.	0.7670625
Percentage in Inventory	0.1765371
Percentage in Other CA	0.0564004
Optimal Current Asset Statistics	
Average	4.7367866
Variance	0.3367881
Sigma	0.5803344
Optimal Other Current Assets	
Average	0.62864
Variance	0.05919
Sigma	0.24329
Lambda	2.583916

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Comparative Study of Student Preferences Associated with Online Teaching

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Abstract

This study investigated, through the use of a survey administered in 2004 and again in 2008, student perceptions of online, hybrid, and traditional courses. The study found students prefer traditional classes over hybrid and online classes and they prefer hybrid classes over online classes. However, the percent preferring hybrid and online classes increased between 2004 and 2008. Convenience remains the top reason students prefer online classes. Results that raise concerns are student perceptions that online classes are easier, yield less learning, and are less suitable in terms of learning style.

Introduction

As institutions of higher education continue to try to meet the changing demands of their students (Rodgers, 2005) and to integrate the ever-improving capabilities of technology, most are now offering online and hybrid courses in addition to the courses taught in traditional classroom format. In 2000-2001, the National Center for Educational Statistics (2003) reported that 89% of public 4-year degree-granting institutions offered distant education. And, that number is expected to grow. Findings by the NCES (2003) show that 88% of institutions that offered distant education courses in 2000-2001 plan to start using or increase the number of strictly online courses. Blackboard, Moodle and other course management platforms have become commonplace as tools for communicating with students and for posting assignments, course material, and grades.

With all of these changes occurring, the need to recognize the strategies that make a course successful, from the standpoint of both the students and the instructors, has become vital. Research shows that many challenges and misconceptions exist in the case of distant learning. Students, happy that they can take the class "in their pajamas" and not have to deal with their professor face-to-face, do not always realize they have to regularly and actively participate in the class and cannot be reclusive, like they can be in a classroom setting (Sieber, 2005).

Faculty who teach the online and hybrid courses quickly realize that instructing the course is much more than posting lectures and developing quizzes. They find that the online course involves a much greater degree of planning than the classroom course and is more labor intensive (Sieber, 2005).

While the traditional classroom setting can offer productive face-to-face interaction among students and faculty, its shortcomings, such as inflexibility in meeting time and location, have led to the offering of hybrid and online courses. (El Mansour, Mupinga, 2007). However, these alternative course offerings are not without their own unique challenges. In a study by El Mansour and Mupinga (2007) of students enrolled in hybrid and online courses, students stated that technical difficulties and delays in getting instructor feedback were challenges they faced. Quality of instruction, lack of instructor availability, and delays on the part of faculty in providing feedback were similar challenges cited by students in The

National Online Learners Priorities study, conducted by Noel-Levitz, the higher education retention consulting firm (Sevier, 2006). For faculty, challenges include "lack of technical training and support, inadequate compensation, and lack of release time" (El Mansour, Mupinga, 2007). They also fear that they won't be able to connect with their students and that the online course won't be as effective in content (Shank, 2005).

Despite these misconceptions and challenges, several studies indicate that online learning can be just as effective as traditional settings, and students, while still preferring face-to-face learning (Simonson et al. 2003), are finding the online learning experience to be positive in many ways. Respondents in the El Mansour and Mupinga study (2007) liked the convenience and flexibility of the online course, having the expectations of the class, and the availability of the instructor. Students of the hybrid classes liked "having the physical presence of the instructor to provide additional input." Other research shows that because of the continual nature of online courses, students have even more opportunities to communicate with each other and with the instructor and to participate in discussions than in a classroom setting (Shank, 2005).

Overall, current research implies that the success of the learning experience depends not on the setting with which it is delivered or which, if any, course management software is used, but more on the level of interaction between student and instructor (Durrington, et al, 2006), and clear and reasonable expectations, requirements, and assessment procedures (Sevier, 2006). While the online setting is certainly different from the classroom setting, "the goal of creating a stimulating, interactive learning environment for students is the same, regardless of the context" (Durrington, et al, 2006).

The purpose of this study is to investigate student perceptions of online, hybrid, and traditional courses. Additionally, the study collects information regarding the useful tools available in classroom management software. A comparison as to how these perceptions have changed in the last several years will also be made. As online courses become more readily available and education platforms (Blackboard, WebCT, and Moodle) become more commonplace, we as faculty and administrators have an obligation to understand our students' preferences in education venues.

To understand students' perceptions, a survey was administered to approximately 500 students attending a mid-south university in 2004 and a similar survey was administered to approximately 300 students in 2008. The survey asked several types of questions including reasons why students would take an online course, how certain criteria were provided to the students in online courses as compared to traditional courses, how they perceived certain features of Blackboard and other course management platforms, and their preference in terms of taking a traditional course, online course, or a hybrid course. This paper analyzes the results of both surveys, compares the differences in the results, and concludes with findings related to the success and value to students of online courses and technology as a venue for education.

Empirical Results

Results indicate that students still prefer "Traditional" classes over hybrid or online. Fifty-four percent of students surveyed in 2008 indicated "Traditional" classes as their first choice. Students like the interaction of the instructor and the student in the classroom. Additionally, students are comfortable and familiar with this teaching format.

Twenty-nine percent indicated "Hybrid" as their first choice and nineteen percent indicated online as their first choice. Hybrid classes can offer the advantage of face to face interaction in the classroom and the convenience of some online components. Online classes

are gaining popularity and increasing their offerings. However, from the survey results, traditional students still prefer traditional teaching methods.

Comparing these results with the 2004 survey, there is a definite trend of hybrid and online gaining ground. In 2004, sixty-seven percent of students indicated "Traditional" as their first choice as compared with 54% in 2008. Similarly, in 2004, sixteen percent indicated "Hybrid" as their first choice as compared to 29% in 2008. In 2004 and 2008, students indicated a preference for "Hybrid" classes over "Online" classes. The student demand for online and hybrid classes is increasing, but these survey results suggest an even stronger trend for hybrid as compared to online classes. Refer to Figure One.

The survey asked students to rate reasons why they would take or consider taking an online class as compared to a traditional class. The results indicate that convenience is the number one reason students take online classes. Other highly rated reasons (which are actually related to the convenience factor) included work schedule, preference for working at one's own schedule, not attending a physical classroom location, and being able to work at home. These results were similar to the 2004 survey results. Refer to Figure Two.

The survey asked students about their perceptions of online and traditional classes related to ease, probability of getting a higher grade, greater learning, amount of homework, instructor interaction, student interaction, interaction with the university, and learning style compatibility. Survey results reveal that students perceive online courses as easier, as having a low probability of a higher grade, perception of less learning, more homework, less interaction with the instructor, other students, and the university, and less compatible with their learning styles. In contrast, students perceived traditional classes as easier, as having a higher probability of a higher grade, as having greater interaction with the instructor, other students and the university, and more compatible with their learning style.

The results showed some distinctive differences between the 2004 and 2008 surveys. Comparing the two surveys, students in 2008 perceived online classes to be easier, to yield a higher grade, to bring about greater learning, and to entail more homework than what students in 2004 perceived. Additionally, a greater percent of students in 2008 felt that online classes better fit their "learning style." During the four years a more positive perception by students has begun to develop. Refer to Figure Three.

In terms of online features of course management platforms, students value the posting of grades and lecture notes the highest. Students also value the posting of chapter outlines, announcements, and assignments. Some of this value may well be from the fact that these are the items posted by the instructors for the students to use. Refer to Figure Four.

Conclusion

The acceptance of online teaching by instructors as well as students is growing. Students still value traditional classes the most; however, some of this may be that the survey instrument targeted mostly "traditional" students. However, even these "traditional" students are becoming more akin to online teaching, especially the use of hybrid teaching.

Convenience remains the primary reason that students seek online classes. Related to convenience, other cited reasons were work schedule, preference to be able to develop their own study schedule and study at home, and to forego the need to attend class in person at a physical location.

Some perceptions regarding online classes still cause concern. The majority of students perceive online classes to be easier. However, the definition of "easier" causes some difficulty in interpreting this result. Are the classes easier because they are less challenging? Are the classes easier because they are better organized and more focused? Are the classes easier because they are more convenient? A future survey needs to clarify these different possible interpretations. As an educator, my first instinct is that "easy" is bad; however that may not be the case.

Another concern is the perception that greater learning occurs in a traditional class. Eighty-six percent of survey respondents felt that greater learning occurs in a traditional class. It would be useful to compare learning outcomes of two classes (one class a traditional class and one class an online class). Is the perception reality?

Online and hybrid learning is here to stay. For many it is the answer to many problems and issues. For others, it is the cause of many questions and concerns.

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Appendix

Figure 1: Preferences Choice of Teaching Style

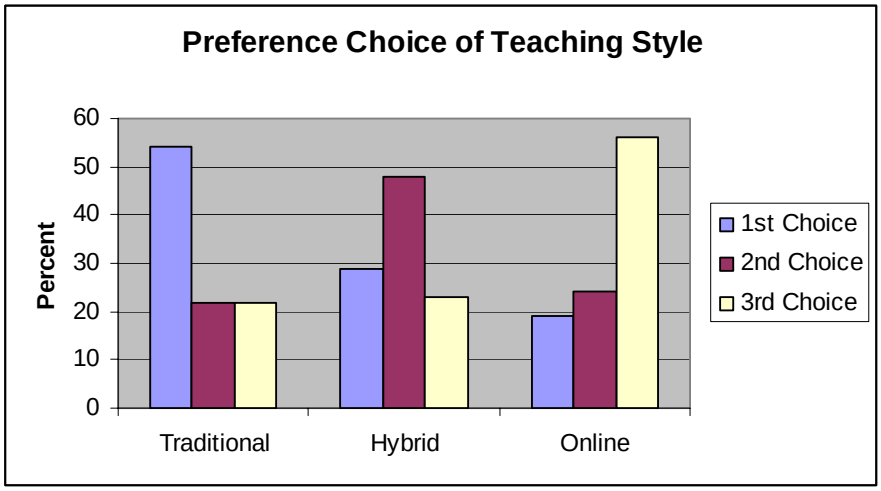

Figure 2: Reasons to Take Online Course

	2008	2004
Convenience	4.17	4.14
Prefer Schedule Freedom	3.94	3.93
Work Schedule Conflicts	3.93	4.04
Prefer Not to Attend Class	3.89	3.97
Prefer to Study at Home	3.69	3.71
Less Time Involved	3.45	3.39
Higher Grade	3.30	3.11
Dislike Lectures	3.16	2.97
Only Choice	3.12	3.17
Like Technology	3.08	2.97
Easier	2.77	2.52
Prefer Teaching Method	2.66	2.38
Child Care Issues	2.36	2.61
Learn More	2.34	2.28

Note: Scale of 1 to 5 utilized with 5 being most important and 1 being least important.

Figure 3: Perception Comparison between Traditional and Online Classes

Perception….	2008		2004	
	Traditional	Online	Traditional	Online
Of Ease	41%	59%	54%	46%
Of a Higher Grade	52%	48%	58%	42%
Of Greater Learning	86%	14%	89%	11%
Of Suitable of Learning Style	65%	35%	74%	26%
Of Greater Amount of Homework	31%	69%	39%	61%
Of Instructor Interaction	96%	4%	97%	3%
Of Student Interaction	96%	4%	96%	4%
Of Interaction with the University	95%	5%	92%	8%

Figure 4: Usefulness of Online Tools

Online Tool	Degree of Usefulness	Online Tool	Degree of Usefulness
Grades	4.58	Tests	4.10
Lecture Notes	4.58	Websites	4.03
Chapter Outline	4.48	Videos	3.98
Announcements	4.44	Email	3.94
Assignments	4.32	Discussion Board	3.38
Quizzes	4.23		

The Usefulness of Price to Earnings Ratio (P/E) in Predicting Share Price Behavior: A Review of Recent Evidence

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Introduction

Investors and financial analysts have long puzzled over the question whether price-earnings ratios (P/E's) can be used to predict stocks performance over some holding period. In this debate, which has been particularly lustrous in popular financial media, the fundamentalists have generally considered a low P/E ratio a prerequisite for a stock's price growth and argued that investors should therefore insist on acquiring equity shares with low P/E ratios.

While no one has been able to provide a coherent theoretical foundation in support of the so called P/E effect, much of the research dealing with the subject and the investment strategy inferred from the research is based on market imperfections and presumably "irrational" investment strategies by market participants. Jack C. Francis (1991) succinctly sums up the prevailing thinking:

The P/E ratio effect remains a robust and statistically significant determinant of common stock returns. No one has been able to explain why this return regularity exists. In fact, the causes for most of the return regularities in stock prices reported remain undetermined --but they are nevertheless flaws in the efficient markets theory. (Francis, 1991, p. 566).

Review of Theory

The hypothesis that portfolios of stocks with low P/E ratios are more likely to outperform portfolios of high P/E stocks over a certain holding period is embraced by many academic researchers and financial analysts. In his widely acclaimed reader about the stock market, Burton G. Malkiel is explicit about the superior performance of low P/E stocks relative to stocks with high price-earnings multiples. "We have come to another potential anomaly with which I have considerable sympathy," he wrote [1977, p. 195]. These conjectures have been tested in several empirical studies with results that have been wholly or partially supportive of the P/E effect. However, this literature has failed to establish a pervasive cause-and-effect relationship between historical earnings and share prices.

Much of the application of the P/E ratios technique for evaluating stocks was pioneered by Malkiel's theoretical works (1963, 1970), and Malkiel and Cragg's influential article in the American Economic Review and (1970) and S. Basu (1977). In an extensive review of the theoretical literature and the empirical evidence, Basu (1977, p. 680), concludes that “contrary to the growing belief that publicly available information is instantaneously impounded in security prices, there seem to be lags and frictions in the adjustment process. As a result, publicly available P/E ratios seem to possess "information content" and may warrant an investor's attention at the time of portfolio formation or revision.”

The theory incorporated in these widely cited articles has provided much of the foundation for empirical research regarding the significance of P/E ratios and share prices. In its nonlinear form, Malkiel and Cragg's stock valuation model hypothesizes that within a finite holding period, a security's P/E ratio depends on the stock's dividend payout ratio, expected

long-term growth rate of the dividend stream, the appropriate discount rate, and the average current price-earnings ratio for the market as a whole as shown in equation (1) below:

$$(1) \quad \frac{P_O}{E_O} = \sum_{i=1}^{N} \frac{D_O}{E_O} \frac{(1+g)^i}{(1+r)^i} + (m_s)_O \frac{(1+g)^N}{(1+r)^N}$$

Where P_o/E_o is the price-earnings ratio, "D" the annual dividend per share in the year just past, "g" the growth rate in dividend, "r" the appropriate rate of discount, "$(ms)_o$" the average current price-earnings ratio for the market as a whole, and "N" the holding period.[1]

For purposes of empirical estimation, these authors use a linear approximation for the nonlinear model specified in equation (1). In the linear version the P/E ratio --the dependent variable, is regressed on growth rate in earnings "g", the dividend-payout ratio "D/E", the variance of earnings "I" and the stocks' beta risk (b). This is shown in equation (2) below:

$$(2) \quad \frac{P}{E} = \alpha_0 + \alpha_1 g + \alpha_2 \frac{\overline{D}}{\overline{E}} + \alpha_3 I$$

As expected, the empirical estimates of the parameters of the linear model show the P/E ratio to be positively correlated with both the growth variable and the dividend-payout ratio, but negatively correlated with the variance in future earnings. Unfortunately, this model, in spite of its strong explanatory power, has performed poorly in detecting under-priced securities.

Other studies in support of the preceding generalization include works by Nicholson (1960), Breen (1968), Miller (1965) Whitbeck and Kisor (1963), Sanjoy Basu (1975, 1977, 1983), Holmes (1975), Graham (1977), Reinganum (1981), Oppenheimer (1984), Peavy III and Goodman (1987), Bruce I. Jacobs and Kenneth N. Levy (1988), April Klein and James Rosenfeld (1991), and James B. Wiggins (1991).

Among these, Basu's 1983 study (published posthumously) was perhaps the most thorough examination of the P/E effect prior to 1992. After controlling for both risk and size, Basu was able to show that for the 1963 to 1980 time period, on the average, common stocks with low P/E ratios earned higher returns than the common stock of high P/E firms. In this article, Basu argued that the P/E effect could not be attributed to biased expectations regarding earnings and earnings growth as claimed by Dreman (1978). Instead, he offered that the P/E anomaly was probably due to a misspecification of the equilibrium pricing model rather than capital market inefficiency per se.

The Contrarian Conjecture

Among the non-academicians, David Dreman, the celebrated author of Contrarian Investment Strategy (1982), has been the most outspoken and zealous supporter of the low P/E investment strategy. He advocates that low P/E stocks not only yield well-above-average

[1] It should be noted that a similar model was offered earlier by V. Whitbeck and M. Kisor (1963). Their model regressed P/E ratios on growth in earnings, dividend-payout ratio, and the standard deviation of the growth rate.

returns but also significantly higher safety margins as well. Dreman's theory is founded on the notion that stock returns tend to follow "the principle of regression toward the mean", to use his phrase, and the market's consistent overreaction to both good and bad news. He contends that most investors erroneously value stocks by placing the most stress on a company's current or near-term outlook. As a result, investors' expectations are susceptible to change frequently, and often to a far greater extent than changing company fortunes. Using a proverbial analogy, he poses that betting on stock prices is "like betting on a marathon race where a prize is given to all who finish". Investors often forget that most of the competitors who entered the race will finish, and thus are driven to "concentrate only on those ahead at the moment, betting heavily on them and heavily against the marathoners doing poorly at the time (p.173). "We have seen that the evidence strongly favors betting against the crowd." he concludes (p. 174).

Coulson (1987, p. 115) acknowledges Dreman's proposition that investors may be systematically undervaluing stocks that show poor near-term prospects because of misguided assessments. He reasons that low-P/E stocks "are often stocks that have recently shown a below-average earnings record." Thinking that such a poor performance would continue, these naive investors shun these stocks overlooking the fact that low-P/E stocks are as likely as any others to earn above-average returns in the near future.

Notwithstanding all the evidence cited in the finance literature that support the idea that the P/E ratio is a useful measure for gauging a company's share price relative to its earnings potentials, the debate about the P/E phenomenon continues to be marred by controversy and puzzlement. Efficient markets theorists have discarded empirical models of the P/E effect as being without theoretical foundation. They point out that such models have failed to uncover a long-run structural or causal relationship between P/E ratios and stock returns. Rolf W. Banz (1980) has suggested that "some of the anomalies [*P/E effect, for instance*] that have been attributed to a lack of market efficiency might well be the result of a misspecification of the [*capital asset*] pricing model. Similarly, T. Cook and M. Rozeff have proposed that the P/E effect may be merely an artifact of firm size. Their study show that stocks with low P/E ratios ordinarily belong to smaller firms which, on the average, seem to have higher risk adjusted returns relative to larger firms. Rolf W. Banz and William J. Breen (1986) claim that sample selection bias affected Basu's findings. These authors have demonstrated that the P/E effect observed by Basu and others may be simply due to sampling errors. In an update of Basu's study, R. Stafford Johnson, Lyle C, Fiore, and Richard Zuber (1989) were not able to duplicate Basu's results. Other critics have argued that stationary bivariate relationships between financial time series variables are hard to discover in the stock market.[1] Some of these critics have reasoned that even the simplest bivariate relationships, whether static or dynamic, generally have been shown to depend on the lagged and contemporaneous movements of some other variables--most of which are not readily observable or if observable easily measurable.

Fama and French (1992) conducted an exhaustive study of the cross-section of expected stock returns. These authors point out an empirical contradiction in the Sharpe-Lintner-Black model which results from the size effect noted by others. Basically size helps explain the cross-section of average returns along with betas. Average returns on low market equity stocks are too high given their beta estimates, and the average returns on high market equity stocks are too low. Contrary to what is expected, they find that differences in betas do not seem to explain the cross-section of average stock returns. Their point is that a combination of size and book to

[1]A time series is described as stationary if its statistical properties do not change over time. In recent years, many researches have abandoned the notion that time series are both linear and stationary in favor of non-linear and non-stationary processes (Priestley, 1988).

market equity better serve to explain average returns when compared with leverage and P/E ratios. They conclude that market equity and the book to market equity ratio serve to provide a simple and more plausible characterization of the cross-section of average stock returns for the 1963 through 1990 period.

Nonparametric Test

The main goal of the remainder of this paper is to estimate the association between P/E ratios and stocks returns using more recent data from COMPUSTAT and CRSP. We shall compare our results with those reported in the literature. We will also investigate whether ours results are statistically significant to be of practical interest to investors. Specifically, two related hypotheses will be tested in the next section:

(1) That the average returns on stockholders' equity has, in general, been higher in low P/E ratio firms than in high P/E ratio firms.
(2) That the P/E ratio is positively related with stocks' beta risk.

Considering that the relationship between P/E ratios and return on a stock portfolio is possibly characterized by complex and dynamic factors, no attempt will be made here to specify and estimate a full-fledged valuation model. Such a task, as Malkiel and Cragg (1970) have deftly indicated, would be rendered impossible in any case by the dearth of reliable data for many companies under study and the difficulties involved in forecasting future earnings and the rate of growth in earnings and other factors such as risk. Rather, the statistical strategy adopted here is to study cross-section and time series samples to see if the hypothesized pattern of P/E ratios and stock returns is borne out by the evidence. Secondly, in view of the deficient quality of the available data, nonparametric tests are used to try to ascertain the statistical implications of the empirical pattern displayed by the data. Thus far, most of the favorable results reported in the literature are based on truncated samples selected from population with unknown distributions. Even if one is willing to assume that the underlying populations have normal distributions, truncated samples do not.[1] In recent years a substantial literature has developed in support of financial modeling under other than Gaussian modeling assumptions.[2]

Unlike much of the previous research, nonparametric tests make no a-priori assumptions about the distribution of the underlying populations and thus the test results are not vulnerable to the criticisms directed towards parametric techniques.

Data Analysis

To make a reasonable case for investigation of the P/E effect, market data for over 525 firms for which more or less complete financial data were available from 1984 to 2004 were extracted from the Standard & Poor's COMPUSTAT financial database.[3] In keeping with

[1]For a discussion of the properties of a truncated sample relative to a complete sample, see William Green (1990). Briefly, it has been established that if a sample is truncated from above (below), its mean will be larger (smaller) and its variance will be smaller (larger) than the complete sample.

[2] Jondeau 2000

[3]CAMPUSTAT financial database consists of listings for more than 13,000 companies. It should be noted that

previous studies, the financial variables used in the present enquiry consist of P/E ratios, average return on equity, and beta. In order to minimize the effects of casual events and random noise, stock performance is evaluated in terms of five-year average returns on equity instead of monthly or yearly returns.

The sample of firms is divided into quintiles over four 5-year intervals based on their P/E ratio. The summary statistics by 5 year interval across the quintiles are presented in the appendix. in Table 1 through 5.

The Wilcoxon rank-sum test procedures are used to test for differences among population distributions for all the five quintiles compared two at a time. Here we are interested to know if rates of return earned on stocks from companies with low P/E ratios differ significantly from those with high P/E ratios.

Table 3 below presents the results of the Wilcoxon test over the entire 1984 through 2004 period. For the 2832 stocks in the first group, the sum of the ranks on the variable "rate of return on equity" is 8034116. The relevant sum of ranks for the second group is 8003500. Under the null hypothesis that there are no differences between the two distributions, the expected sum of the ranks for each group is 8020224 and 8017392 respectively. The question of whether the two groups differ with respect to their distribution on "rates of return on equity" is answered by comparing the sum of the ranks. Rather than trouble with the Wilcoxon S statistic, we report the Z statistic and the associated probability. Based on the results shown in Table 3, the null hypothesis is rejected at the one percent significance level for the 3rd and 4th quintile pair, corresponding to the 40 to 60th and the 60 to 80th percentile respectively. The null is rejected at the five percent significance level for the 2nd and 4th quintile pairs, the 2nd quintile corresponding to the 20 to 40th percentile. The null is rejected for the 1st and 4th quintile pairs, the 1st corresponding to the lowest 20th percentile of P/E ratio. In all three cases, the sign on the test statistic is correct. The negative sign implies that there is relatively weak probability that the first listed quintile is less than the second listed quintile, suggesting that a low P/E ratio will imply a lower mean average return, assuming both groups come from the same distribution. The difference in the distributions that is being tested is differences in means, if both groups ostensibly come from the same distribution.

Adjustment for Risk

Critics of the P/E effect have invariably evoked the risk-return trade-off to explain the higher return earned on portfolios consisting of low P/E stocks. Using the Wilcoxon test again, differences in the distribution of beta were tested based on the same interval used in the test of differences in average return on equity. With the exception of the 3rd and 4th quintile pairs over the 1984 through 2004 period, every quintile pair showed a significant difference in distribution, and therefore the mean. The major problem comes with the interpretation of the sign on the test statistic. For the lowest quintile pairs, the relationship between the groups suggests that low P/E stocks have a relatively higher mean beta than the marginally higher P/E stocks. For the higher

there are several problems with the use of this database. One is the ex-post-selection bias. This bias arises because the database contains only those companies which were viable entities from 1985 through 1990. Thus, companies which merged, filed for bankruptcy, or have otherwise ceased to exist were excluded from the sample. In addition, although there were 2639 companies in continuous operation during the sample period, complete data on financial variables used in the analysis could not be located for all the firms.

quintile pairs, the negative sign suggests that the differences in distribution imply the lower P/E stocks have lower mean betas, assuming the distributions are the same, other than their means. The findings suggest that over the entire 1984-2004 the lowest performing in terms of low P/E at the bottom quintiles showed the highest systematic risk, while the highest performing with high P/E at the top quintiles showed the highest systematic risk.

Conclusion

This study constructs five separate portfolios of equal size from a sample of 1,355 to test for the P/E effect on returns on equity and beta risk over the period 1984-2004. Based on nonparametric tests procedures, the results do not support the P/E effect with regard to return on equity and beta risk. There is very weak and limited evidence of the P/E effect on average returns. The results do support the theory that portfolios with low P/E stocks have higher beta risk as suggested by efficient markets theorists or critics of the P/E effect, but it also suggests that the highest P/E stocks have the highest beta risk, an obviously contradictory result. Another limitation of the study is the absence of market equity and book to market equity ratio as suggested by Fama and French (1992). A more complete study must include this important result.

Since the results presented here are time-dependent, they do not necessarily invalidate findings reported from earlier studies which used different data bases from other time periods. Nevertheless, the findings do cast serious doubt on the universality of the P/E factor and its alleged utility as a guide to successful investment in stock shares of publicly traded companies in the United States. The time-sensitivity of the P/E ratios, and the conventional measures of risk suggest that it may be more insightful to examine differences in stock returns in the context of a model that treats time as a variable and not a parameter. For the individual investor with a modest amount of capital, the P/E factor, even if valid, is a not a passkey to riches. Without access to good and timely information, a lowly investor is unlikely to accumulate a portfolio as large and as diversified as those of Basu's (1977) or Jacobs and Levy's (1988) to take advantage of the P/E effect.

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Appendix

Table 1

Average Return on Equity for Quintile Pairs: 1984-2004

Quintile Pair	N	Rank Sum	Expected Value	Adjusted Variance	Z	P-Value
1 and 2	2831	8040958	8015976.5	3.78E+09	0.406	0.6846
	2831	7990995	8015976.5			
1 and 3	2831	8076541.5	8014561	3.78E+09	1.008	0.3134
	2830	7949749.5	8011730			
1 and 4	2831	7932390	8015976.5	3.78E+09	-1.359	0.1741
	2831	8099563	8015976.5			
1 and 5	2831	7982480	8014561	3.78E+09	-0.522	0.6018
	2830	8043811	8011730			
2 and 3	2831	8075423.5	8014561	3.78E+09	0.99	0.3222
	2830	7950867.5	8011730			
2 and 4	2831	7883615	8015976.5	3.78E+09	-2.152	0.0314**
	2831	8148338	8015976.5			
2 and 5	2831	7949895.5	8014561	3.78E+09	-1.052	0.2929
	2830	8076395.5	8011730			
3 and 4	2830	7817911	8011730	3.78E+09	-3.152	0.0016***
	2831	8208380	8014561			
3 and 5	2830	7894591	8010315	3.78E+09	-1.883	0.0597*
	2830	8126039	8010315			
4 and 5	2831	8072129.5	8014561	3.78E+09	0.936	0.3491
	2830	7954161.5	8011730			

* Significant at the 10% level in a two-tailed test

** Significant at the 5% level

*** Significant at the 1% level

Table 2

Average Return on Equity: '84-'89

Quintile Pair	N	Rank Sum	Expected Value	Adjusted Variance	Z	P-Value
1 and 2	878	782608.5	771323	1.13E+08	1.062	0.2881
	878	760037.5	771323			
1 and 3	878	784805.5	771323	1.13E+08	1.269	0.2044
	878	757840.5	771323			
1 and 4	878	771325.5	771323	1.13E+08	0	0.9998
	878	771320.5	771323			
1 and 5	878	781140.5	770884	1.13E+08	0.966	0.3339
	877	759749.5	770006			
2 and 3	878	773878	771323	1.13E+08	0.24	0.8099
	878	768768	771323			
2 and 4	878	756438.5	771323	1.13E+08	-1.401	0.1612
	878	786207.5	771323			
2 and 5	878	772990	770884	1.13E+08	0.198	0.8427
	877	767900	770006			
3 and 4	878	753839	771323	1.13E+08	-1.646	0.0998*
	878	788807	771323			
3 and 5	878	770519	770884	1.13E+08	-0.034	0.9726
	877	770371	770006			
4 and 5	878	785206.5	770884	1.13E+08	1.349	0.1772
	877	755683.5	770006			

* Significant at the 10% level in a two-tailed test

** Significant at the 5% level

*** Significant at the 1% level

Table 3

Average Return on Equity: '90-'94

Quintile Pair	N	Rank Sum	Expected Value	Adjusted Variance	Z	P-Value
1 and 2	717	517469.5	514447.5	61472620	0.385	0.6999
	717	511425.5	514447.5			
1 and 3	717	516785.5	514089	61343927	0.344	0.7306
	716	510675.5	513372			
1 and 4	717	512504	514447.5	61473567	-0.248	0.8042
	717	516391	514447.5			
1 and 5	717	511488	514089	61344720	-0.332	0.7398
	716	515973	513372			
2 and 3	717	515023.5	514089	61345979	0.119	0.905
	716	512437.5	513372			
2 and 4	717	510036	514447.5	61475181	-0.563	0.5737
	717	518859	514447.5			
2 and 5	717	508633.5	514089	61346463	-0.697	0.4861
	716	518827.5	513372			
3 and 4	716	508313	513372	61346576	-0.646	0.5183
	717	519148	514089			
3 and 5	716	506851	513014	61218081	-0.788	0.4309
	716	519177	513014			
4 and 5	717	512898	514089	61346948	-0.152	0.8791
	716	514563	513372			

* Significant at the 10% level in a two-tailed test

** Significant at the 5% level

*** Significant at the 1% level

Table 4

Average Return on Equity: '95-'99

Quintile Pair	N	Rank Sum	Expected Value	Adjusted Variance	Z	P-Value
1 and 2	704	488850	495616	58069259	-0.888	0.3746
	703	501678	494912			
1 and 3	704	488716	495968	58192828	-0.951	0.3418
	704	503220	495968			
1 and 4	704	479045.5	495616	58069250	-2.175	0.0297**
	703	511482.5	494912			
1 and 5	704	475617.5	495616	58069051	-2.624	0.0087***
	703	514910.5	494912			
2 and 3	703	493817.5	494912	58069456	-0.144	0.8858
	704	496710.5	495616			
2 and 4	703	482344	494560.5	57945914	-1.605	0.1085
	703	506777	494560.5			
2 and 5	703	478663	494560.5	57945837	-2.088	0.0368**
	703	510458	494560.5			
3 and 4	704	483952.5	495616	58069436	-1.531	0.1259
	703	506575.5	494912			
3 and 5	704	479773.5	495616	58069291	-2.079	0.0376**
	703	510754.5	494912			
4 and 5	703	489514	494560.5	57945823	-0.663	0.5074
	703	499607	494560.5			

* Significant at the 10% level in a two-tailed test

** Significant at the 5% level

*** Significant at the 1% level

Table 5

Average Return on Equity: '00-'04

Quintile Pair	N	Rank Sum	Expected Value	Adjusted Variance	Z	P-Value
1 and 2	533	283143	284355.5	25260245	-0.241	0.8094
	533	285568	284355.5			
1 and 3	533	284833	284355.5	25260242	0.095	0.9243
	533	283878	284355.5			
1 and 4	533	278753.5	284355.5	25260246	-1.115	0.265
	533	289957.5	284355.5			
1 and 5	533	285223	284089	25189223	0.226	0.8212
	532	282422	283556			
2 and 3	533	286603	284355.5	25260241	0.447	0.6547
	533	282108	284355.5			
2 and 4	533	279372.5	284355.5	25260245	-0.991	0.3215
	533	289338.5	284355.5			
2 and 5	533	286418.5	284089	25189222	0.464	0.6425
	532	281226.5	283556			
3 and 4	533	275884.5	284355.5	25260242	-1.685	0.0919*
	533	292826.5	284355.5			
3 and 5	533	284161	284089	25189214	0.014	0.9886
	532	283484	283556			
4 and 5	533	291975	284089	25189223	1.571	0.1161
	532	275670	283556			

* Significant at the 10% level in a two-tailed test

** Significant at the 5% level

*** Significant at the 1% level

Pension Accounting: The Changing Landscape of Corporate Pension Benefits

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Abstract

This paper discusses recent changes in the generally accepted accounting principles related to accounting for defined benefit pension plans. SFAS No. 158 imposes new rules related to calculating net pension assets or liabilities and increases the likelihood that companies may report net pension liabilities. This paper looks at a sample of *Fortune 100* companies to determine the effect of SFAS No. 158 on reported funded status for defined benefit plans.

Introduction

Postretirement benefits, specifically pension benefits, pose significant problems for employers and cause concern for millions of baby boomers who are approaching retirement age. Recent changes in the pension landscape have impacted employers in several ways. Pension benefits continue to be a critical issue from a human resource perspective. Employees list retirement benefits as one of the primary considerations in taking a job (Dennis, 2006), but publicity about pension plan failures creates obvious concerns for many employees. During the last two years, employers also have faced new government regulation from the *Pension Protection Act* (PPA) of 2006 and new accounting rules in *SFAS 158, Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans* (FASB 2006). Adding to the complexities, U.S. financial markets have experienced increased volatility, impacting the $5 trillion market segment associated with pension plans.

While most companies continue to offer pension benefit plans for employees, there has been a significant change in the types of benefits offered. Over the last 20 years, there has been a move away from traditional defined benefit (DB) plans, where employers bear market risk and promise certain benefits to retirees, to defined contribution (DC) plans, where market risk is shouldered by employees and employers merely provide contributions to the plan. In 1985, over 120,000 companies offered defined benefit plans; today, there are less than 30,000 plans. According to one study, 83 percent of companies offered DB plans in 1990, and only 45 percent offered DB plans in 2005 (Apostolou and Crumbley, 2006, 26) On the other hand, in 1970 only 15 million individuals participated in define contribution plans, compared to over 62 million individuals today.

The shift from defined benefit plans to defined contribution plans may be the result of several influencing factors, but the complexity of accounting for DB plans is certainly a key factor. Employers with DB plans must calculate projected obligations for future pension benefits and estimate present values of those obligations. Employers with underfunded DB plans have liabilities, which are reported on the balance sheet. Conversely, employers with defined contribution plans merely record their contributions to pension plans as an expense of operations; once the contribution is made there is no additional liability for future benefits. Other factors may also contribute to the shift. Byrnes and Welch pointed out DB are also negatively affected by increased foreign competition, be the increased cost of pensions

resulting from retirees living longer, and by the increased cost of insuring DB plans through the Pension Benefit Guarantee Corporation (Byrnes and Welch, 2004, 54-72). Accounting for pensions continues to be impacted by these factors as well as by the new accounting standards for pension; researchers, therefore, anticipate a continued decline in the number of DB plans.

This paper discusses the new rules for pension accounting under SFAS 158, particularly the provisions which increase the likelihood that plan sponsors will report a pension liability, and analyzes the effect of the initial implementation of SFAS 158 on financial statements of *Fortune 100* companies. It is the purpose of this paper to analyze the impact of SFAS 158 on corporate pension plans and to analyze changes that may cause these large companies to increasingly migrate away from defined benefit pension plans.

Review of Literature

Pension accounting has been a controversial topic for many years. Beginning in 1973, the Financial Accounting Standards Board (FASB) initiated its study of pension accounting. Following years of study, the FASB implemented major changes with SFAS 87, *Employer's Accounting for Pensions* in 1985 and implemented additional requirements with SFAS 132, *Employers' Disclosures about Pensions and Other Postretirement Benefits* (revised in 2003). In response to concerns over these standards, FASB issued SFAS 158, *Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans* in September 2006. The paragraphs below summarize key provisions of the pension standards and summarize recent studies related to accounting for pensions.

Prior Accounting Standards

Under SFAS 87, a company with a defined benefit pension plan reported part of its underfunded pension obligations on the balance sheet. Referred to as the "minimum liability," the amount was calculated as the amount by which the accumulated benefit obligation (ABO) exceeded plan assets. By definition, the ABO is a relatively conservative measure of pension obligations, calculated with current salary levels rather than projected future salaries. Under SFAS 87, some information about the more realistic projected benefit obligation (PBO) was disclosed in the footnotes. SFAS 132-R expanded the footnote disclosures, but many critics still found these disclosures inadequate.

Under SFAS 87, pension expense included (among other things) amortization of unexpected gains and losses on plan assets and amortization of unexpected changes in the actuarial value of benefit obligations, using a corridor approach. Pension expense also included amortization of prior service costs. Unamortized balances related to these elements were not reported.

In its research, FASB found concerns that the prior standards did not adequately explain the funded status of defined benefit plans. Specifically, a company did not report the actual overfunded or underfunded status of a DB plan on the balance sheet. While prior standards included additional information about the funded status in the notes to financial statements, the Board believed that users of financial statements find pension disclosures difficult to assess (FASB 2006, 54-55)

Recent studies agree with the need for modification of the accounting standards. Bepristis and Xu (2006) assert that pension accounting under SFAS 87 and SFAS 132-R presented many problems, especially after the stock market problems following the terrorist attacks of September 11, 2001. Under the old pension accounting regulations, investors could easily misinterpret a company's true financial situation. Investors could not determine the true financial position of a company by simply reviewing its financial statements because

pension assets inflated net income as an example, Bepristis and Xu point out that in 2001 Verizon Communications reported $389 million in net income, including $1,320 million of income related to pension plans. Without the pension-related income, Verizon would have reported a net loss (pp. 296-297). Stickel and Tucker (2007) cite a similar example related to DuPont. In 2005, DuPont deferred certain pension costs, converting a $3.1 billion pension deficit into a $2.3 surplus (p. 83). Such extreme examples lend credence to the need for reform in the generally accepted accounting standards for defined benefit pension plans.

SFAS 158

Issued in September 2006, SFAS 158 concludes the first phase of the FASB's comprehensive study of accounting for defined benefit pension plans. According to FASB, the objective of the new standard is to improve reporting by requiring a business to:

- Recognize the overfunded or underfunded status of a DB plan as an asset or liability on the balance sheet,
- Recognize changes in the funded status as a component of comprehensive income, and
- Calculate the funded status as of the balance-sheet date (FASB, 2006, 1)

Under the new standard, a balance sheet liability is reported when the amount of the projected benefit obligation (PBO) exceeds plan assets. An asset is reported when plan assets exceed the PBO. Also, under the new standard, the unamortized amounts related to unexpected gains and losses and prior service costs are included in other comprehensive income.

Pension Protection Act and other regulations

Recent changes in government regulation of corporate pension plans may also impact the shift from defined benefit plans to defined contribution plans. On August 17, 2006, President Bush approved the Pension Protection Act. This act allows quicker investment of corporate payments to defined contribution retirement plans (Powers, 2007, 1). In addition, the Government Accounting Standards Board (GASB) recently released Statement 45 related to pension accounting; this statement coincides with SFAS No. 158. According to PWC, GASB Statement 45 will force state and local governments to identify about one trillion dollars of pension-related liabilities on their balance sheets (PWC, 2007, 17).

Anticipating the Impact of SFAS 158

Preliminary studies indicate that changes in pension accounting standards will significantly affect American businesses. According to Towers Perrin (2006), implementation of the new accounting rules "could erase $180 billion in shareholders' equity for the *Fortune 100* companies" (p. 2). Based on a recent study, PriceWaterhouseCoopers (2007) speculate that the new standards will lead companies to stop offering defined benefit plans altogether (p. 7). According to Stickel and Tucker (2007), SFAS 158 will cause a decrease in stockholder's equity, will negatively affect accounting ratios that use equity as a variable, and, thereby, will affect debt lending (pp. 83-84).

Anticipating the changes required by SFAS 158, Apostolou and Crumbley (2006) studied eight large companies with defined benefit plans. Footnote disclosures indicated that five of the companies, GM, IBM, Ford, Boeing, and Lockheed, had underfunded pension plans in 2005, but none of these companies reported pension liabilities on their balance sheets (p. 24).

In summary, SFAS 158 makes significant changes in reporting the funded status of defined benefit pension plans. Preliminary studies indicate that these changes will cause more companies to report pension liabilities on their statements of financial position. Publicly traded companies are required to apply the sections of SFAS 158 related to reporting funded status for fiscal yeas ending after December 15, 2006. With data now available, this study analyzed a sample of large companies to determine the actual impact of implementation.

Methodology

For purposes of this study, a random sample of 20 companies was selected from the 2007 *Fortune 100*. Financial statements and related footnotes for the last two years were obtained from each company's website. Each company's balance sheet and footnotes were analyzed to determine the types of pension plans offered, whether or not the company had implemented SFAS 158, and the reported pension asset or liability for companies with defined benefit plans. Pension assets and liabilities for companies implementing SFAS 158 were analyzed to determine the direction and amount of observed changes.

Analysis of Data

Companies in the sample offered defined contribution plans, defined benefit plans, or a combination of both. Of the 20 companies studied, three (15%) had defined contribution plans, three (15%) had defined benefit plans, and 14 (70%) had a combination of both. For purposes of this study, the three companies with defined contribution plans only were eliminated, and the remaining 17 companies were analyzed to determine the impact of implementing SFAS 158.

Of the companies with defined benefit plans, 16 of the 17 companies had adopted SFAS 158 in the most recent financial statements. One company, Morgan Stanley, had a fiscal year ending on November 30, 2006, about two weeks prior to the required effective date, and had not implemented SFAS 158.

Reported pension assets versus pension liabilities

The funded positions of the defined benefit plans for the remaining 16 companies are summarized in Table 1. As expected, the number of companies reporting pension liabilities increased after the implementation of SFAS 158. For the companies studied, 7 (44%) reported a pension liability for fiscal year 2006, and 9 (56%) reported a pension liability for FY 2007, an increase of 29 percent.

Table 1: Funded Status of Defined Benefit Plans (In Millions)

Company	FY 2006	FY 2007	Better Position	Worse Position
Wal-Mart Stores	(560)	(459)	101	
Merrill Lynch	266	(30)		-296
Proctor and Gamble	(3,041)	(2,469)	572	
State Farm Insurance	(408)	(453)		-45
Target	186	275	89	
Wellpoint	230	274	44	
MetLife	(1,334)	346	1,680	
Wachovia	1,897	860		-1,037
Sprint Nextel	953	(119)		-1,072
Intel	(32)	(383)		-351
Sysco	214	25		-189
Prudential Financial	3,173	2,440		-733
Hess	26	8		-18
Comcast	(96)	(62)	34	
HCA	(42)	(199)		-157
Coca-Cola	151	(199)		-350
Note: pension liabilities are highlighted and indicated with parentheses.				

Also, as expected, most companies experienced deterioration in the reported funding status. Of the 16 companies studied, 10 (63%) reported either a larger pension liability or reported a change from an asset position to a liability position after implementing SFAS 158. Seven (78%) of the companies with pension assets in the first year reported a deterioration in the reported funded status, and three (43%) of the companies with existing pension liabilities reported larger liabilities in the second year.

Out of the 9 companies with pension assets in the first year, 3 reported pension liabilities after adopting SFAS 158. Sprint Nextel showed the biggest change in pension funding status. Sprint reported a pension asset of $953 million in FY 2006, followed by a $119 million pension liability in FY 2007, a change of $1,072 million. Coca-Cola reported a pension asset of $151 million then a $199 million pension liability, a change of $350 million. Merrill Lynch reported a pension asset of $266 million then a pension liability of $30 million, a change of $296 million.

Companies within the study varied widely in the amount of reported pension assets and pension liabilities. For the first year, pension funding positions ranged from an asset of over $3.2 billion for Prudential Financial to a liability of $3 billion for Proctor and Gamble. In the second year, the gap closed somewhat, ranging from an asset of $2.4 billion for Prudential Financial to a liability of $2.5 billion for Proctor and Gamble.

Average reported pension assets versus pension liabilities

In addition to an increase in number of companies reporting pension liabilities, there was also a large observed decrease in the average reported pension position. In the first year, companies studied had an overall average pension asset of $99 million. After implementing SFAS 158, the companies had an overall average pension liability of $9 million, a decrease of $108 million between the two years.

Segmenting the companies, the average liability for companies reporting pension liabilities improved. In the first year, 7 companies reported a pension liability, with an average liability of $788 million. In the second year, 9 companies reported a pension liability, with an average liability of $486 million. For the companies with pension liabilities, therefore, the average pension liability, therefore, decreased $302 million.

Companies with pension assets, however, reported a decline in the reported asset. In the first year, 9 companies reported pension assets, averaging slightly over $788 million. In the second year, 7 companies reported pension assets, with an average of $604 million. For companies with pension assets, therefore, the average pension asset decreased $184 million.

Conclusion

SFAS 158 requires calculation of the net pension asset or liability using the higher PBO rather than the more conservative obligation measured as the ABO. The overall impact of this change is apparent in the significant change in the average pension position, in the increase in the number of companies reporting pension liabilities, as well as in the number of companies reporting deterioration in funding status related to pension plans. The overall results, however, are not as dramatic as perhaps expected. To minimize the impact of SFAS 158, companies may have changed other assumptions within the obligation calculation or increase pension funding to minimize the impact of adopting SFAS 158.

With many Americans reaching retirement age and the state of pensions in question, more standards and regulations may be needed to ensure both the financial security of pension plans and the reliability and relevance of pension disclosures. The FASB has stated that SFAS 158 is the result of phase one of the Board's study of pension accounting. Phase two is intended to focus on additional issues, including convergence with international standards (Miller and Bahnson, 2007, 37). Furthermore, the SEC, CFA Institute, and the Financial Accounting Standards Advisory Council (FASAC) are currently demanding a more comprehensive improvement to the existing GAAP (Miller and Bahnson, 2007, 42). The conclusion of these studies may help improve financial reporting, as well as address the substantive issues related to the financial stability of pension plans.

Additional research is needed to better understand the impact of SFAS 158 on financial reporting, including studies of a larger sample of companies. Additional research is also needed to identify areas for increased scrutiny and improvement related to pension accounting. As more is learned about the impact of SFAS 158, stronger conclusions may become apparent regarding the viability of defined benefit pension plans as a component of employee benefits.

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The Business of Community Development: Investigating Self-Efficacy, Digital Divide, and Human Capital Using a Bottom-Up Approach

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Abstract

Investigating effective ways to assist communities in obtaining, training and retaining residents who possess the skills and talents needed to sustain these communities is a good business decision. Rural communities are typically the hardest hit with limited human capital to meet the educational, medical, and social needs of its residents. The purpose of this study was to investigate whether students (human capital) believe (self-efficacy) that they possess the Information Systems skills that, if utilized, could help bridge the digital divide while building better communities from wince they came. Among the findings, student self-efficacy results indicate that students believe they have the ability to use Word, Excel or Power Point to help businesses in the communities and would *most likely* do so. However, other skills like brainstorming, strategic planning, networking, management, and problem solving abilities were *least likely* to be skills they would contribute.

Introduction

According to Watts, "community development is a systematic approach to the development of activities within communities either of experience or neighborhoods, whether organized by community workers or others" (Tesfatsion, 1997). Community is based on people working together to create a wholesome society. Such work may involve people gaining new skills so that when an opportunity arises, they can take action. It is true that no single entity can solve the challenges of community-development, but it is encouraging to investigate how a Bottom-Up Approach, involving students, may lend itself beneficial to contributing to community development.

Students have long been involved in shaping communities through education on a local and international level. From the historical efforts of integrating schools in the rural south, to affirmative action steps in the north, to efforts surrounding Apartheid in South Africa – students have come to realize they do have power. Self-efficacy is a psychology concept that holds the belief that an individual has the power to produce desired results. Self-efficacy is the belief that one has the capabilities to execute a course of action required to manage situations. Self-efficacy research not only focuses on an individual's beliefs, but also how those beliefs translate into effort toward completing tasks – tasks that may benefit self or community (Hackett and Betz, 1989).

Community Development efforts that involve students are a worthy step toward building communities, and ultimately building a prepared workforce. In fact, involving students may raise their self-efficacy in becoming effective citizens of those communities. In other words, if communities utilize students as human capital for building such communities, students may find that such involvement could increase their belief that they have the power to produce and make an impact in those communities. One particular area of community

development is in bridging the Digital Divide. Of the hundreds of millions of people in the U.S., only 25% of them have access to a computer from home (Conhaim, 2000). Underserved populations are known to be minorities, low-income, and rural residents. Access to computers as end-users and knowledge of computers as designers are unique elements in bridging the digital divide. Information Systems (IS) literacy, or knowledge of computers, puts individuals at an advantage for both economic and educational opportunities that are presented (Conhaim, 2000).

Prior digital divide and self-efficacy research has rendered limited attention to examining community development using a Bottom-Up Approach. That is, if students believe they can utilize the skills they possess, and if they are given the opportunity to serve, they may help close the digital divide by contributing positively to community development efforts. Thus, the purpose of this study is to investigate whether students (human capital) believe (self-efficacy) that they possess the Information Systems skills that, if utilized, could help bridge the digital divide while building better communities from wince they came.

Literature Review

Engaging students in building communities from the Bottom-Up is a lofty goal. Besides, students are an untapped source of human capital that few communities look to. Students living in rural communities are common people who, with skills and a strong belief in those skills, may contribute to community development. The Bottom-Up Approach is a participatory method of building communities. The following review of the literature discusses self-efficacy, the digital divide, human capital, and community development efforts, with attention given to students as contributors of a Bottom-Up Approach.

Self-Efficacy

According to World Wide Web sources, self-efficacy is

"*the belief that one has the capabilities to execute the courses of actions required to manage prospective situations. Self-efficacy is the belief (whether or not accurate) that one has the power to produce that effect. It is important here to understand the distinction between self-esteem and self-efficacy. Self-esteem relates to a person's sense of self-worth, whereas self-efficacy relates to a person's perception of their ability to reach a goal*." (www.answers.com, 2007)

Self-Efficacy is not the same as self-esteem. It is possible for a person to have high self-esteem, yet have low (weak) self-efficacy about their ability to carry out a task. For example, if a person is terrible at creating databases, they would likely have poor self-efficacy in regard to databases, but this would not necessarily affect their self-esteem. Most people do not invest much of their self-esteem in the completion of such a database activity. In other words, "self-efficacy is not a measure of skill; rather, it reflects what individuals believe they can do with the skills they possess" (Eastin and LaRose, 2000).

Self-Efficacy is a psychology concept. Weak self-efficacy is believed to be associated with people (i.e. students) who are uncertain or dissatisfied in their beliefs about using the skills they possess (Bandura, 1991). Bandura further believes that individuals (i.e. students) with weak self-efficacy are less likely to perform related behaviors in the future (Bandura, 1991). Recent research that explored Internet self-efficacy and computer self-efficacy have concluded that "users must experience the benefits of the Internet for themselves to close the Digital Divide" (Eastin and LaRose, 2000).

Digital Divide

According to World Wide Web sources, the digital divide is

"the discrepancy between people who have access to and the resources to use new information and communication tools, such as the Internet, and people who do not have the resources and access to the technology. The term also describes the discrepancy between those who have the skills, knowledge and abilities to use the technologies and those who do not. The digital divide can exist between those living in rural areas and those living in urban areas, between the educated and uneducated, between economic classes, and on a global scale between more and less industrially developed nations." (www.webopedia.com, 2007)

Many studies have been conducted to investigate the digital divide, as well as, to investigate ways in which to close the gap. Closing the digital divide is an initiative aimed at providing underserved populations with access to technology. Efforts are being made to ensure that students and adults, urban and rural, rich and poor, haves and have nots alike have access to the World Wide Web and the wealth of information that access affords. One challenge for rural populations is that the technology infrastructure is not adequate in supporting the backbone (i.e. cables, fiber, etc.) needed to access the Internet. According to Hoffman and Novak (1998), "key demographic variables like income and education drive the policy questions surrounding the Internet".

A recent study by Page (2004) explored the use of Information and Communication Technologies (ICT) by rural, underserved individuals. Findings from the study conclude that closing the digital divide involves not only cultural and social factors, but investigating geographical factors as well. One belief is that where individuals are situated geographically could be a key factor in understanding how connectivity (access), capability (aptitude), content (substance), and context (perspective) are important to closing the digital divide. Individuals living in rural communities are met with barriers to access as a result of their geographical location.

Closing the digital divide is a significant social issue facing the Information society (Hoffman, Novak and Schlosser, 2003). According to Eastin and LaRose, "uncertainty about how to get started and the perception that computers are too complicated are nearly as important as cost and lack of access" in closing the digital divide. Research findings conclude that minority students have fewer opportunities to computer access than their white counterparts (Gladieux and Watson, 1999). One such example is E-mail usage. Minority students utilize their E-mail only half the time as compared to their white counterparts (Gladieux and Watson, 1999).

Complexity of the technology and lack of accessibility to the technology may be self-efficacy deterrents. That is, complexity and accessibility may interfere with a student's belief in their ability to contribute to closing the digital divide (Eastin and LaRose, 2000). Besides, students are a valuable human capital.

Human Capital and Community Development

Human capital are…

"the attributes of a person that are productive in some economic context. Human Capital often refers to formal educational attainment, with the implication that education is an investment whose returns are in the form of wage, salary, or other compensation. These [compensations] are normally measured and conceived of as

private returns to the individual but can also be social return"..
(http://economics.about.com, 2007)

Economists are discouraged that America is a "nation at risk" due to the lack of educated individuals to work and compete in the global economy (Peckham, 2007). Many economists believe that high-tech jobs will provide the platform to keep Americans marketable in the 21st century, with students at the center of the job market. Peckham further believes that a "balanced human capital policy would involve schools" (Peckham, 2007). The goal is to establish a mechanism from which the development of human capital is effective, efficient, and is utilized on a "grass roots" level within communities. Notwithstanding, having employable skills may benefit local, regional or global communities.

According to Korten (1980), community development efforts that claim to be participatory in helping the rural poor, is little more than rhetoric. In fact, Korten (1980) asserts that most efforts toward community development have resulted in strengthening and meeting the needs of the traditional upper-class, with little integration of lower-class members in the development process. Community development must involve people, and build upon this involvement through action.

Bottom-Up Approach

According to Rossin (2004), there are two ways to develop communities -- one is called Top-Down and the other is called Bottom-Up. Top-Down is based on the understanding that local and governmental authorities rule on matters of education and economics. Bottom-Up is based on the development of people towards being open-minded and participatory. Bottom-Up strives for each member of a community to take upon oneself one's own responsibilities and to put into action the capability of making good choices. One such choice may be to learn important technology skills.

This research study aims to investigate whether a Bottom-Up Approach provides an alternative way of getting individuals involved in community development, all in an effort to increase human capital to close the digital divide. Findings from a similar study (Monds and Bennett, 2005) conclude that a bottom-up approach is effective in ensuring the sustainability and viability of communities.

Top-Down educational strategies alone present the illusion of 'big brother' in which someone is in control. This approach does strive for quality, as programs tend to 'trickle down'. Top-Down strategies give the illusion that 'big brother' can master the complexity of any organization (public, private or non-profit) from the Top. On the contrary, Bottom-Up strategies demand participation from members at lower levels to complete projects. Some projects can be too slow to change as demand dictates (Fullan, 1994). Fullan may be correct in his assessment that effective education combines the two approaches; however, we believe that the Bottom-Up approach may be better utilized in rural communities where there is a reversal in educational priorities -- emphasis is placed on ensuring that younger generations obtain an education, if their parents were unable to.

Methodology

A survey was developed that asked five demographic questions, including age, gender, major, location where they grew up, and location where they will live upon graduation. In addition, five subsections and one open-ended question were asked. The five subsections were entitled self-efficacy, digital divide, human capital, community development, and bottom-up approach. Each subsection had only three questions that

participants were asked to rank from "most likely" (1st) to "least likely" (3rd). The open-ended question asked participants to provide their personal philosophy, feelings, beliefs or experiences with or about Community Development. The open-ended question was optional.

The participants were 168 college students enrolled in the College of Business and majoring in Accounting, Business Information Systems, Healthcare Management, Management or Marketing. College of Business majors were selected because of accessibility and because these students seemed to be a good group to involve, as the study addresses variables which could have business and industry implications. All participants were pursuing undergraduate degrees; hence, the assumption is that few were settled in their profession and/or their permanent residents.

The survey was administered at the beginning of class and collected by the faculty. Faculty read the instructions to the students to prevent errors in the ranking of items found in each subsection. Notwithstanding, 58 surveys were discarded (N=110) due to errors in which participants utilized a ranking number (1st, 2nd or 3rd) multiple times in the same subsection.

Three hypotheses are being investigated:

H1: Students with high computer self-efficacy (SE) would most likely teach others about computers, all in an effort to help close the digital divide (DD).

H2: Students would see themselves as human-capital once they graduate (HC), and thus would be willing to help solve the challenges of developing their communities (BU).

H3: Students who would be involved in closing the digital divide (DD) would do so as a service and not as an incentive (CD).

Results and Conclusions

Participants ranged in age from 18 to 46, with the majority of respondents between 20-22 years (67.5%). The gender of the participants was relatively equally distributed (females = 57.3%, males = 41.8%, no response = .9%). With regards to major, Accounting majors represented 29.1%; Business Information Systems majors represented 6.4%; Health Care Management majors represented 8.2%; Management majors represented 29.1%; Marketing majors represented 23.6% and remaining students were Sociology, Psychology, Mass Communications and Computer Science, which represented 3.6% of the group.

Those participants who grew up in the City or Country represented 72% and 28%, respectively. Those participants who are likely to live in the City once they graduate and become a professional represented 83.5%. Those participants who are likely to live in the Country once they graduate and become a professional represented 16.5%.

Self-Efficacy

Student self-efficacy results indicate that students believe they have the ability to use Microsoft Word, Excel or Power Point to help businesses in the communities and would *most likely* do so. However, other skills like brainstorming, strategic planning, networking, management, and problem solving abilities were *least likely* to be skills they would contribute. Participants were divided about the likelihood of their Business Communications ability, with more than half (51.9%) believing they are *somewhat likely* to have the power to produce business communications documents for a business organization. Results are shown in Table 1.0 below.

Table 1.0: Self-Efficacy

I believe that I have the ability to utilize my skills in…	M/S Office to help a business in my community (**SE1**)	Business Communications to help a business in my community (**SE2**)	<FILL-IN> to help a business in my community (**SE3**)
Most Likely	**48.6%**	27.4%	25.5%
Somewhat Likely	32.1%	**51.9%**	15.1%
Least Likely	19.3%	20.8%	**59.4%**

Digital Divide

Digital Divide results indicate that students were *somewhat likely* (49.1%) to teach other people about computers and *least likely* (45.5%) to pursue a career in an Information Systems-related field. The latter results were expected, as only 6.4% of the group was Business Information Systems majors. Nevertheless, the results from the former are discouraging in that students who expressed positive self-efficacy may be reluctant to teach other people. In other words, although students believe they can teach others, they are *somewhat likely* (not *most likely*) to do so.

Of those participants who were given the option to identify how they would utilize their technical skills, most were discipline-specific. For example, students majoring in Accounting believed that they could utilize their technical skills with Accounting software or helping people file their taxes electronically, both of which are technology-driven and both of which could contribute positively to closing the Digital Divide. Interestingly, there was only a 3.7% difference between those students who were *most likely* (41.1%) and those students who were *least likely* (37.4%) to use such skills.

Those participants who were *most likely* to use their technical skills to start their own business or succeed in their careers represented 41.1% of the group. Those participants who were *least likely* to use their technical skills to get a job or teach others about computers represented 37.4% of the group. In support of closing the Digital Divide, those participants who were non-Business Information Systems majors were *most likely* to use their technical skills, verses those non-technical, discipline-specific skills learned in their respective majors. Results are shown in Table 2.0 below.

Table 2.0: Digital Divide

I believe that I could utilize my technical skills to…	Teach other people about computers (**DD1**)	Pursue a career in an Information Systems-related field (**DD2**)	<FILL IN> (**DD3**)
Most Likely	33.6%	25.9%	**41.1%**
Somewhat Likely	**49.1%**	28.7%	21.5%
Least Likely	17.3%	**45.4%**	37.4%

Human-Capital

The purpose of the three Human Capital questions was to investigate at what point in a student's life they believed they were an asset to their respective communities. Overall, students believe that they would become an important asset only after they have graduated from college. In other words, although students may have participated in activities like Future Business Leaders of America (FBLA), Future Farmers of America (FFA), 4-H,

Distributed Education Careers Association (DECA) or other high-school organizations--most of which strengthened their employable skills--they still believed they were *least likely* to be an asset to their community (63.6%).

On the contrary, a large percentage (71.6%) believed that upon graduation from college they would *most likely* be an asset to their community, and almost half of the respondents (59.8%) believing that during their college years, they are *somewhat likely* to be an asset. These results raise a question as to whether students underestimate their self-efficacy while in college or whether their involvement in local economies (i.e. restaurant or mall jobs) are not understood or interpreted as being human capital. Results are shown in Table 3.0 below.

Table 3.0: Human Capital

I believe that …	When I was in high school, I was an important asset to my community (**HC1**)	As a college student, I am an asset to my community (**HC2**)	When I graduate from college, I would be an asset to my community (**HC3**)
Most Likely	16.8%	12.1%	**71.6%**
Somewhat Likely	19.6%	**59.8%**	20.2%
Least Likely	**63.6%**	28.0%	8.3%

Community Development

The majority (51.9%) of students believed that they could most likely assist in creating a stronger community where they live, and almost equally believe (31%, 42% and 28% rounded) that such involvement would be on a voluntary basis through public service. More than half (54.6%) of the students disagree that incentives should be given to build communities. Results are shown in Table 4.0 below.

Table 4.0: Community Development

I believe that …	As a student, I could assist in creating a stronger community where I live (**CD1**)	Community development should be done through public service (**CD2**)	Communities are best developed if people are given an incentive to carry out a task (**CD3**)
Most Likely	51.9%	30.6%	19.4%
Somewhat Likely	31.5%	41.7%	25.9%
Least Likely	16.7%	27.8%	54.6%

Bottom-Up Approach

Ironically, the majority (70.4%) of the students believe that adults are the least likely group of the population that should be responsible for providing skills needed in their community. The findings support the Bottom-Up literature that young people can teach elders. A whopping 84.4% most likely and somewhat likely could teach older members in the community something, if not technology-related, that they have learned. Similarly, about 86.2% believe that students could help solve the challenges of community development. Results are shown in Table 5.0 below.

Table 5.0: Bottom-Up

I believe that …	Adults should be responsible for providing the skills needed in my community (**BU1**)	I can teach older members in my community something that I have learned (**BU2**)	Students can help solve the challenges of community development (**BU3**)
Most Likely	12.0%	40.4%	48.6%
Somewhat Likely	17.6%	44.0%	37.6%
Least Likely	70.4%	15.6%	13.8%

One open-ended question asked respondents to render their philosophy, feelings, or beliefs about Community Development. The findings were compiled and are shown in Appendix A.

Correlation Analysis

Correlation analysis measures the relationship between two data sets. Correlation analysis is "used to determine whether two ranges of data move together – that is, (a) whether large values of one set are associated with large values of the other set (known as a Positive Correlation); (b) whether small values of one set are associated with large values of the other set (known as a Negative Correlation); or (c) whether values in both sets are unrelated (correlation near zero)" (M/S Excel, 2008).

The study attempted to investigate whether (H1) a student's computer self-efficacy of M/S Office skills (SE1) would propel them to teach other people about computers (DD1), all in an effort to close the Digital Divide. The results from the correlation coefficient were a statistically significant, though slight, relationship between these variables. The hypothesis was accepted.

Another quest was to find out whether (H2) college students viewed themselves as an asset to their communities (HC2) and whether as a student they could help solve the challenges of community development (BU3). The relationship between these two variables was not statistically significant. The hypothesis was rejected.

Finally, the study had ventured to find out if (H3) those students pursuing a career in an Information Systems-related field (DD2) believed that community development is best done if people are given an incentive (CD3). This relationship was statistically significant, while only slightly. The hypothesis was accepted. Table 6.0 presents the correlations summary of all non-demographic variables.

Table 6.0: Correlation Analysis Results by Variable

Variable	SE1	SE2	SE3	DD1	DD2	DD3	HC1	HC2	HC3
SE1	1								
SE2	-.323**	1							
SE3	-.652**	-.519**	1						
DD1	.251**	.000	-.214*	1					
DD2	.171	.022	-.180	-.324**	1				
DD3	-.342**	-.035	.336**	-.480**	-.671**	1			
HC1	.138	-.138	-.019	.026	-.004	-.010	1		
HC2	-.002	.049	-.036	.078	-.028	-.038	-.596**	1	
HC3	-.159	.122	.060	-.092	.032	.048	-.630**	-.249**	1
CD1	-.123	-.027	.130	.096	-.190*	.106	-.095	.107	.012
CD2	.150	-.018	-.103	-.026	-.054	.070	.170	-.118	-.082
CD3	-.004	.055	-.033	-.034	.250**	-.181	-.079	.015	.090
BU1	-.098	.178	-.059	-.013	-.036	.050	-.017	-.040	.060
BU2	.026	-.011	.002	.052	-.031	-.014	-.006	-.001	.013
BU3	.086	-.165	.055	-.017	.067	-.035	.022	.040	-.060

Results are Symmetric to those found below.

Variable	HC1	HC2	HC3	CD1	CD2	CD3	BU1	BU2	BU3
SE1									
SE2									
SE3									
DD1									
DD2									
DD3									
HC1	1								
HC2	-.596**	1							
HC3	-.630**	-.249**	1						
CD1	-.095	.107	.012	1					
CD2	.170	-.118	-.082	-.470**	1				
CD3	-.079	.015	.090	-.505**	-.525**	1			
BU1	-.017	-.040	.060	.092	.021	-.103	1		
BU2	-.006	-.001	.013	-.160	-.009	.166	-.488**	1	
BU3	.022	.040	-.060	.069	.000	-.049	-.496**	-.517**	1

* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.

Correlations below .35 only conclude a slight relationship. Correlations between .40 and .60 may have practical value. Correlations between .65 and .85 predications are reasonably accurate. Correlations greater than .85 indicate a close relationship for making predictions; however, such values are rarely obtained.

Further Research

The researchers suggest that the study be duplicated to include a greater population of participants. One approach would be to do a comparative study of those students who anticipate living in rural vs. those who anticipate living in urban areas as to the level of community development they foresee in their adult lives. Finally, the researcher might consider focusing the study on how on-campus community development exposure and experiences translate to community development efforts beyond graduation.

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Appendix:

Responses to Open-Ended Question

Describe your philosophy/feelings/beliefs/experiences about Community Development? (Optional; Unedited)

- I feel that community development should come from within the community by that I mean those within the community with the necessary skills should be the ones to help within their own community.
- I feel that everyone in my community should develop some kind of computer skills because it seems as if everything now evolves around computers. I plan to do any and everything I can to make my community stronger and knowledgeable of computers.
- I think everyone should get involved in their community at least once no matter how small or large the task.
- I feel that the black community should come together, get even more educated, and raise their children with better values. By doing these things, we can improve ourselves and those improving the communities we live in.
- I believe that we all should give back to our community once we get our degrees.
- Community development starts in the home. Start within your home, then reach out to neighbors.
- I fell that everyone should give back to their community in some way.
- The true test of a man is not where he stands in times of comfort and leisure, but where he stands in times of conflict and controversy.
- Community development is key to growing and having success in life.
- I think community development is very important.
- A community must first realize the problem and then try to come together to make a better community.
- It takes overall involvement, dedication, and commitment to achieve effective community development.
- Community development is taking what you have learned and placing it into the community
- I learned something new about why we have databases, what HCI is, and I'm beginning to learn about Systems Analysis. I realize why we use them.
- In order for every community to thrive, development is key. Albany is a great city with much development in its future, but developmental changes are being made without input from the younger generation, the people who will be living and residing in Albany once the changes have been made.
- It is better to give, than to receive
- It is very much needed in every community for a brighter tomorrow.
- The entire race must be willing to fight over the long haul. Race or gender must not be a barrier.
- Individuals must take pride in their community
- I think community development is important because it improves the community and makes it better for everyone
- I believe community development is something that is needed to be spearheaded by the community officials (mayor, city manager), but it should also involve the community. This will make a more rapid turnaround in the areas that need development.

- I believe that community development is a duty of every able-bodied member. I believe that returning value to the community from which value was received is accepting responsibility and living in harmony with the law of reciprocity.
- Everybody needs to join in and help one another. Getting people to work as a team is the only task.
- I believe that community development is the key to building a better community.
- Community development should be a well-organized task, which involves whole commitment.
- I believe that one should not have to be given an incentive to help the community, it should come from the heart.
- I truly believe in community development. I care very much about my community.
- Developing communities is a great way to help develop less fortunate youth into prosperous adults.
- Community development starts with the parents of children. More than likely if a household has no order, then the community will reflect such.
- I am actively involved in the community and plan to continue to do so. I don't feel that people should be offered an incentive because it should be done from the heart. The personal satisfaction should come from being helpful and bettering the community.
- I believe that community development should be shared among everyone living in the environment so that people can grow accustomed to one another's values and needs.
- Community development, and how it can grow, all depends on the community and who the people are that live in that community.
- Community development is vital to a growing community to develop necessary knowledge to live a healthy life.

Technology Immersion to Improve Student Learning

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Abstract

Tech savvy workplaces demand technology proficient employees. Using technology in an early course fosters interaction between the teacher and the students, and among students, which enhances the learning. Efforts of a College of Business to immerse students in technology in a beginning business course are studied. "Technology brings value to education because … these connections allow learners and teachers to access new ideas, perspectives, cultures, and information" (Oblinger and Verville, 1998, 102). The student population is drawn from some of the lowest socioeconomic regions of the U.S. so increasing educational attainment could positively affect economic development in the region.

Introduction

Rapid growth in technology has revolutionized business and the tech savvy workplace demands proficient use of technology. Oblinger and Verville (1998, 103) claim that "using electronic sources to find information and solve problems is essential to the workplace. Developing these necessary skills while in college is an advantage." University students in the 21st century must effectively use technology to cope with the increasing complexity of modern life, to find success in the job market, and to foster positive attitudes towards the educational process (Brown, 2000).

The efforts of one College of Business Administration to immerse students in the use of technology in a beginning business course are studied. This paper describes an Introduction to Business course at one public university in which faculty required first semester freshmen to use a variety of technological tools for research and communications. Faculty identified the technological tools to be use and made specific assignments for students.

Most business faculty members realize the importance of integrating technology in the curriculum but are unwilling to accept the responsibility of technology training for themselves or for students (Rogers, 1995). The time required to redesign and implement courses with technological innovations has been compared to light's absorption by a black hole. Further, many faculty resist technological innovations because they lack skills or knowledge of the technology or feel that they may be replaced (Kotter, 1996).

Content coverage in many sophomore and junior-level business courses offers sufficient rigor without the complexities of additional technological components. In the process of redesigning the Introduction to Business course, a faculty committee decided to include a significant technology component believing content coverage could be reduced without compromising the educational value of the course.

The teachers in this course embraced the idea that it is the responsibility of the teacher to prepare students for learning (Roshto, Melancon, & Wood, 2005). Effective teaching does not merely include technology but also incorporates a paradigm shift from the traditional authoritarian role of teachers to a role as a facilitator or guide to learning. This student-

centered focus increases the level of computer usage and results in higher level learning (Wang, 2001).

Literature Review

Technological innovations have impacted education for centuries. Dramatic changes in education followed the advent of the printing press by Gutenburg in 1450 which altered education from an oral to a print medium (Renaissance, 1999/2006). More recent technologies used in education include overhead transparencies, television, and computers. However, the advent of e-learning and on-line learning offer many new pedagogical advantages. Learning is not proscribed by spatial or time boundaries; class materials are offered in various video, audio, and print formats; learners can communicate with experts via the Web; and students can engage in collaborative learning activities (Curran, 2001).

The effective use of technology in an educational environment is dependent upon factors such as the teaching philosophy of instructors, the training and attitudes of faculty and administrators, the socioeconomic status of the students, and barriers faced by faculty and students in accessing and using technology. Students enter courses from disparate cultural and socioeconomic backgrounds as well as having different technology skills. Further, many faculty resist adopting technological innovations because they lack skills or knowledge of the technology or feel that they may be supplanted by the innovation (Kotter, 1996)

Traditionally, teachers were viewed as information conduits as opposed to facilitators or coaches. Wang (2002) finds that computer integration is more successful when the teaching paradigm shifts from the traditional authoritarian role to a role as a facilitator of student learning. Rather than focusing on information technology training, the emphasis should be on altering teachers' perceptions and beliefs about teaching and learning (Baker, 1999). The perceptions and experiences faculty bring to a task determine the "concerns" (Hall. & Hord, 1987) that must be addressed to overcome faculty resistance. This stance is supported by McLean (Winter 2005) and Jaffee (September 1998).

Initially, online teaching was stimulated by small administrative grants whose purpose was to involve academicians in developing new teaching approaches (Curran, 2001). As late as 1998, Jacobsen reported that information technology was not widely integrated into teaching and learning with less than ten percent of faculty using technology as more than an electronic chalkboard. Rogers (1995) identified features that determine the reception and dispersion of technology. These included simplicity of use, compatibility with faculty values, motivations, and experiences, visibility of benefits, comparative advantage (i.e. Is it better than what is currently used?), and modular adoption (i.e. Can parts of the technology be adopted?).

Dawson and Rakes (2003) investigated the impact of administrators' technological training on the integration of technology. The amount and level of training received by supervisors and administrators was positively related to the amount of technological integration that occurred in the school. Properly trained administrators were supportive of faculty and made greater efforts to provide supplies and other assistance. Funded grants for professional development grant and technology enhancement are evidence of administrative support for initiatives such as this.

Challenges to using technology range from time constraints to limited computer access to resistance by faculty. Factors contributing to successful incorporation of technology include a combination of educational theory and hands-on practice for faculty (Cagle & Hornik, 2001). Computer applications should be supported on campus and include as much hands-on training as possible to overcome anxiety and promote proficiency. Parr (1999) suggests that these factors are predictors of the success of educational efforts. More

importantly, teacher training may be one of the most important ways to maximize the returns on investments in education.

Hoffman (2000) notes that while the average teacher works about 50 hours per week, dedicated teachers work much longer hours. Many teachers conclude that incorporating new technologies are the equivalent of a black hole for time reducing research productivity. Since innovative teaching is valued less than research production in the promotion and tenure review structure, faculty hesitate to embark on this path.

Students' socioeconomic status can create a gap in technology knowledge. Limited access to computers and other technologies may exacerbate problems of the less technologically literate. These may include greater difficulty in achieving success in an increasingly technology-based society, more difficulty in finding employment, and the development of negative attitudes toward the overall educational process and learning in general (Brown, 2000). Further, lower socioeconomic groups may fail to reach full potential because these students lack the skills of other students.

Students who use technology will access more information, become more proficient in manipulating and using data, and be exposed to software applications that offer a higher level of learning than that provided by practice and drill. Additionally, increased familiarity with the technology will lead to increased usage. Integrating technology expands and extends curriculum objectives by giving students topic specific learning experiences (e.g., mortgage calculators, cost of living adjustments, inflation adjustors) that will improve problem-solving skills (Norris, 1996; Curran, 2001). Singh, O'Donoghue, and Worton (2005) support the view that technology enhances learning environments. Stimulating student classroom activities promote interaction between faculty and students; involve students in gathering, analyzing, and synthesizing data; and foster student engagement.

Rapid development of computer aided learning tools continues. Within the university environment, faculty adopting these tools has risen dramatically. With the research indicating that earlier introductions to technology reduce anxiety, increase student engagement, and strengthen students' relationship with the university, it seemed wise to undertake a study to assess the effectiveness of the course redesign.

Methodology

Course Redesign

Business faculty desires to immerse freshmen in technology were integrated in the redesign of the Introduction to Business course. The total makeover involved change of text, modifications of the syllabus, and an altered faculty selection process. One major change to the course specifications involved adding a personal financial planning component to the traditional course content of an Introduction to Business course.

A text was chosen based on Internet enhancements available from the publisher. A custom book was designed integrating chapters from both traditional Introduction to Business and Personal Financial Planning texts. Bundled with the textbook, was a complete package that gave students access to online study tools, interactive quizzes, and the Infotrac search engine.

At the beginning of the semester, students were introduced to the blackboard platform for delivery of course information. An initial assignment was made via email to ensure students had a working email address included in their personal profile of their Blackboard account. Also, students were instructed in accessing publisher provided supplements such as PowerPoint slides, text outlines, vocabulary flashcards, interactive quizzes, e-lectures, and other available information and were encouraged to take advantage of the variety of study tools.

Another use of technology was on-line quizzing. Practice quizzes provided by the publisher were made available with unlimited access. Instructor-created quizzes, which were part of the course assessment tools, were made available at a specific time and date where students could complete the quiz out-of-class. Students were given immediate feedback in the form of quiz results. They were encouraged to print a copy of the quiz to bring to class for review and explanation.

Another type of activity that used technology was the assignment of a variety of websites to visit where real-life information to supplement the text could be found. Students brought results of the web research to class and reported the findings. For example, in the chapter on ethics, students reviewed and evaluated sites that reported company codes of ethics and specific ethics training provided to employees.

The U.S. Department of Labor site was used to expose the student to many of the Bureau of Labor Statistics. An inflation calculator, consumer price index data, and career outlooks were some of the items emphasized. Students were asked to compare the purchasing power of $1 in several different years. They could also find the decades with the highest and lowest rates of inflation.

In the personal financial planning component of the course, students were instructed in tapping the power of Excel spreadsheets and in the value of preparing worksheets to be used on a recurring basis. Cash Budgets were completed and submitted to the instructor through the Digital Drop Box in Blackboard allowing the instructor to evaluate the excel file and use of formulae, and not only the resulting printout.

A final technological component was the encouragement of two-way communication between faculty and students. Announcements pertinent to all were posted to Blackboard or were emailed to students. Topics for discussion were posted to the discussion board where students could add comments based on research. Students could communicate with the instructor or classmates via email for clarification of assignments, for submitting excuses for absences, or for commenting on classroom discussions. Students were instructed to use a "business" email account for official university communications as opposed to a "casual" account with a slang user name that did not disclose the sender of the message. Business etiquette rules for the composition of messages was also included as students were discouraged from using "chat language", Ebonics, and other slang conversation or poor sentence structure or grammar in their messages.

Sample and Components

A purposive nonprobability sample (Trochin, 2004) of 56 students was used to collect data. Students at a southern regional university were surveyed at the end of the semester of the initial course redesign. Although the results of this study are probably not generalizable to all students taking a similar class, they do provide a benchmark for future refinement of the course, further use of technology in the college of business administration, and study of improvement in retention rates.

Demographic data on the students enrolled in the course were accumulated and their progress will be tracked as they complete their business degree plans. Results can then be compared with students who did not experience the technological emphasis at the freshman level. An instrument to gauge satisfaction with the education provided by the college of business can also be used to compare students in the two groups.

To gather information to judge the success of the redesign of the Introduction to Business course, a survey was administered to the students near the end of the semester. Statistical measures used to evaluate the data, included a factor analysis, chi square to determine if the means of the satisfaction scores were equal, and a Cronbach's alpha to measure the reliability of the instrument.

Cronbach's alpha is a measure of the reliability of the instrument for eliciting consistent reliable responses. The score measures the amount of variation explained by the hypothetical variable measured (Santos, April 1999). Researchers consider a Cronbach's alpha of 0.7 or higher acceptable for reliability of scales. In this work, the construct is the impact of early immersion in technology on students' perception of preparation for other courses in business curriculum as well as for the university in general.

Results

Demographics

Of the 58 respondents, approximately 54% were freshmen, 23% were sophomores, 13% were juniors, and 10% were seniors. The average age of the respondents was 22 with a standard deviation of 4.9 years. Forty-three percent of the respondents were male and 57% were female. The marital status question revealed that 86% of the respondents were single with the remaining either married or divorced. Fifty-nine percent of the respondents lived with their parents or in the dorm implying more traditional student population. The most common academic majors represented by the respondents included Accounting (18%), CIS (8%), General Business (4%), Non-Business (36%), Management (21%), and Marketing (13%).

Class-related Questions

As shown in Table 1, respondents reported that the class was valuable with a mean of 1.7 and should be recommended to other students with a mean of 1.7. The next two questions showed an interesting dichotomy with respondents believing that the class should be required of all Business majors with a mean of 1.6. However, when asked if the class should be required of all university students, the mean was 2.7 with a much wider standard deviation of 1.1. This could possibly mean that the respondents viewed this class as a business class rather than a personal finance class or it could be a response to the word required. Further research will be needed to elucidate the apparent disparity between the means of these two questions.

Questions 5 thru 7 related to financial behavior. In general, respondents inferred that they would change their financial behavior as a result of this class with a mean of 2.0. With a mean of 2.2, respondents revealed their desire that more time should be spent on the personal financial aspects of the course as opposed to the business aspects with a mean of 2.5.

Question 8 investigated the impact of the course on solidification of the student's choice of a major. With a mean of 2.5, respondents agreed that the course helped them solidify their major/career choices although the standard deviation of 1.1 reveals a wide range of opinions. Since this course was designed to improve retention, a redesign of the survey may be required to explore the results of this question more fully

The remaining three questions concerned the impact of the Introduction to Business course on the student's preparation for future courses. Question 9 centered on preparation in the use of Blackboard. A mean of 1.6 reveals the students believe they are well prepared to use blackboard in future classes. Students may not have appreciated a connection between content in this specific course and requirements of other university-wide courses as shown with a mean of 2.0 on question 10. However, a mean of 1.6 on question 11 implied students did acquire an appreciation for value of the information taught as they expressed intent to take additional courses in the college of business.

Reliability of the scales was measured using Cronbach's alpha for the last three questions. The reliability scale measured 0.628. Although this is lower than the 0.70

generally considered acceptable, the scarcity of information available from the pilot study and the limited sample size may cause the downward bias.

The chi square χ^2 tests were conducted on the proportions in each category. An equal distribution was hypothesized for the outcomes. The test results can be found in Table 2 below. All three factors were significantly different from the hypothesized values at the .05 level.

Limitations, Future Research, and Conclusions

Limitations

This research should be considered an exploratory study since open-ended questions were asked to gather information for designing future surveys. Open-ended questions do not lend themselves to empirical testing but are a useful tool for determining what type of empirical data to gather for future research. A further limitation of this study revolves around multiple instructors teaching the same course. Considerable effort was made to ensure that each instructor covered the same topics but individual nuances between instructors make exact comparison of the data from each class impossible. Finally, the participants were from a small, regional college in the south and the results may not be representative of all groups of students.

Future Research

Future research should attempt to measure if data from each class is a representative sample of the whole or if differences in teaching style affected the survey. The survey has been redesigned for use in subsequent semesters to gather more data about students' perceptions of technology and other course components. Factor analysis will be conducted to reduce the components. Manova models will be developed to assess the impact of the course redesign on student perceptions. Additional data will be collected to assess student persistence in the college.

Conclusions

The initial experience of faculty introducing technology into an introduction to business course was positive. Students evidenced high levels of interest and engagement. This suggested that the course components be revised to engage students earlier and to use the interactive exercises to cement the relationship component of this course for the students. Data collection will continue to determine the relevant trends. Students appeared to find the repeated exposure to technology improved their competence and comfort in using technology in the future.

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Appendix

Table 1: Introduction to Business Survey Part I

Please consider each assertion below and indicate by circling the appropriate designation whether you strongly agree (1), agree (2), not applicable (3), disagree (4), or strongly disagree (5).			
Assertion	Mean	Mode	SD
1. I would recommend this class to others.	1.7	1.0	0.9
2. This class was valuable to me.	1.7	2.0	0.7
3. This class should be required of all Business majors.	1.6	1.0	0.8
4. This class should be required of all University students.	2.7	3.0	1.1
5. I will change my financial behavior because of this class.	2.0	2.0	0.8
6. More time should be dedicated to personal financial planning.	2.2	2.0	0.9
7. More time should be dedicated to future of business topics.	2.5	2.0	1.0
8. This course helped me solidify my major/career choice.	2.5	2.0	1.1
9. I feel well prepared to use blackboard in future classes	1.6	1.0	0.8
10. This class has prepared me for other classes I will take during college	2.0	2.0	0.8
11. I plan to take other courses taught in the college of business	1.6	1.0	0.8

Table 2: Test Statistics

	Prepared to Use Blackboard	Prepared for Other College Classes	Plan to Take Other Business Classes
Chi-Square(a)	43.571	27.000	41.000
Df	3	3	3
Asymp. Sig.	.000	.000	.000

Can a Focus on Strategic Human Resource Management Enable Small and Medium Sized Businesses Become Better Value Chain Partners?

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Abstract

The study of strategic alliances has focused primarily on alliances between corporations and global partner. However, powerful strategic partnership and alliances between big businesses and small and medium sized enterprises are also critical to the ability of big business to develop sustainable competitive advantage. This paper discusses a conceptual and empirical framework for studying the relationship between the strategic human resource practices of small and medium sized businesses and their performance as collaborative partners to big businesses.

Introduction

Strategic collaboration between small and medium sized enterprises (SMEs) and the large businesses they supply can take many forms, such as locating a SMEs facility in close proximity to a buyer's facility to enable just-in-time delivery of raw material, inputs and components, collaborating on research and development and product design or supply chain activities, or delivering outsourced human resource management activities. Given the promise it holds for fostering competitive advantage, strategic collaboration practices have received significant attention in the broad management literature including human resource management, strategic management and general management (Michie and Sheehan, 2005; Ichniowski, Shaw and Prennushi, 1997). For large businesses, an ability to form strategic alliances and collaborative partnerships is critical to their ability to seize technological opportunities, to build critical resource strengths and competitive capabilities, and deliver value to their customers.

Alliances have become so critical to the competitiveness of large businesses that they have become core elements of the strategy of many large businesses. Big businesses use alliances to expedite the development of new technologies, to overcome gaps in expertise and to improve supply chain efficiency (Kaplan and Hurd, 2002). Often these partners are small and medium sized enterprises, that are expected to perform as full partners. Indeed many partnerships and alliance break when a partner is unable to meet its obligations under the partnership agreement (Ernst and Bamford, 2005).

The ability of a SME to be a good partner is undoubtedly a function of the quality of its internal operations. Factors that enable operating excellence include having a strong management team, recruiting and retaining talented employees, viewing training as a strategic activity, structuring the work effort in ways that promotes successful strategy execution, deploying an organizational structure that facilitates proficient performance of strategy critical activities, instituting polices and procedures that facilitate good strategy execution, instilling a strategy supportive culture and tying rewards and incentives to individual and team performance outcomes that are strategically relevant (Bartlett and

Ghoshal, 2002; Menkes, 2005; Hayes, Pisano and Upton, 1996; Ridderstrale, 2003; Chandler, 1962; Pferrer and Veiga, 1999; Kotter and Hewskett, 1992; Kohn, 1993; Kerr, 1995).

Grounded in the strategic alliance and strategic human resource management literature, this paper presents a conceptual framework for studying the relationship between the strategic human resource management capabilities of SMEs and their performance as strategic partners of big businesses, especially their ability to perform as just-in-time supply chain partners.

This conceptual perspective effort will contribute several new and valuable contributions to the academic literature and to the practice of firm management. From a theoretical perspective, it provides valuable insights into the underlying workings of some of the key people and operational variables that serve to provide synergy in the relationship between big businesses and their SME allies and two, it highlights the significant role SMEs play in the value chain of big businesses. From a firm management focus, the paper provides a set of recommendations that will enhance the collaborative potential of SMEs and big businesses that will be beneficial to businesses in general.

What is Strategic Human Resource Management?

Strategic human resource management practices are practices specifically developed, implemented and executed based on a deliberate linkage to a company's strategy. The term strategic human resource management implies that employees are strategic resources i.e. human capital that must be managed and leverages in executing corporate strategy. Broadly speaking, strategic human resource management means tightly aligning traditional human resource management practices such as recruitment, selection, training and development and rewards to a company's strategy. It also means instituting policies and procedures that facilitate proficient strategy execution, using teams to leverage cross-functional knowledge and competencies, developing knowledge management capabilities that facilitate the leveraging of best practices and effective and efficient capture of economy of scope opportunities, developing learning organizations that facilitate the constant adoption, utilization, ownership, and internal dissemination of best practices, and executing change management approaches that contribute to building and maintaining strategy supportive corporate cultures.

Specific practices include: use of: structured interviews, bio-data, cognitive ability tests, and assessment centers; competence development maps and frameworks; developmental performance feedback, management by objectives techniques, and balance scorecards; cross-functional teams and project teams' profit sharing, team based compensation, merit pay, and long term incentives; open book management practices to reduce worker-manager status differential; enterprise resource planning human resource management solutions; and enhanced involvement of the human resource function in crafting, implementing, and executing strategy (Huselid, Jackson, and Schuler, 1997; Magliore, 1982; DeSanto, 1983; Stumpf & Hanrahan, 1984).

The focus of this work is therefore a conceptualization of the significance of a firm's people management practices to its performance as a value chain ally. It is an attempt to demonstrate the importance of SMEs to the performance of big businesses and to provide a research focus as well as practitioner based insights that will enhance the people management practices of family, small and medium sized businesses

Small and Medium Sized Enterprises

SMEs are independently owned and operated entities that are not dominant in their field of operation. The impact of SMEs on job creation, creativity, innovation, and macro-competitiveness has been well documented in the industrial organization, strategic management, and economics literature. Andretesch (1995) for example, argued that small business research and development activities are more productive than big businesses, when size is controlled for. Perhaps the biggest role SMEs play however is that of partners in the value chain of big business. With technology for example, advancing along many different paths only a few firms have the capabilities and resources to pursue their strategies alone.

The strategic human resource management literature has demonstrated a relationship between strategic human resource management and such important outcomes as firm performance, firm innovativeness, and firm profitability. Likewise it is clear from the strategic management literature that top notch people management and usage of strategic human resource management tools to create a strategy supportive and enabling corporate culture are keys to implementing and executing a winning strategy. Attracting and retaining high performing SME allies is a significant driver for creating a strategy able big business. Developing a strategy supportive culture and internal organizational capabilities should therefore be a strategic imperative for SMEs.

Theoretical Frameworks, Key Constructs and Propositions

Industry Value Chains and Strategic Alliances

Big businesses compete in product markets on the basis of many factors, one of the most important of which is price. Pricing power is however a function of the cost of performing value chain activities. A firm's value chain is composed of the internal activities it undertakes to create value for its customers and the related support activities as well as the value chains of the firms' suppliers and distributors. In essence a firm's value chain is embedded in its industry value chain to the extent it has supply chain relationships as well as distribution channel allies.

Strategic Alliances in Practice

The importance of value chains and strategic partnerships lie in the competitive advantages they can confer to both big and small and medium sized businesses and by extension to their buyers who can anticipate purchasing superior value goods and services at competitive prices. However the value of a SME as a strategic ally is a function of its own internal organizational operations, practices, culture, and core competencies. Creating a capable organization always mandates recognition of the importance of the people factor and the creation of an enabling culture. Strategic human resource management practices help firms to develop such internal capabilities.

The Role of Strategic Human Resource Management Practices

Due to a lack of research focus the relationship between the strategic human resource management practices of SMEs and their value as strategic allies is not clear. It can however be argued that smaller firms have a lot to gain from a strategic human resource management focus for while they are arguable more agile and tend to be less bureaucratic, they may be less attractive from the perspective of attracting, developing, leveraging and retaining human and intellectual capital. Thus to the extent that strategic human resource management practices serve to align, strategy, structure, processes and people (figure 1), a lack of, or

insufficient appreciation for the competitive power of these practices will have negative effects on the partnering capability of SMEs.

Success of Strategic Human Resource Management

The success of strategic human resource management practices is based on the extent of their institutionalization, where institutionalization is a function of their implementation and internalization. Implementation is the extent to which the practices have been adopted and is reflected in the intensity of their use. For example implementation of work teams will be reflected in their consistent use in decision making, problem solving, empowerment, and visibility. Internalization, the second level of institutionalization, is evidenced by extent to which such practices are infused with value by employees. To be infused with value, a practice has to be accepted by employees and has to be a source of job satisfaction (Locke, 1976), psychological ownership (Van Dyne, Pierce, and Cummins, 1992) and has to be a strong basis for making decisions about individual commitment to an organization.

Organization commitment in turn provides a foundation for individual work effort and retention decisions. It is defined as the relative strength of an individual's identification with the goals, objectives, and values of an organization (Mowday, Steers, and Porter, 1979). These constructs, that is, institutionalization of strategic human resource management practices, and the resultant job satisfaction and psychological ownership of the practices are keys towards building the core competencies and internal organizational capabilities that facilitates the ability of a SME to become a valued strategic ally.

Management commitment is also critical to the success of strategic human resource management practices. Central to such commitment is an appreciation of talent as a lever of organizational success; of the role of strategic alliances and partnerships as a fulcrum of organizational success; and of the forces of globalization and their impact on competitiveness. Managerial commitment is therefore a construct that revolves around: appreciation of the utility of people in developing valuable core competencies; understanding of the efficiency pressures on businesses; and appreciating the impact of globalization as a driving force on big business. This leads to the following propositions:

(I) Successful adoption of strategic human resource management practices is positively associated with the extent to which the management of a SME understands its competitive environment

(II) Success adoption of strategic human resource management practices is negatively associated to the commitment of the management of a SME to adopt them

Research Design and Methodology

This section lays out a study design and methodology that can be used to test the conceptual model discussed above.

Dependent and independent variables

It is proposed that the success of strategic human resource management practices is best operationalized as the extent of their reported implementation and internalization. Data can be collected using survey instruments such as the Organizational Commitment Questionnaire (Mowday, Steers & Porter, 1979) and the Pierce, Van Dyne and Cummings (1992) measurement instrument in field surveys administered to two groups of respondents to

avoid the potential problem of common-source biases (senior managers and employees of surveyed SMEs), as illustrated in table 1.

In analyzing the data, it would be advantageous to treat data collected from senior manager respondents differently from data collected from employee respondents as it is conceptually important to distinguish between these two types of data sources (Rousseau, 1985). ANOVA procedures can then be used to test the differences in the responses of employee respondents and senior management respondents. It is expected that the mean differences between the responses of the two sets of respondents will not be significant. Even if they are, the responses should be combined because the conceptual dependent variable is the implementation and internalization of these practices by all employees including senior managers. Excluding one set would be inconsistent with the theoretical model.

Analytical Procedures

A variety of analytical procedures can be used to test the psychometric properties of the measurement instruments and the propositions. Internal consistency as well as face and content validity can be assessed by using standard statistical techniques such as reliability analysis with Cronbachs's Aplha and exploratory and confirmatory factor analysis. The conceptual propositions may be tested with various multivariate techniques as described below.

Proposition I

Method of analysis – Multivariate Multiple Regression (MANOVA)

(1) $Y = a + \beta X + \varepsilon$

Y1 - Reported implementation (senior managers)
Y2 – Observed implementation (employees)
Y – vector of dependent variable = Y3 - Employee commitment to practices
Y4 - Employee satisfaction with practices
Y5 - Employee psychological ownership of practices
χ – vector independent variables = X1 – Big business procurement policy
X2 - Role of core competencies
X3 - Threat of offshoring

Where

α – vector of the overall mean of the dependent variables (j = 1,5)

β – matrix (5x3) of coefficients of the relationship between the independent (X) and the dependent (Y) variables

ε – vector of random errors

(2) $\gamma ji = \alpha j + \beta j1X1i + \beta j2X2i + \beta j3X3i + \varepsilon ji$

i – observation = company i (i=1,2)

j – index of dependent variable (j – 1,5)

Proposition II

Method of analysis – Multivariate Multiple Regression (MANOVA)

(3) $Y = a + \beta X + \varepsilon$

Y1 - Reported implementation (senior managers)
Y2 – Observed implementation (employees)
Y – vector of dependent variable = Y3 - Employee commitment to practices
Y4 - Employee satisfaction with practices
Y5 - Employee psychological ownership of practices

X – vector independent variables = X1 – Commitment to strategic partner
X2 – Identification with strategic partner

Where

α – vector of the overall mean of the dependent variables (j = 1,5)

β – matrix (5x3) of coefficients of the relationship between the independent (X) and the dependent (Y) variables

ε – vector of random errors

(4) $\gamma ji = \alpha j + \beta j1X1i + \beta j2X2i + \beta j3X3i + \varepsilon ji$

i – observation = company i (i=1,2)

j – index of dependent variable (j – 1,5)

The concept of difference in scores should be applied with caution, given the methodological problems identified in the literature with the approach (Edwards, 1993, 1994, 1995). The problems with this approach can however be controlled by using two general approaches. One is to keep the dimensions from which the difference score is constructed separate instead of pooling them into one common score. The second is to test the assumptions on which the difference in scores is based before using the scores for testing propositions.

Though it may be reasonably assumed that there could be divergence in the appreciation for the competitive environment and role of strategic human resource management practices in shaping the core competencies that impact on the quality of strategic alliances (there may be institutional, cognitive, and normative differences between companies), the differences may very well be statistically insignificant. As such the difference scores may also be pooled into one common score, to facilitate testing at a more macro level.

MANOVA can usefully be used for testing the propositions for two reasons. Being a nested model, analysis of variance is ideal for testing differences in split-plot designs such as the one proposed here. And two, it is reasonable to expect that the dimensions of the successful adoption of strategic human resource management practices will be correlated. By taking into consideration the correlation between the multiple dependent variables, MANOVA is able to handle this when estimating the regression equation.

Benefits of a Study

The benefits of a study include:

1. Examination of a strategy that has the potential of increasing the productivity of SMEs thereby helping them to reduce the labor cost competitiveness of offshore competitors
2. Putting industry value chains into bold relief by accentuating the role of strategic alliances and partnerships
3. Developing a clear picture of a systems linkage that is a significant determinant of the cost of goods and services purchased by big businesses
4. Paving the way for future research in this area

Summary and Limitations

Strategic human resource management research as contributed tremendously to our understanding of the role of human resource management in building and sustaining the

competitive advantages of big businesses. However no attention has been paid to how the value added of SMEs can be enhanced by adopting strategic human resource management practices. Though this may be because of the potential difficulty in collecting data from this class of business organizations, there is a compelling need to develop a framework to assess the possible nexus between such practices and the collaborative capability of small and medium sized businesses.

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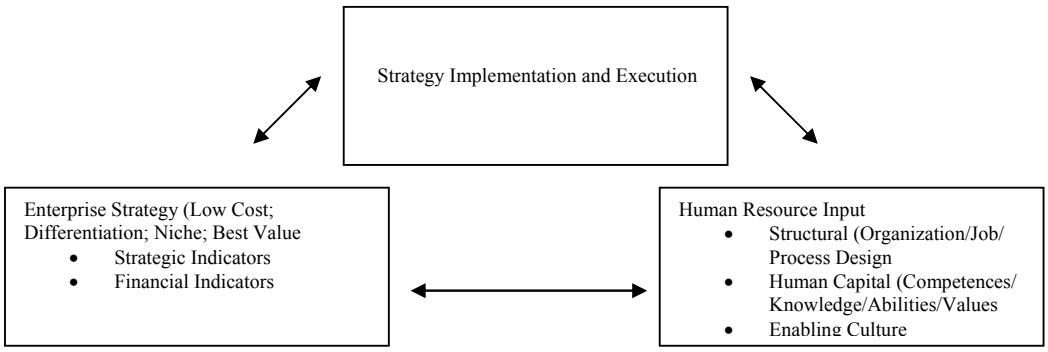
Appendix

Figure 1: Strategic Human Resource Management: Aligning Strategy, Structure, Process, and People



Source: Ijose, O. 2004

Table 1: Sources of Data

Variable Source	Survey 1 Senior Managers SMEs	Survey 2 Employees SMEs
Dependent Variable		
- Reported implementation – SMEs	X	
Internalization		
- Commitment to practices		X
- Satisfaction with practices		X
- Psych. ownership of practices		X
Independent Variables		
Management Commitment		
- Appreciation of SHRM	X	
- Usage of SHRM practices	X	
Control Variables		
Size of SME		
Length of alliance relationship		

The Economic, Administrative, and Demographic Factors that Led to Municipal Bankruptcy in Four Alabama's Cities and Towns

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Abstract

Although government bankruptcy in the United States is rare, the average number of Chapter 9 cases per years since 1990 has increased by 32%. Alabama is ranked fourth in all local government bankruptcy filings that occurred between 1990 and 2006 and second in the total filings per number of local governments during the same period. This paper reports the findings from the case study analysis of the four Alabama city and town bankruptcies that occurred during the 1990-2006 period. The overall contributing factors to these Chapter 9 filings were a mixture of financial mismanagement by public officials and the economic decline of the municipalities from loss of revenues and/or a lawsuit settlement.

Introduction

Federal municipal bankruptcy legislation allows bankruptcy filings by cities, towns, counties, and special authority districts. During the last fifteen years, 1990-2006, four Alabama cities and towns filed for municipal bankruptcies under Chapter 9: City of Lipscomb in 1991, Town of North Courtland in 1992, City of Prichard in 1999, and the Town of Millport in 2004 (Pacer).

Purpose of the Study

This study was undertaken to provide insight into the causal factors resulting in municipal bankruptcies of Alabama cities and towns. The study addressed the following questions:

- What were the specific contributing factors that led to the municipal bankruptcies in Alabama cities and towns? and
- What state oversight initiatives could mitigate against future municipal bankruptcies filings?

Background

According to the National League of Cities 2005 annual report, "City Fiscal Conditions in 2005", American cities continue to be faced with key fiscal challenges in their administration of public services. The factors leading to possible fiscal stress include soaring employee health care and pension costs; increases in services to select segments of the population, such as the aging; mandated public safety expenditures; and infrastructure concerns (Pagano and Hoene, 2006). The report indicated that these problems confront all

local governments. Furthermore, Fitch Ratings, a bond credit rating agency, recognized that the "impact of disaster preparedness, both in terms of capital and operations; rapidly rising costs for construction materials and fuel; and a possible correction in the real estate market and increase in interest rates" would test local government officials in their financial management abilities in the coming years (Fitch, 2006, Laughlin, 2005, p.37, Fitzgerald, 2006, p. 1). Currently, large municipalities, Pittsburgh and San Diego are in a state of fiscal stress (City of Pittsburgh Recovery Plan, 2004, p. 4; Mysak, 2005; Shea, 2005). Many financial analysts expect that those cities affected by the Hurricane Katrina as well as those cities that received the influx of displaced residents may find themselves in financial distress for years to come (Mysak, 2005; Municipal Bankruptcy in Perspective, 2006).

Literature Review

Five published case studies provided an in depth analysis of previous municipal bankruptcies and municipalities experiencing fiscal stress. These cases studies include: The Advisory Commission on Intergovernmental Relations (ACIR, 1985); Baldassare (1998); Park (2004); Watson, Handley, and Hassett (2005); and Landry and McCarty (2007). These comprehensive case studies consistently acknowledged common causal factors leading to the government's fiscal failure. The case studies identified negative economic and demographic factors impacting the governments' financial health which were then exacerbated by financial/fiscal mismanagement. These causal factors led to Chapter 9 bankruptcy filings. However, there was consensus among these authors which can be summarized as follows: "… bankruptcy is a form of government failure, not just a market failure" (Park, p. 251).

Many theorists have conducted studies on local governments in the United States in an attempt to define fiscal stress conceptually by identifying common financial and accounting factors among financially strained local governments. The common finding of these reports is that city financial problems do not happen overnight (Martin, 1982; Frank and Dluhy, 2003). Rather, the problem accumulates over years of inaccurate forecasting, continuous deficits and financial mismanagement. Specific identifiable fiscal problems of weakening revenues, increasing costs and demographic shifts were stated, but the overriding factor causing bankruptcy was identified as financial mismanagement.

Summary of Case Study Findings

The State of Alabama during the period 1990-2006 enjoyed a revival in its economic development with the building and operation of three international automotive plants (Mercedes, Honda, and Hyundai). According to the U.S. Census, the state's population increased approximately 10 percent during 1990-2005 (Census, 2006). There were no detrimental effects from the economic climate of the State that brought about the fiscal failure of the four Alabama cities and towns.

The Cities of Lipscomb and Prichard and the Town of Millport experienced declines in population and loss of economic base to sustain the general operating base for these municipalities. The Town of Cortland was pushed into bankruptcy due to a legal judgment against the town for which there were no resources to liquidate. Cortland's population and economic base was approximately level. In all cases, however, the authors identified a complete lack of political and administrative financial management decisions to address known problems. Therefore, the primary cause of these municipalities seeking protection under Chapter 9 filings was failure to apply basic government financial management tools or plan for contingencies to protect the citizens' assets.

The four case study findings were consistent with the other published research in the public finance field regarding local government bankruptcies. To summarize these finding, most local government bankruptcies occur as a result of two unfavorable elements; first, economic problems such as revenue decreases or rapid and unexpected increases in operating costs and, second, financial mismanagement by public officials, elected or appointed (ACIR, 1973, 1985; Baldassare, 1998; Park, 2004; Watson, Handley and Hassett, 2005; Landry and McCarty, 2007) as well as that of the fiscal stress studies (Martin, 1982; Rubin, 1982; Lewis, 1994; and Frank and Dluhy, 2003).

Recommendations

Bankruptcy, and the fiscal stress associated with it, impacts not only the local entity and its constituency, but also state government and the citizenry in general. For any local government experiencing fiscal stress, the citizen essentially bears the brunt of the fiscal stress either in an increased tax burden to offset higher debt and service expenditures combined with a loss or a reduction of government services. Each state should ascertain the level of necessary help to be given their respective local governments to avoid bankruptcies. Determining the point of intervention and how that intervention will protect the rights of the stakeholders is a critical area for future research.

The State of Alabama should take initiatives that would mitigate the conditions that led to its cities and towns seeking bankruptcy protection. First, The Code of Alabama should be amended to require all Alabama cities and towns to legally adopt a budget. A budget is critical in that it serves as assuring that debt payments are made on time as well as a basic tool necessary to plan receiving and expending annual public funds. Second, the State could provide education and training for elected local officials who need to understand the financial position and accounting requirements for their governments as well as sound practices of government planning and the ability to effectively recognize and manage unpopular political decisions that are the result of financial stress. Third, Alabama State Government should strengthen the audit powers of the state to ensure that political and economic powers are not abused at the local level (Park (2004) and Landry and McCarty (2007).

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Attitudes of Corporate Tax Students toward General Business Concepts

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Abstract

While there is vast research literature on the educational aspects of students in business schools, there remains a dearth of published research on the attitudes of business students toward the instructional aspects of the business curriculum. The current study specifically focused on the attitudes of 37 corporate tax students on the specific issues of Federal Tax Law, the IRS, the Profession of CPA, and the Profession of Tax Advising. These topics were evaluated via the semi-projective measure known as the semantic differential. Results indicated that this sample held favorable views toward the CPA and Tax advising professions and negative views about Tax Law and the IRS. Implications of the findings for accounting students were discussed.

Introduction

Satisfaction with career choices and educational aspirations of business school students has received much research attention in recent years (Burke 1994; Kim, Markham, & Cangelosi, 2002; Piotrowski & Cox, 2004). Interestingly, many research studies consider business school students as a homogeneous group or cohort. Yet recent studies have found that, indeed, business students comprise a heterogeneous academic group which is largely differentiated by choice of major field of study (i.e., management, accounting, finance, marketing, MIS) or professional aspirations (e.g., Kim et al., 2002; Noel, Michaels, & Levas, 2003). Moreover, some researchers have studied individual difference patterns in business students, such as personality factors, and their influence on career choice and academic achievement (Gul, 1992; Harris, 1971; Noel et al., 2003; Prentice, 2000). From the insights gained by these investigations (as well as anecdotal evidence garnered from experience as instructors), we posed the question: If business students comprise a heterogeneous group and express diverse viewpoints, sentiments and aspirations—then should there not be significant differences in attitudes of select groups of business students toward various business concepts and topics?

We decided to examine this issue and confronted the first challenge, i.e., attitudes are subject to response bias, social desirability, and cognitive dissonance factors. To overcome these concerns we decided to use a unique semi-projective measurement approach for assessing attitudes. A half century ago, Osgood, Suci, and Tannenbaum (1957) developed an ingenious and versatile method of measuring the *connotative* meaning of concepts, abstract ideas, and attitudes. The instrument is referred to as the "Semantic Differential" (SD) that combines an associational and scaling procedure. In essence, the SD is comprised of several bi-polar adjective scales, separated by a 7-point rating interval. The participant (rater) evaluates a concept (such as, Education, War, Freedom, My Job, My Class Instructor) on each of the bi-polar scales. This procedure is "semi-projective" since the rater is not quite sure how the SD functions or is scored; there is a diminished possibility of response bias and disingenuous responding. Furthermore, due to the brevity of the instrument, researchers can

assess many concepts in one timely administration. Many factor analytic studies of different concepts, bi-polar scales, and subject populations have reported empirical evidence on the validity, reliability, and utility of the SD technique (Klemmack & Ballweg, 1973; Snider & Osgood, 1969). Moreover, methodological studies on the SD technique have supported and corroborated Osgood et al.'s earlier findings (Piotrowski, 1983; Sherry & Piotrowski, 1986).

The purpose of the current study is to determine the views and attitudes of a select business student cohort (Corporate Tax classes) toward several key business concepts/ constructs. To that end, we administered an SD instrument, developed specifically to tap attitudes on the concepts of *Federal Tax Law*, the *Internal Revenue Service*, the *Profession of CPA*, and the *Profession of Tax Advising* to two Corporate Tax classes at the University of West Florida (UWF) during academic year 2005-2006. The rationale for this selection is based on the fact that these students have been exposed to more intimate knowledge on these subjects than business students in general and accounting students specifically. Nationwide, only 43 % of accounting students take more than one tax class (Giladi, Amoo, & Friedman, 2001) although it is generally viewed as one of the two most critical courses by accounting majors (Kern & Dennis-Escoffier 2004). In addition, at the University of West Florida, students study tax from a law school approach; that is, the tax laws and statutes themselves, not merely reviews by textbook authors. Thus, these students are in a position to more clearly delineate between congressionally written laws and the agency that enforces those laws. The Internal Revenue Service's mission statement, published on its website, emphasizes that the agency is merely carrying out the mandate of Congressional policy: "Provide America's taxpayers top quality service by helping them understand and meet their tax responsibilities and by applying the tax law with integrity and fairness to all." Not all Americans agree and thus view the IRS in a negative light. For example, former Congressman George Hansen's 1984 book *To Harass Our People: the IRS and Government Abuse of Power* reflects common views about the IRS. Annual surveys of customer satisfaction rate the Internal Revenue Service at the bottom of government agencies. Such attitudes translate into fiscal realities, i.e., the General Accounting Office estimates the loss of revenue due to noncompliance at $200 billion annually (DeMint 2003).

These UWF students are also nearer to graduation and have a better grasp on what a future career might entail. Studies have found that accounting students choose accounting for fairly narrow reasons. The likelihood of finding not only a job but one that holds the promise of a well-paid future is the most common rational for majoring in accounting (Piotrowski & Guyette, 2007). Moreover, accounting students have been found to aspire to attaining the CPA designation (Nelson et al., 2002). Yet there are no corresponding research findings on attitudes towards "tax" as a career as opposed to practicing as a CPA.

Method

The sample in this study comprised 37 undergraduate and graduate accounting students from two sections of an elective course, Corporate Tax, at the University of West Florida in Pensacola. The study was conducted during the academic year 2006. The semantic differential measure (SD) was constructed based largely on the findings of prior SD research, particularly the seminal work of Osgood et al. (1957). Our SD instrument was composed of 14 bipolar adjective scales that reflected the 3 dimensions proposed by Osgood et al. (Evaluation, Potency and Activity). Since the purpose of the current study was to assess attitudes and preference (i.e., whether respondents felt positively or negatively toward a concept), only the SD scales that measured the "Evaluation" dimension were subjected to data analysis; specifically,

Good :_____ :_____ :_____ :_____ :_____ :_____ :_____ Bad

Pleasant	:_____	:_____	:_____	:_____	:_____	:_____	:_____ Unpleasant
Fair	:_____	:_____	:_____	:_____	:_____	:_____	:_____ Unfair
Friendly	:_____	:_____	:_____	:_____	:_____	:_____	:_____ Unfriendly

Each scale was rated on a 7-point continuum format: the points were given numerical values, from 1 to 7, with a higher score indicative of a more negative evaluation. The scores from the 4 Evaluation scales were then summed to produce each respondent's Total Evaluation Score (TES) for each concept. The four business concepts rated were: Federal Tax Law, The Internal Revenue Service, Profession of CPA, and The Profession of Tax Advising.

Therefore, each respondent rated these 4 concepts on a 14-item bipolar scale; only the 4 Evaluation scales were tallied for a TES. In addition, respondents completed a demographic section on gender, age group (18-24, 25-34, 35-49, and 50+), and attendance at Beta Alpha Psi meetings. The hypotheses for the study were:

Ho 1 - the sample would rate the concept *Federal Tax Law* neutral.

Ho 2 - the sample would rate the concept *Internal Revenue Service* somewhat positive.

Ho 3 - the sample would rate the concept *Profession of CPA* quite positive.

Ho 4 - the sample would rate the concept *Profession of Tax Advising* somewhat positive.

Results and Discussion

The analysis required a comparison between the group means on the evaluation of each of the four business concepts. The expected group mean was a score of 16, based on the mid-point of the sample score statistical range (4-28). The data were entered on an Excel spreadsheet program and subjected to SPSS analysis. A One-sample *t*-test was conducted utilizing group mean data. For the concept *Federal Tax Law*, the mean value (M=17.97) was found to be significant at the p=.008 level. Thus the participants held somewhat negative attitudes toward *Federal Tax Law*. For the concept *Internal Revenue Service*, the mean value (M=19.62) was found to be significant at the p=.001 level. That is, the sample expressed moderately negative views toward the IRS. However, the respondents evaluated the *Profession of CPA* very positively (M=10.73), t (36) = -9.01, p= .0001. Moreover, the sample evaluated the concept *Profession of Tax Advising* quite positively, (M=11.57), t (36) = -.32. Therefore, Hypotheses 3 and 4 were supported by the current analysis.

A correlation analysis among the four business concepts was performed. A significant negative correlation (r=-.35) was found between the concept *Internal Revenue Service* and *Profession of CPA*. That is, the more positively the sample evaluated the Profession of CPA, the more negatively they viewed the Internal Revenue Service. Also, a significant positive correlation was found between the concepts *Profession of CPA* and *Profession of Tax Advising* (r=.42). Finally, the analysis noted a significant correlation (r= .32) between the concept of *Federal Tax Law* and *Internal Revenue Service*. Thus, attitudes toward both these concepts tend to be somewhat related. Prior studies

(Kim et al., 2002; Yavas & Arsan, 1996) have reported on general business students' evaluation of the perceived desirability of business careers in the early stages of their business education. The current sample involved students nearing graduation who have

narrowed down their career choice to accounting generally and further to one which requires tax knowledge. It is not surprising that, therefore, these participants react positively to the prospect of being employed as a CPA or tax advisor. It is troubling, however, to note their negative view toward tax laws and the Internal Revenue Service.

These findings suggest that the Internal Revenue Service needs to improve its image with its prime source of potential employees. Moreover, while accounting students progress in their education, it would be incumbent upon tax professors to emphasize the distinction between those who write the tax law and those with the difficult burden of carrying out its mandates. Furthermore, governmental agencies compete with CPA firms for the best and brightest recruits. The current findings indicate that the Internal Revenue Service needs to heighten efforts to reach out to business students to maximize its responsibility to ensure effective administration of U.S. tax laws. Future research might focus on the attitudes of the general public on these business concepts (McCaffery & Baron, 2006).

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Tax Evasion as a Hobby: Or How Wide is the Tax Gap?

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Abstract

The IRS estimates that hobby losses, i.e., activities not engaged in for profit, may contribute as much as $30 billion a year toward the annual $300 billion tax gap on legal source income. In a 2007 report, Treasury Inspector General for Tax Administration recommended that: (1) Congress develops a bright-line rule for determining whether an activity is a business or not-for-profit activity, and (2) practitioners need to be more assertive in recommending that clients do not deduct potential hobby losses. This study questions the accuracy of the Treasury's claims and the viability of its recommendations. It also examines the possible policy consequences should these recommendations fail to produce the desired results.

Introduction

The overall compliance rate achieved under the United States revenue system is quite high. For the 2001 tax year, the IRS estimates that, after factoring in late payments and recoveries from IRS enforcement activities, over 86 percent of tax liabilities were collected. Nevertheless, an unacceptably large amount of the tax that should be paid every year is not, such that compliant taxpayers bear a disproportionate share of the revenue burden, and giving rise to the "Tax Gap." The gross tax gap was estimated to be $345 billion in 2001. After enforcement efforts and late payments, this amount was reduced to a net tax gap of approximately $290 billion.

The Treasury Department's strategy for reducing the Tax Gap includes: (1) Reduce Opportunities for Evasion; (2) Make a Multi-Year Commitment to Research; (3) Continue Improvements in Information Technology; (4) Improve Compliance Activities; (5) Enhance Taxpayer Service; (6) Reform and Simplify the Tax Law; and (7) Coordinate with Partners and Stakeholders. Point Seven includes establishing contacts with taxpayers and their representatives, including small business representatives and low-income taxpayer advocates so they can provide "...the Treasury Department and the IRS with needed insight on ways to protect taxpayer rights and minimize the potential burdens associated with compliance strategies."

On April 13, 2007, the IRS released a Fact Sheet where it claimed that incorrect deduction of hobby expenses account for a portion of the overstated adjustments, deductions, exemptions and credits that add up to $30 billion per year in unpaid taxes, according to IRS estimates [Appendix I].

In a September 7 follow on report on hobby losses (Appendix II), the Treasury Inspector General for Tax Administration said "significant challenges" hampered them in examining IRS efforts regarding the compliance of high income Small Business/Self-Employed taxpayers claiming Schedule C losses because the IRS lacks criteria on how to measure the problem or administer tax law. The global problem is that if a taxpayer has hobby income and expenses, the expense deduction should be limited to the hobby income amount. About 1.5 million taxpayers, many with significant income from other sources, filed

Form 1040 Schedules C showing no profits, only losses, over consecutive Tax Years 2002 - 2005; 73 percent of these taxpayers were assisted by tax practitioners. By claiming these losses to reduce their taxable incomes, about 1.2 million of the 1.5 million taxpayers potentially avoided paying $2.8 billion in taxes in Tax Year 2005.

To seal this aspect of the Tax Gap, the Treasury Inspector General for Tax Administration came up with two recommendations. The first was that Congress should enact a clearly defined standard or bright-line rule for determining whether an activity is a business or a not-for-profit activity. The second recommendation was that, due to the large number of tax returns with Hobby Losses being prepared by tax practitioners, the IRS should continue to coordinate with practitioner organizations to encourage compliance with existing provisions. In other words, practitioners should tell their clients, who are paying them to prepare their return that they should not claim a hobby loss.

Existing Tax Rules

Under I.R.C. section 183(b)(2), if an individual engages in an activity not for profit, deductions relating thereto are allowable only to the extent gross income derived from the activity exceeds deductions that would be allowable under section 183(b)(1) without regard to whether the activity constitutes a for-profit activity.

I.R.C. section 183(d) creates a presumption such that if the activity makes a profit for 3 or more of the taxable years in the period of 5 consecutive taxable years, then, unless the Secretary establishes to the contrary, such activity shall be presumed to be an activity engaged in for profit. In the case of a horse activity, the presumption is five out of seven years.

The IRS Treasury regulations for I.R.C. section 183 provide a nonexclusive list of factors to be considered in determining whether an activity is engaged in for profit. The factors include: (1) The manner in which the taxpayer carries on the activity; (2) the expertise of the taxpayer or his or her advisers; (3) the time and effort the taxpayer expended in carrying on the activity; (4) the expectation that assets used in the activity may appreciate in value; (5) the taxpayer's success in carrying on other activities; (6) the taxpayer's history of income or loss with respect to the activity; (7) the amount of occasional profits, if any, which are earned; (8) the taxpayer's financial status; and (9) whether elements of personal pleasure or recreation are involved. Sec. 1.183-2(b), Income Tax Regs.; see Golanty v. Commissioner, supra at 426. No single factor, nor the existence of even a majority of the factors, is controlling, but rather an evaluation of all the facts and circumstances is necessary. Golanty v. Commissioner, supra at 426-427.

Per the United States Tax Court, the relevant question is whether the taxpayer had a "good faith expectation of profit". Burger v. Commissioner, 809 F.2d 355, 358 (7th Cir. 1987), affg. T.C. Memo. 1985-523; see Dreicer v. Commissioner, 78 T.C. 642, 645 (1982), affd. without opinion 702 F.2d 1205 (D.C. Cir. 1983). The taxpayer's expectation, however, need not be reasonable. Burger v. Commissioner, supra at 358; Golanty v. Commissioner, 72 T.C. 411, 425 (1979), affd. without published opinion 647 F.2d 170 (9th Cir. 1981); sec. 1.183-2(a), Income Tax Regs. Whether the taxpayer has the requisite profit objective is a question of fact, to be resolved on the basis of all relevant circumstances, with greater weight being given to objective factors than to mere statements of intent. Dreicer v. Commissioner, supra; Golanty v. Commissioner, supra at 426.

Research Design

The initial step will be to confirm the accuracy of the potential $2.8 billion Tax Gap being caused by potential hobby losses. Due to privacy concerns, this study may not be able to access the underlying data behind this estimate. However, the Treasury Department will be contacted in an attempt to determine if a work around might be possible.

The next step will be case-law research designed to determine the feasibility of developing a legislative bright line definition for a hobby versus a business. The IRS regulations currently contain an objective presumption that if a business turns a profit for three out of five consecutive years that the business will not be considered to be a hobby. The courts, conversely, have consistently used a subjective intent test as its yardstick. The objective will be to see if it possible to develop an objective standard that could be implemented legislatively.

The final step will be to solicit comments from practitioners via: (1) an on-line survey instrument such as www.zoomerang.com, and (2) personal interviews from a sample of practitioners. The objectives will be to: (1) communicate the Treasury's concerns about hobby losses, (2) determine the extent to which practitioners perceive that a problem exists, and (3) solicit recommendations from practitioners regarding potential solutions.

Importance of the Study

Earlier, the Treasury Department was quoted as saying it "needed insight on ways to protect taxpayer rights and minimize the potential burdens associated with compliance strategies." The purpose of this study will be to attempt to provide this insight because there appear to be serious flaws in both of the Treasury Inspector General for Tax Administration recommendations regarding hobby losses. Even after decades of litigation, for example, the courts have been unable to come up with a bright line definition for a hobby loss. Consequently, how realistic is it to expect Congress to be able to develop a legislative definition without significant input from practitioners? Similarly, how realistic is it for the Treasury to expect paid tax return preparers to caution taxpayers about deducting potential hobby losses?

There is also a concern about what is not being said by the Treasury. Namely, if these two recommendations regarding hobby losses do not work, at least from the perspective of the Treasury Department, what is the potential next step? Will the Treasury Department recommend that Congress enact preparer penalties against any practitioner who prepares a return with a loss that is later deemed to be a hobby loss?

Accordingly, the major contribution of this study will be to provide realistic feedback regarding whether any legislative cure will be worst than the perceived disease. Moreover, this study explored potential communication channels for providing input to taxpayers and practitioners.

Appendix I

Date: Apr. 13, 2007

Business or Hobby? Answer Has Implications for Deductions

April 2007

The Internal Revenue Service reminds taxpayers to follow appropriate guidelines when determining whether an activity is a business or a hobby, an activity not engaged in for profit.

In order to educate taxpayers regarding their filing obligations, this fact sheet, the eleventh in a series, explains the rules for determining if an activity qualifies as a business and what limitations apply if the activity is not a business. Incorrect deduction of hobby expenses account for a portion of the overstated adjustments, deductions, exemptions and credits that add up to $30 billion per year in unpaid taxes, according to IRS estimates.

In general, taxpayers may deduct ordinary and necessary expenses for conducting a trade or business. An ordinary expense is an expense that is common and accepted in the taxpayer's trade or business. A necessary expense is one that is appropriate for the business. Generally, an activity qualifies as a business if it is carried on with the reasonable expectation of earning a profit.

In order to make this determination, taxpayers should consider the following factors:

1. Does the time and effort put into the activity indicate an intention to make a profit?
2. Does the taxpayer depend on income from the activity?
3. If there are losses, are they due to circumstances beyond the taxpayer's control or did they occur in the start-up phase of the business?
4. Has the taxpayer changed methods of operation to improve profitability?
5. Does the taxpayer or his/her advisors have the knowledge needed to carry on the activity as a successful business?
6. Has the taxpayer made a profit in similar activities in the past?
7. Does the activity make a profit in some years?
8. Can the taxpayer expect to make a profit in the future from the appreciation of assets used in the activity?

The IRS presumes that an activity is carried on for profit if it makes a profit during at least three of the last five tax years, including the current year -- at least two of the last seven years for activities that consist primarily of breeding, showing, training or racing horses.

If an activity is not for profit, losses from that activity may not be used to offset other income. An activity produces a loss when related expenses exceed income. The limit on not-for-profit losses applies to individuals, partnerships, estates, trusts, and S corporations. It does not apply to corporations other than S corporations.

Deductions for hobby activities are claimed as itemized deductions on Schedule A (Form 1040). These deductions must be taken in the following order and only to the extent stated in each of three categories:

1. Deductions that a taxpayer may take for personal as well as business activities, such as home mortgage interest and taxes, may be taken in full.
2. Deductions that don't result in an adjustment to basis, such as advertising, insurance premiums and wages, may be taken next, to the extent gross income for the activity is more than the deductions from the first category.
3. Business deductions that reduce the basis of property, such as depreciation and amortization, are taken last, but only to the extent gross income for the activity is more than the deductions taken in the first two categories.

Appendix II

Treasury Inspector General for Tax Administration

September 7, 2007

Reference Number: 2007-30-173

This report has cleared the Treasury Inspector General for Tax Administration disclosure review process and information determined to be restricted from public release has been redacted from this document.

Redaction Legend:

1 = Tax Return/Return Information

September 7, 2007

MEMORANDUM FOR
COMMISSIONER, SMALL BUSINESS/SELF-EMPLOYED DIVISION

FROM:
Michael R. Phillips
Deputy Inspector General for Audit

SUBJECT:
Final Audit Report -- Significant Challenges Exist in Determining
Whether Taxpayers With Schedule C Losses Are Engaged in Tax Abuse
(Audit # 200630039)

This report presents the results of our review to determine what actions the Internal Revenue Service (IRS) is taking to address noncompliant, high-income1 Small Business/Self-Employed (SB/SE) Division taxpayers who claim business losses using a U.S. Individual Income Tax Return (Form 1040) Profit or Loss From Business (Schedule C) for activities considered to be not-for-profit. This audit was part of the Treasury Inspector General for Tax Administration's Fiscal Year 2007 audit plan.
Impact on the Taxpayer

In general, if a taxpayer has hobby income and expenses, the expense deduction should be limited to the hobby income amount. About 1.5 million taxpayers, many with significant income from other sources, filed Form 1040 Schedules C showing no profits, only losses, over consecutive Tax Years 2002 - 2005 (4 years); 73 percent of these taxpayers were assisted by tax practitioners. By claiming these losses to reduce their taxable incomes, about 1.2 million of the 1.5 million taxpayers potentially2 avoided paying $2.8 billion in taxes in Tax Year 2005. Changes are needed to prevent taxpayers from continually deducting losses in potentially not-for-profit activities to reduce their tax liabilities.

Synopsis

According to IRS estimates, incorrect deductions of hobby expenses account for a portion of the overstated adjustments, deductions, exemptions, and credits that result in about $30 billion per year in unpaid taxes. The IRS faces considerable challenges in administrating the tax law for taxpayers who take Schedule C losses year after year for potentially not-for-profit activities. Several recent efforts demonstrate these challenges. In an effort to change noncompliant taxpayer behavior, the IRS sent letters to taxpayers with potentially tax-abusive, home-based businesses as an alternate treatment to save audit resources. However, the taxpayer response rate was low, and IRS researchers concluded that the use of letters would not necessarily be productive as a tool to induce self-correction. The IRS also conducted correspondence examinations.3 However, these examinations did not always deter taxpayers from continuing to claim hobby losses in succeeding tax years.

Internal Revenue Code (I.R.C.) Section (§) 1834 (Activities not engaged in for profit), also referred to as the "hobby loss" provision, and related Treasury Regulation § 1.183-15 do not establish specific criteria for the IRS to use to determine whether a Schedule C loss is a legitimate business expense without conducting a full examination of an individual's books and records. The purpose of the hobby loss provision was to limit the ability of wealthy individuals with multiple sources of income to apply losses incurred in "side-line" diversions to reduce their overall tax liabilities. Our analysis showed 332,615 high-income taxpayers received the greatest benefit by potentially avoiding approximately $1.9 billion in taxes for Tax Year 2005.

The I.R.C. and Treasury Regulation do not require a taxpayer to have a reasonable expectation of profit; rather, the taxpayer needs just the "objective" of making a profit. I.R.C. § 183 makes it difficult for the IRS to efficiently administer tax law that ensures taxpayers are not deducting not-for-profit losses to reduce their taxes on other incomes year after year.

Recommendations

To reduce potential abuse, the Commissioner, SB/SE Division, should provide a copy of this report to the Department of the Treasury, Office of the Assistant Secretary for Tax Policy, to consider proposal of legislative changes to I.R.C. § 183. The proposal should include establishing a clearly defined standard or bright-line rule6 for determining whether an activity is a business or a not-for-profit activity. Aside from a legislative remedy, due to the large number of tax returns with Schedule C losses being prepared by tax practitioners, the Director, Communications, Liaison, and Disclosure, SB/SE Division, should continue to coordinate with practitioner organizations to encourage compliance with existing provisions.

Response

The Commissioner, SB/SE Division, agreed with the recommendations. The Director, Communications, Liaison and Disclosure, SB/SE Division, will coordinate with the Office of Legislative Affairs to forward a copy of the final report to the Department of the Treasury Office of Tax Policy and will include key messages and talking points about I.R.C. § 183 tax obligations as a Fiscal Year 2008 outreach initiative directed to practitioner organizations. Management's complete response to the draft report is included as Appendix V.

Copies of this report are also being sent to the IRS officials affected by the report recommendations. Please contact me at (202) 622-6510 if you have questions or Daniel R. Devlin, Assistant Inspector General for Audit (Small Business and Corporate Programs), at

(202) 622-5894.

Abbreviations

I.R.C.	Internal Revenue Code
IRS	Internal Revenue Service
SB/SE	Small Business/Self-Employed

Background

The Internal Revenue Code (I.R.C.) generally allows individuals to deduct expenses only when those expenses are incurred either for the purpose of producing income (I.R.C. Section § 212)7 or in a trade or business (I.R.C. § 162).8 In contrast, personal expenses are ordinarily not deductible. As Supreme Court Justice John Marshall Harlan, II once wrote, "For income tax purposes Congress has seen fit to regard an individual as having two personalities: one is a seeker of profit who can deduct the expenses incurred in that search; the other is a creature satisfying his needs as a human and those of his family but who cannot deduct such consumption and related expenditures."9
The first "hobby loss" provision in the I.R.C. was enacted by the Revenue Act of 1943.10 It was popularly known as "the Marshall Field Bill." Some believed (1) Mr. Field was operating

his liberal newspapers, PM and the Chicago Sun, as a sole proprietorship and, (2) because they were both thought to be losing money at that time, the Federal Government was in a sense "financing" these publications out of taxes Mr. Field would otherwise have had to pay. The Act was intended to limit the ability of wealthy individuals with multiple sources of income to apply losses incurred in "side-line" diversions to reduce their overall tax liabilities.

The I.R.C. was last modified for this issue in 1988, as I.R.C. § 18311 (Activities not engaged in for profit). Current I.R.C. § 183 provides a presumption that an activity is engaged in for profit if the activity is profitable for 3 years of a consecutive 5-year period or 2 years of a consecutive 7-year period for activities that consist of breeding, showing, training, or racing horses. Treasury Regulation § 1.183-112 sets forth the following nonexclusive list of nine factors to guide courts in analyzing a taxpayer's profit objective:

(1) The manner in which the taxpayer carries on the activity.

(2) The expertise of the taxpayer or his (or her) advisers.

(3) The time and effort expended by the taxpayer in carrying on the activity.

(4) The expectation that the assets used in the activity may appreciate in value.

(5) The success of the taxpayer in carrying on other similar or dissimilar activities.

(6) The taxpayer's history of income or losses with respect to the activity.

(7) The amount of occasional profits, if any, that are earned.

(8) The financial status of the taxpayer.

(9) The elements of personal pleasure or recreation involved in the activity.

However, the mere fact that the number of factors indicating the lack of a profit objective exceeds the number indicating the presence of a profit objective (or vice versa) is not conclusive.

This review was performed at the Internal Revenue Service (IRS) National Headquarters in Washington, D.C., in the Small Business/Self-Employed (SB/SE) Division, the SB/SE Division Campus13 Compliance Services function in Florence, Kentucky, and the Office of Appeals, Technical Services, Tax Policy function in Dallas, Texas, during the period October 2006 through June 2007. The audit was conducted in accordance with Government Auditing Standards. Detailed information on our audit objective, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.

Results of Review

The Internal Revenue Service Is Aware That Problems Exist With Taxpayers Claiming Schedule C Losses From Not-for-Profit Activities

A number of taxpayers who have significant income from other sources reduce their taxable incomes by reporting losses on a U.S. Individual Income Tax Return (Forms 1040) Profit or

Loss From Business (Schedule C). According to IRS estimates, incorrect deductions of hobby expenses account for a portion of the overstated adjustments, deductions, exemptions, and credits that result in about $30 billion per year in unpaid taxes.

The IRS has made several different efforts to administrate the tax law. First, as part of the SB/SE Division Tax Gap14 -- National Research Project Communication Plan, on April 25, 2007, the IRS issued on its web site (IRS.gov) a Factsheet reminding taxpayers to follow appropriate guidelines when determining whether an activity is a business or a hobby (an activity not engaged in for profit). In general, if a taxpayer has hobby income and expenses, the expense deductions should be limited to the hobby income amount. The Factsheet detailed the nine factors to be considered when making this determination and the limitations for deducting some expenses from not-for-profit activities as itemized deductions on Form 1040 Itemized Deductions (Schedule A). In addition to the general public, the Factsheet's targeted audience included practitioner and industry groups.

Second, in 2005, the SB/SE Division Research function performed a research project on home-based businesses that included a review of Schedule C expenses to identify alternate treatments of potentially noncompliant behavior that would save audit resources. The Research function sent letters to taxpayers with potentially tax-abusive, home-based businesses in an attempt to change their potentially noncompliant tax behavior. Although some taxpayers did file amended returns, the overall response rate was low, and the SB/SE Research function concluded that the use of letters would not necessarily be productive as a tool to induce self-correction by home-based business participants.

In a third effort, in 2003, the IRS performed limited testing to determine if examinations of tax returns with Schedule C losses from potentially not-for-profit activities could be accomplished through correspondence examinations.15 In general, a correspondence examination does not include an examination of a taxpayer's books and records. The testing included 148 returns for which 103 taxpayers' Schedule C losses16 were disallowed because they were considered hobby expenses. These taxpayers were assessed taxes and interest of $372,089. The IRS has collected $345,600 from 95 (92 percent) of these taxpayers.17

As a follow-up to the IRS effort, we reviewed the accounts of the 95 taxpayers who had paid their assessments, to determine whether Schedule C losses were claimed on returns filed subsequent to the correspondence examinations. The results showed 48 (51 percent) of the 95 taxpayers continued to claim these losses in the succeeding tax years. Based on the test results, the IRS Campus Compliance Services function believes working the hobby loss issue through correspondence examination is not productive because the multiple contacts with taxpayers increased the amount of time needed to complete the examinations. While identifying potential hobby losses is part of the tax return examination classification process, the number of taxpayers taking multiple, consecutive year losses presents significant challenges to tax administration.

The Internal Revenue Code and Treasury Regulations Make It Difficult to Determine When a Schedule C Loss Is Related to a Business or Hobby

Two conditions exist to make I.R.C. § 183 a challenge to tax administration. First, I.R.C. § 183, also referred to as the hobby loss provision, and related Treasury Regulation § 1.183-1 do not establish specific criteria for the IRS to use to determine whether a Schedule C loss is a legitimate business expense without conducting a full examination of an individual's books

and records. The I.R.C. and Treasury Regulation do not require a taxpayer to have a reasonable expectation of profit; rather, the taxpayer needs just the "objective" of making a profit. Therefore, all facts and circumstances need to be considered in each case. In determining whether a profit objective exists, courts have ruled it may be sufficient that there is a small chance of making a profit. For example, an inventor may incur very substantial expenses in a venture for a profit even though the expectation of profit might be considered unreasonable. Additionally, the IRS, not the taxpayer, bears the burden to rebut the presumption that an activity was not a for-profit business.

Second, the law also allows taxpayers to justify a substantial Schedule C loss by claiming a minimal profit. For example, an activity could be considered a for-profit business if a taxpayer shows any profit during a 5-year period, even though much larger losses are claimed in the other taxable years. This allows taxpayers to break the cycle of having continuous years of losses and gives the appearance of being a for-profit business.

To identify the scope of the problem, we performed an analysis of Tax Year 2005 Form 1040 Schedules C showing no profits, only losses, over consecutive Tax Years 2002 - 2005 (4 years). We identified a universe of 1,483,246 taxpayers, 18 many with significant income from other sources, that met this criterion; 1,076,796 (73 percent) of these individuals had their tax returns prepared by tax practitioners. Based on their Tax Year 2005 income levels, 1,203,175 of the universe of taxpayers potentially19 avoided paying $2.8 billion in income taxes (see Appendix IV for additional information).

Figure 1: Tax Year 2005 Taxpayers Who Potentially
Avoided Paying Taxes by Claiming Schedule C Losses Over
Consecutive Tax Years 2002 - 2005

Source: Our analysis of the Individual Return Transaction File (14) for Tax Years 2002 - 2005.

As previously noted, the purpose of the hobby loss provision was to limit the ability of wealthy individuals with multiple sources of income to apply losses incurred in "side-line" diversions to reduce their overall tax liabilities. Figure 1 shows 332,615 high-income20 taxpayers received the greatest benefit by potentially avoiding approximately $1.9 billion in taxes for Tax Year 2005. We also computed their expense-to-income ratios. Figure 2 shows almost 70,000 of the high-income taxpayers claimed expenses 5 times greater than their revenues.

Figure 2: Tax Year 2005 High-Income Taxpayers Claiming
Schedule C Losses Over Consecutive Tax Years 2002 - 2005

Source: Our analysis of the Individual Return Transaction File for Tax Years 2002 - 2005.

We also analyzed how close the taxpayers were to making a profit by the fourth year. Figure 3 shows 204,015 high-income taxpayers reported either no gross receipts or expenses that were at least 2 times higher than their gross receipts, which allowed them to avoid paying potential taxes of more than $1.1 billion.

Figure 3: Comparison of Expenses to Gross Receipts for
Tax Year 2005 High-Income Taxpayers

Source: Our analysis of the Individual Return Transaction File for Tax Years 2002 - 2005.

To further determine how well the IRS can actually administrate this provision through examinations, we analyzed IRS Audit Information Management System21 data and found 73,431 of the 1,483,246 taxpayers have either open or closed examination records for the 4-year period (2002 - 2005). The closed records resulted in assessments of about $345 million, which is only 12 percent of the $2.8 billion in potential tax avoidance for Tax Year 2005 alone.22 However, we were unable to determine the issue for which these taxpayers were examined. Consequently, the taxpayers' Schedule C losses may not be the reason for the tax assessments.

The challenges to tax administration caused by I.R.C. § 183 can be traced back to the legislative process. During the legislative process, the original intent of the hobby loss provision evolved into the existing I.R.C., which does not clearly establish when an activity is a business or a not-for-profit activity.

In February 1969, the House of Representatives Ways and Means Committee proposed a change to the hobby loss provision that would disallow the deduction of losses arising from a "business" that had not been operated with a reasonable expectation of realizing a profit from it. If an individual carried on an activity with a loss in excess of $25,000 in 3 years out of 5 consecutive years, it would be deemed that (unless shown to the contrary by the taxpayer) the taxpayer was not operating the activity with a reasonable expectation of realizing a profit from it.

However, the Senate Finance Committee substituted a different hobby loss provision and recommended the term "profit" be specifically defined to include not only immediate economic profit but also any reasonably anticipated long-term increase in the value of property. In making the determination of whether an activity is not engaged in for profit, the Senate Finance Committee intended that an objective rather than a subjective approach should be used. A reasonable expectation of profit was not required, and the facts and circumstances would have to indicate that the taxpayer entered the activity, or continued the activity, with the objective of making a profit. The Senate Finance Committee recommended the IRS bear the burden for rebutting this presumption, not the taxpayer as proposed by the House bill.

In addition, the final Treasury Regulation § 1.183-1 (issued in July 1972) did not clearly establish when an activity is a business or not-for-profit activity. The Treasury Regulation established nine factors that should be taken into account when determining if an activity is engaged in for profit. However, the factors are a guide to assist in making the determination; they do not establish a clear standard.

A study conducted in September 1998 by the Joint Economic Committee23 defined a "good tax" as:

Not costly for either the Federal Government or taxpayers to calculate or administer; on the other hand, tax avoidance is difficult and risky.

Neutral in its impact on resource allocation decisions, minimizing negative effects on economic growth; it does not lead to unproductive economic activity that is tax induced. Fair; people believe the tax burden is equitably distributed among the taxpaying population.

When comparing the criteria for a good tax to what is stated in I.R.C. § 183, we conclude that it is difficult for the IRS to efficiently and effectively administer this provision. The tax law cannot be efficiently administrated when examination resources would be required to determine compliance. Additionally, taxpayers may be abusing the law by taking multiple, consecutive year losses for expenses that could be for personal use to reduce taxes on other incomes.

Recommendations

Recommendation 1: The Commissioner, SB/SE Division, should provide a copy of this report to the Department of the Treasury, Office of the Assistant Secretary for Tax Policy, to consider proposal of legislative changes to I.R.C. § 183. The proposal should include establishing a clearly defined standard or bright-line rule24 for determining whether an activity is a business or not-for-profit activity.

Management's Response: The Commissioner, SB/SE Division, agreed with the recommendation. Upon receipt of the final report, the Director, Communications, Liaison, and Disclosure, will coordinate with the Office of Legislative Affairs to forward a copy to the Department of the Treasury Office of Tax Policy.

Recommendation 2: Aside from a legislative remedy, due to the large number of tax returns with Schedule C losses being prepared by tax practitioners, the Director, Communications, Liaison, and Disclosure, SB/SE Division, should continue to coordinate with practitioner organizations to encourage compliance with existing provisions.

Management's Response: The Commissioner, SB/SE Division, agreed with the recommendation, stating that the Division's education and outreach activities should include key messages regarding current provisions of I.R.C. § 183 to further supplement the April 2007 Hobby Loss Factsheet. Management will include key messages and talking points about I.R.C. § 183 tax obligations as a Fiscal Year 2008 outreach initiative directed to practitioner organizations.

Appendix I

Detailed Objective, Scope, and Methodology

The overall objective of the audit was to determine what actions the IRS is taking to address noncompliant, high-income25 SB/SE Division taxpayers who claim business losses on a U.S. Individual Income Tax Return (Form 1040) Profit or Loss From Business (Schedule C) for activities considered to be not-for-profit. Specifically, we determined the methods the IRS uses to classify tax returns to be selected for examinations and the outreach actions employed to discourage taxpayers who claim these losses to reduce their tax liabilities. To accomplish the objective, we:
I. Contacted the IRS SB/SE Division Campus26 Compliance Services and Examination functions to determine if there were any action plans with target dates for implementation of

methods to classify and examine returns with Schedule C hobby losses.

II. Determined what outreach methods the IRS has in place or planned to advise taxpayers of the rules regarding the use of Schedule C for activities considered to be a hobby.

A. Reviewed the public IRS web site (IRS.gov) and the SB/SE Division Intranet web site for information pertaining to the deduction of Schedule C expenses for not-for-profit activities. We also contacted the Stakeholder Liaison Headquarters to determine if there are any additional planned outreach initiatives for either individual taxpayers or tax preparers for this area.
B. Obtained the results of the 148 taxpayer cases for the limited testing for Tax Years 1998 through 2002 conducted by the IRS beginning in 2003 to determine if tax returns with hobby loss issues could be examined by correspondence examination.27 We analyzed 95 of the cases in which taxpayers agreed and paid the tax assessments, to determine if IRS contact with these taxpayers deterred them from filing Schedule C losses in the succeeding tax years.
C. Obtained a computer extract from the Individual Return Transaction File28 for Tax Years 2002 - 2005 Form 1040 Schedules C showing no profits, only losses, over the 4 consecutive Tax Years. The universe of taxpayers, many with significant income from other sources, meeting this criterion was 1,483,246.

1. Analyzed data to obtain statistics about the population, including the amount of taxes avoided in Tax Year 2005, by calculating the additional tax that would have been owed if the taxpayers had not taken the Schedule C losses.
2. Determined the number of taxpayers examined during this period using the IRS Audit Information Management System.29 The data were verified by matching a judgmental sample of 33 taxpayers' information to the IRS Integrated Data Retrieval System.30

III. To determine the Congressional intent of I.R.C. Section (§) 183,31 we contacted the Treasury Inspector General for Tax Administration Office of Chief Counsel and conducted additional research to obtain the legislative/regulatory history of I.R.C. § 183 and Treasury Regulation § 1.183-1.32 X.

Appendix II

Major Contributors to This Report

Daniel R. Devlin, Assistant Inspector General for Audit (Small
Business and Corporate Programs)
Philip Shropshire, Director
Lisa Stoy, Audit Manager
Carole Connolly, Lead Auditor
Timothy Greiner, Senior Auditor
Ted Lierl, Senior Auditor

Appendix III

Report Distribution List

Acting Commissioner C

Office of the Commissioner -- Attn: Acting Chief of Staff C
Deputy Commissioner for Services and Enforcement SE
Assistant Deputy Commissioner for Services and Enforcement SE
Chief, Appeals AP
Chief Counsel CC
Deputy Commissioner, Small Business/Self-Employed Division SE:S
Director, Campus Compliance Services, Small Business/Self-Employed Division SE:S:CCS
Director, Communications, Liaison, and Disclosure, Small Business/Self-Employed Division SE:S:CLD
Director, Examination, Small Business/Self-Employed Division SE:S:E
National Taxpayer Advocate TA
Director, Office of Legislative Affairs CL:LA
Director, Office of Program Evaluation and Risk Analysis RAS:O
Office of Internal Control OS:CFO:CPIC:IC
Audit Liaisons:

Commissioner, Small Business/Self-Employed Division SE:S:CLD
Chief, Appeals AP
Chief Counsel CC

Appendix IV

Methodology for Determining the Number of Taxpayers and Potential Tax Avoided in Tax Year 2005

We used the following methodology to determine the number of taxpayers and potential tax avoided in Tax Year 2005.
First, we obtained from the IRS Individual Return Transaction File33 a computer extract of Tax Years 2002 - 2005 U.S. Individual Income Tax Returns (Form 1040) with an attached Profit or Loss From Business (Schedule C) showing no profits, only losses, over the 4 consecutive Tax Years. Our results identified 1,483,246 taxpayers that met this criterion.

We then calculated the additional taxes that would have been owed if taxpayers had not taken the Schedule C losses in Tax Year 2005. This was accomplished by using each taxpayer's filing status for Tax Year 2005 and applying the appropriate tax rate.
Next, we added back the amount of the Schedule C loss to each taxpayer's taxable income and computed the tax. We then subtracted the tax computed on the amount including the Schedule C loss from the tax computed by eliminating the Schedule C loss. This calculation provided the amount considered to be the tax avoided in Tax Year 2005 by claiming the Schedule C loss.

The total potential tax avoidance for Tax Year 2005 is $2,843,919,493 for 1,203,175 taxpayers. We determined 280,071 of the 1,483,246 taxpayers did not avoid any taxes by claiming a Schedule C loss in Tax Year 2005.

FOOTNOTES

1 We categorized taxpayers with total income sources of $100,000 or greater to be high-income taxpayers.
2 The term potentially is used because an examination of books and records is necessary to determine whether there was tax avoidance or abuse.

3 Correspondence examinations are conducted through the mail, with the IRS typically asking taxpayers for more support regarding one or two simple issues on individual income tax returns.

4 I.R.C. § 183, Pub. L. No. 100-647, § 1001(h) (3), 102 Stat. 3352.

5 T.D. 7198, 37 FR 13683, July 13, 1972.

6 A bright-line test is a clear division between what is acceptable and what is not from a legal, accounting, or regulatory perspective.

7 I.R.C. § 212, Pub. L. No. 94-12, § 208(b), 68A Stat. 69.

8 I.R.C. § 162, Pub. L. No. 108-357, §§ 318(a), (b), §§ 802(b) (2), 118 Stat. 1470, 1568.

9 Justice Harlan, United States v. Gilmore, 372 U.S. 39 (1963).

10 Title I, § 129(a), 58 Stat. 48.

11 I.R.C. § 183, Pub. L. No. 100-647, § 1001(h) (3), 102 Stat. 3352.

12 T.D. 7198, 37 FR 13683, July 13, 1972.

13 The campuses are data processing arm of the IRS. They process paper and electronic submissions, correct errors, and forward data to the Computing Centers for analysis and posting to taxpayer accounts.

14 The tax gap is the difference between the amount of tax that taxpayers should pay for a given year and the amount that is paid voluntarily and timely. The tax gap represents, in dollar terms, the annual amount of noncompliance with the tax laws.

15 Correspondence examinations are conducted through the mail, with the IRS typically asking taxpayers for more support regarding one or two simple issues on individual income tax returns.

16 We and the IRS analyst who oversaw the test reviewed the returns for the remaining 45 taxpayers whose Schedule C losses had not been disallowed. Based on the IRS analyst's recollection of the cases, the Schedule C losses for 36 of the 45 taxpayers should also have been disallowed; however, the original case files were no longer available.

17 This includes ****1**** Five other taxpayers also appealed their assessments. The Office of Appeals conceded the assessment in four cases and ****1**** The three remaining taxpayers have not paid their assessments and have balance-due accounts.

18 Because of data limitations, we did not determine whether all consecutive losses were for

the same activity.

19 The term potentially is used because an examination of books and records is necessary to determine whether there was tax avoidance or abuse.

20 We categorized taxpayers with total income sources of $100,000 or greater to be high-income taxpayers.

21 This System traces examination results through final determination of tax liability, including any actions taken by the IRS Office of Appeals and the Tax Court.

22 Our calculations were based on 1 year's tax, while a disallowed hobby loss could be for 3 or more years.

23 Some Underlying Principles of Tax Policy, United States Congress Joint Economic Committee Study, Richard K. Vedder and Lowell E. Gallaway, Distinguished Professors of Economics, Ohio University, September 1998.

24 A bright-line test is a clear division between what is acceptable and what is not from a legal, accounting, or regulatory perspective.

25 We categorized taxpayers with total income sources of $100,000 or greater to be high-income taxpayers.

26 The campuses are data processing arm of the IRS. They process paper and electronic submissions, correct errors, and forward data to the Computing Centers for analysis and posting to taxpayer accounts.

27 Correspondence examinations are conducted through the mail, with the IRS typically asking taxpayers for more support regarding one or two simple issues on individual income tax returns.

28 The Individual Return Transaction File contains data transcribed from initial input of the original individual tax returns during return processing. Subsequent or amended return data are not contained in the File.

29 The system traces examination results through final determination of tax liability, including any actions taken by the IRS Office of Appeals and the Tax Court.

30 This is the IRS computer system capable of retrieving or updating stored information; it works in conjunction with a taxpayer's account records.

31 I.R.C. § 183, Pub. L. No.100-647, § 1001(h) (3), 102 Stat. 3352.

32 T.D. 7198, 37 FR 13683, July 13, 1972.

33 The Individual Return Transaction File contains data transcribed from initial input of the original individual tax returns during return processing. Subsequent or amended return data are not contained in the File.

END OF FOOTNOTES

Appendix V

Management's Response to the Draft Report

August 20, 2007

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL FOR AUDIT

FROM:
Kathy K. Perronchak
Commissioner, Small Business/Self-Employed Division

SUBJECT:
Draft Audit Report -- Significant Tax Administration
Challenges Exist in Determining Whether Individual Returns With
Schedule C Losses Are Engaged in Tax Abuse" (Audit #200630039)

We have reviewed your draft report, "Significant Tax Administration Challenges Exist in Determining Whether Individual Returns With Schedule C Losses Are Engaged in Tax Abuse," and agree with the recommendations.
As you mention in your report, Internal Revenue Code (IRC) Section 183 presents challenges to tax administration. We appreciate your recognition of our efforts to address this difficult provision, especially within our Small Business/Self-Employed Division Tax Gap Communication Plan. An important component of this plan included sharing fact sheets and Key messages with our practitioner and industry partners emphasizing proper application of the current tax law.

We plan to continue communicating with practitioners and industry groups to educate them about this and other tax issues where voluntary compliance can be improved. Per your recommendation, we will also share a copy of your final report with Treasury's Office of Tax Policy.

Attached is a detailed response outlining our corrective actions.

If you have any questions, please contact me or call Beth Tucker, Director. Communications, Liaison and Disclosure, Small Business/Self-Employed Division, at (972) 308-1676.

Attachment

RECOMMENDATION 1:

The Commissioner, SB/SE Division should provide a copy of this report to the Department of the Treasury, Office of the Assistant Secretary for Tax Policy, to consider proposal of legislative changes to Internal Revenue Code (IRC) Section 183(d). The proposal should include establishing a clearly defined standard or bright-line rule1 for determining whether an activity is a business or not-for-profit activity.

CORRECTIVE ACTIONS:

We agree with your recommendation. Upon receipt of the final report, the Director Communications, Liaison and Disclosure will coordinate with Legislative Affairs to forward a copy to Treasury Tax Policy.

IMPLEMENTATION DATE:

October 15, 2007

RESPONSIBLE OFFICIAL:

Director, Communications, Liaison and Disclosure, Small Business/Self-Employed Division

CORRECTIVE ACTION(S) MONITORING PLAN:

Director, Communications, Liaison and Disclosure, Small Business/Self-Employed Division will notify the Director, Legislative Affairs once the report is shared with Treasury.

RECOMMENDATION 2:

Aside from a legislative remedy, due to the large number of tax returns with Schedule C losses being prepared by tax practitioners, the Director, Communications, Liaison, and Disclosure, SB/SE Division, should continue to coordinate with practitioner organizations to encourage compliance with existing provisions.

CORRECTIVE ACTIONS:

We agree that our education and outreach activities should include key messages regarding the current provisions of IRC Section 183 to further supplement the April 2007 Hobby Loss Fact Sheet. We will include key messages and talking points about IRC Section 183 tax obligations as a FY 2008 outreach initiative directed to practitioner organizations.

IMPLEMENTATION DATE:

July 15, 2008

RESPONSIBLE OFFICIAL:

Director, Communications, Liaison and Disclosure (CLD), Small Business/Self-Employed Division (SB/SE)

CORRECTIVE ACTION(S) MONITORING PLAN:

Director, Communications, Liaison and Disclosure (CLD), Small Business/Self-Employed Division (SB/SE) will advise the Commissioner, SB/SE Division of any delays in implementing this corrective action,

FOOTNOTE

1 A bright-line test is a clear division between what is acceptable and what is not from a legal, accounting, or regulatory perspective.

END OF FOOTNOTE

Teaching Governmental Accounting under GASB 34: A Practice-Oriented Teaching Model

Sharon S. Seay, Macon State College
Jacky Jones, Mississippi College

Abstract

This paper discusses the pedagogical issues related to teaching governmental accounting since the promulgation of GASB 34. Under this financial reporting model, governmental entities must prepare two sets of financial statements, fund financial statements and government-wide financial statements. Fund accounting statements are prepared using a current measurement focus and modified accrual basis, and government-wide statements employ an economic resource focus and full accrual basis. Most governmental accounting texts, including the predominant text in this field, promote a dual approach, which entails keeping two separate sets of books. Empirical evidence indicates that the majority of governmental entities do not keep two separate sets of books. Instead, governments continue their traditional practice of keeping a set of fund accounting books and prepare government-wide statements by making a series of adjustments to those fund records. The nature of those adjustments is explored in our paper. The paper concludes with a recommended teaching model for use in governmental accounting classes. The suggested teaching model replaces the dual approach with a model that parallels how governmental entities actually implement GASB 34 to prepare government-wide statements from fund accounting balances. Our approach emphasizes the reconciliation of fund records to accrual-based statements. This simplifies the preparation of government-wide statements and shifts emphasis to accounting for the government as a whole, which is the objective of GASB 34. We believe that our model, which is consistent with actual practice, enhances student understanding, and, therefore, teaching effectiveness.

Introduction

The GASB 34 model was designed to provide greater transparency for governmental reporting. This model provides users with reporting information about the government as a whole, which was previously unavailable in fund accounting statements. Citizens and other users are now able to answer questions that fund accounting did not and could not address: "What do government services, such as public safety, really cost?" "How much of the cost of government is paid for by citizens through general tax revenues?" "How much of the cost of current governmental services are being shifted to future generations through the use of debt?"

The focus is on accountability. Under GASB 34, the core activities of government are reported very differently in the fund financial statements from how they are reported in the government-wide financial statements. Fund statements reflect a current-period (short-term) measurement focus and modified accrual basis in order to assess fiscal accountability---whether financial resources have been expended in conformity with the legally adopted budget. Government-wide financial statements employ a strategic measurement focus that extends beyond the current period and a full accrual basis to assess operational accountability. This concept measures whether the government as a whole has operated

efficiently and effectively and assesses interperiod equity, whether current-year revenues are sufficient to pay for the cost of current governmental services or if the use of debt has been necessary to cover the shortfall, which effectively shifts that part of the burden to future taxpayers.

GASB issued *Concepts Statement No. 1 Objectives of Financial Reporting* in 1987. GASB states:

> "Accountability requires governments to answer to the citizenry---to justify the raising of public resources and the purposes for which they used. Governmental accountability is based on the belief that the citizenry has a right to know, a right to receive openly declared facts that may lead to public debate by the citizens and their elected representatives. Financial reporting plays a major role in fulfilling government's duty to be publicly accountable in a democratic society."

State and local government financial statements are primarily used: (1) at the fund financial statement level, to compare actual results to the legally adopted budget, (2) to provide information useful in assessing operating efficiency and effectiveness for the government as a whole, (3) to provide information useful in assessing financial condition and results of operations, and (4) to provide information useful in assessing compliance with laws and regulations.

Governmental financial reporting focuses on accountability. To assess governmental accountability, it is necessary to compare actual expenditures with legally approved budgets (fund level) and to determine a government's compliance with laws and regulations. Financial reporting should also facilitate assessing financial condition, effectiveness, and efficiency for the government as a whole (government-wide level). Governmental financial reporting should also allow the user to determine whether inter-period equity has been achieved. GASB 34 was promulgated to meet these reporting objectives. The complexity of governmental accounting rests largely in the use of fund accounting, which divides a government's financial information into a variety of funds based on the type of activity involved.

The objective of GASB 34 is to enhance user utility and understanding of state and local government financial statements to the needs of a diverse set of stakeholders. The two required government-wide statements are prepared using accrual basis, the same basis used for businesses. The Statement of Net Assets is a balance sheet for the government and its component units. This statement emphasizes both short-term and long-term financial resources and obligations. This statement provides a more complete picture of government finances as it includes information regarding a governmental entity's investment in capital assets, including infrastructure, and information on its long-term debt.

The Statement of Activities is an accrual-based income statement for the government-wide entity. This statement reports costs of services, including depreciation, by program or function as well as program revenues. Analysis of this statement provides the user with sufficient information to determine the portion of service costs financed by taxes and other general revenue. Users can employ both government-wide statements to better evaluate operating performance of the government as a whole, including measures of efficiency and effectiveness. Financial ratio analysis can be performed to assess financial condition and results of operations. Prior to GASB 34, this information was difficult to obtain since most fund accounting information was disaggregated. GASB 34 also segregates the primary government's finances from those of a business-type nature.

The principal pedagogical problems of teaching GASB 34 arise because the new GAAP established in this standard substantially increases reporting requirements and shifts underlying reporting conventions. GASB 34 does not replace an old reporting model, but adds to a previously incomplete model. New statements have been added (government-wide statements), prepared on an accrual basis, but traditional fund statements have been retained, prepared on a modified accrual basis. One of the most contentious issues of GASB 34 is infrastructure reporting, which requires governments to record capital assets at cost and to depreciate them over their useful lives, information not previously required or reported under fund accounting rules pre-GASB 34. Governments may choose an alternate approach allowed under the standard if they can demonstrate that infrastructure assets are being maintained at a consistent level over time. The alternate approach provides the option of expensing maintenance and preservation in lieu of depreciation recognition.

Most governmental textbooks emphasize the mechanics of governmental accounting and reporting as well as conceptual issues. The majority employ a dual approach, which involves keeping two separate sets of books---fund accounting books and full accrual books for government-wide reporting. This approach is not typically followed in actual practice. Keeping two sets of books throughout the year is burdensome and costly. Only one text (Copley, Engstrom) advocates a conversion approach, which utilizes fund accounting (modified accrual basis) for recording all transactions throughout the fiscal year and the preparation of fund financial statements at year-end. In addition, at year-end, the conversion approach uses a worksheet and adjusting entries to convert fund financial statement balances to full accrual basis for the preparation of government-wide statements. The worksheet adjusts each fund statement balance individually to derive individual account balances reported on government-wide statements. However, this approach also deviates from actual practice. While most governmental entities keep only one set of books throughout the year, these books are typically kept on a cash basis, which is converted at year-end through a set of reclassifying journal entries (RJE's) to modified accrual for fund statement preparation purposes. Fund statement balances are then reconciled to government-wide balances through a second set of other adjusting entries (OJE's) to full accrual basis for government-wide financial statement preparation purposes. The worksheet conversion approach suggested by Copley and Engstrom assumes fund books are maintained on a modified accrual basis. Also, the conversion worksheet adjusts each fund account balance individually to derive government-wide balances. This is inappropriate because many fund accounts and balances are eliminated in the conversion, such as transfers to/from and due to/from governmental type funds. Other fund accounts and balances are reclassified or combined with other governmental funds, such as internal service funds. Therefore, it is inappropriate to adjust each fund account individually to a corresponding government-wide account. This conversion equivalency does not exist.

Our paper rejects both of these approaches as being overly burdensome, costly, and not reflective of accounting and reporting practice in real world governmental entities. Instead, we propose a practice-oriented approach that reflects the typical accounting and reporting methods most often employed by state and local governments. We demonstrate our approach utilizing local city government financial statements and trial balances. Our approach simplifies accounting and reporting for governmental entities and places emphasis on reconciliation items for government-wide statements, which we believe promotes analysis and critical thinking skills and fosters greater understanding of GASB 34 concepts and objectives. This adds relevance to our teaching approach as described in the Methodology section of the paper.

A Review of the Literature

Governmental pedagogical literature is very limited. One possible explanation might be lack of interest, as evidenced in a large number of business schools throughout the country. In a 2006 survey of trends and challenges in governmental accounting education, Miller found that two-thirds of the respondent institutions offered a governmental accounting course only as an elective; only one-third required the class. Henry [2005] focuses on the lack of attention devoted to the coverage of governmental and nonprofit accounting topics in business school programs at U.S. colleges and universities. Nelson [1951] states, "The importance of governmental accounting could not be overstressed as a means of insuring the safe and efficient use of funds provided by and for the benefit of the general public." Fox [1977] comments on the marked disparity between the increasing complexities of governmental accounting and the limited coverage of governmental concepts in contemporary business school programs. The Accounting Education Change Commission [1990] called for the accounting curricula to prepare students for courses in all types of organizations, including government and nonprofit entities. Dennison, ET. Al, [2002] calls for integration of governmental accounting concepts and practices in public policy and administration programs.

Kattelelus, ET. Al, [2005] calls for competency-based accounting curricula. Chaney [2005] advocates using the active, case learning approach to teach GASB 34 government-wide financial statements. Our paper takes an interactive case approach by using the financial statements of a local city government in our teaching model. Students are interested in and have some knowledge of the city in which they live and the services provided. The information seems more relevant to students when it relates to a city with which they already have familiarity. This practice-oriented approach engages the student in active learning, using real world examples which complement the text and other pedagogical resources. The practice-oriented approach also promotes development of analytical skills as students are required to analyze and evaluate government-wide financial statements and evaluate overall governmental financial condition and performance.

Pedagogical Issues

Finkler [2001] promotes the use of lecture, discussion, and case study analysis to focus on the actual use of governmental financial statements and how GASB 34 helps to achieve the broad accountability objectives GASB has for government financial reporting systems. Dennison, ET. Al, [2002] expresses the view that the principal pedagogical problems of introducing GASB 34 in the classroom arise because the standard substantially increases reporting requirements and shifts underlying conventions. Lowensohn [2005] recommends interactive learning strategies for teaching governmental accounting.

Keller [1987] suggests that instructors link course content to experiences or ideas already familiar to the student to enhance learning effectiveness. The increase in familiarity promotes the perception of relevance. Our practice-oriented teaching model utilizing the financial statements and trial balances of a local city government takes this approach. Students are already familiar with their local city and its services. Therefore, relating governmental concepts about their city makes the information more relevant for the student. We have found that students are much more interested and engaged in analyzing the performance of their own city government than in hypothetical textual examples. One approach to increase student familiarity is to relate it to the private sector. Our paper has adopted this approach. The emphasis is on application of governmental accounting and

auditing concepts as actually employed in real world practice. Students have typically completed several accounting courses before entering the governmental accounting course. Therefore, they are already familiar with accrual concepts and for-profit entity financial statements. The teaching model proposed highlights differences between governments and for-profit entities. For example, most governmental accounts are controlled by the budget, which legally constrains governmental activities. Also, governments cannot freely raise capital through debt and equity offerings. A governmental balance sheet's equity section has no equivalent counterpart to a business entity's equity accounts.

Lowensohn [2002] points out other differences between governments and for-profit entities. A business entity's customers have a direct relationship with the company. When a company provides products or services to a customer, revenue is realized. Our teaching model utilizing financial statements of a local city provides an opportunity to compare and contrast for-profit and not-for-profit entities. Students are already familiar with the accrual accounting and the matching principle and their impact on business financial statements. If the customer is unhappy with the goods or services provided, he/she ceased to do business with the company. If enough customers experience dissatisfaction, company revenues decline, and the company must make adjustments or corrections or experience investor and creditor wrath. This direct relationship often does not exist in governments. Taxpayers generally do not receive benefits in proportion to tax payments; in fact, an inverse relationship typically exists.

Nonexchange transactions dominate governmental activities and operations, unlike business entities. Net income is a key performance indicator in the private sector, and the stock market reflects sustained earnings growth and provides valuation of management performance. There is no correlation for these concepts in the governmental sector. Fund balance (the concept most closely aligned to earnings) represents appropriable resources. Increases in fund balance could indicate that budgeted expenditures did not occur or that excess revenues are being collected. These results, however, would be negative performance signals in the governmental sector and could result in legal consequences for the reporting governmental entity. The objective of government is not to make a profit, but only to collect funds necessary for the efficient and effective operation of the government and for the provision of government services. Financial accounting information will be used differently in evaluating governmental performance. Governmental performance objectives emphasize accountability. The accountability relationship between a government and its citizens and creditors is more extensive and complex than a relationship between a corporation and its shareholders and creditors. Consequently, a more extensive accounting information system and set of financial statements is needed to demonstrate governmental accountability. Therefore, there are reasons why governments report their financial information differently and why governmental financial reporting differs from for-profit reporting. Differing objectives requires a different information set and reporting requirements to evaluation whether governments have achieved these objectives, which vary markedly from for-profit entities.

Our teaching module also highlights other differences between governmental accounting and private sector accounting in regard to underlying conventions. Students are already familiar with accrual accounting concepts from earlier accounting courses. Accrual emphasizes matching revenues and expenses based on when revenues are earned in the measurement and reporting of income, while governments employ a modified accrual reporting convention. Modified accrual focuses on short-term or current resources readily available to provide public services and acquire assets. Modified accrual only records revenue if the cash has actually been collected or will be collected shortly after fiscal year-end. For example, property taxes billed this year by a government, but not expected to be

collected for more than three months after year-end, would not be considered available and therefore, would not be included in current period revenue. This differs from accrual recognition which is triggered by providing a service or product, at which point revenue is recorded, even if it will be uncollected for several months.

Comparing and contrasting governmental accounting and reporting under GASB 34 with for-profit accounting and reporting requirements enables students to relate what is already familiar (full accrual basis for government-wide statements reporting on the governmental entity as a whole as is used for business entities) and what is different (fund accounting and modified accrual basis). The reporting requirements reflect the different objectives of governmental entities as compared with businesses.

As discussed earlier, there are two approaches found in governmental accounting texts for implementing GASB 34. The two sets of financial statements required under the GASB 34 standard, fund financial statements and government-wide financial statements, embody the dual objectives of the standard relative to fiscal accountability and operational accountability, respectively. Most city and state governments record transactions and events using fund accounting software throughout the fiscal year (usually cash basis books). Then, at year-end, the fund accounting data is converted from cash to modified accrual and a current measurement focus for preparation of fund financial statements and then to full accrual and an economic measurement focus required for government-wide statements using a series of adjusting, eliminating, and reclassifying journal entries. This approach has been referred to by several different names---the reclassification approach [Wilson, Kattelus, Reck; 2007], the conversion approach [Copley and Engstrom, 2007] or the consolidation approach [Martin and West, 2003]. According to a recent survey [Miller, 2006]; the primary text employing this approach is Copley and Engstrom [2007]. Most governmental accounting texts and most undergraduate accounting courses promote the dual approach.

The dual approach requires the governmental unit to keep two separate sets of books, fund accounting and accrual accounting. Thus, transactions would be recorded simultaneously in both fund accounting records and in the full accrual accounting books used to produce government-wide statements. Wilson, Kattelus, and Reck [2007] posit that the conversion approach is inherently deficient. While fund accounting data is available year-round, full accrual accounting data is only available at year-end when needed to prepare government-wide statements. During the year, full accrual data for assessing periodic operating accountability, including efficiency and effectiveness, is unavailable. A second problem attributable to the conversion approach involves the fact that government-wide financial statements are prepared "off-line" using worksheets and memorandum entries, which could introduce documentation and audit trail concerns. Wilson, Kattelus, and Reck [2007] consider the dual approach to be conceptually superior as a pedagogical methodology since it provides, in their view, a more comprehensive understanding of the complete GASB 34 reporting model.

Copley and Engstrom [2007] express preference for the conversion approach because it is more consistent with governmental practice in most instances than the dual approach. Since only one set of books is kept (fund books), this method is less costly and time-consuming. However, the conversion approach as taught in this text differs, we believe, from actual practice in several significant ways. The conversion approach begins with individual fund financial statement balances, and using a worksheet adjusts each individual fund account balance to government-wide statement balances. Having attempted this approach using actual City of Pearl, Mississippi financial statement data, we found this approach to be very cumbersome and difficult with little incremental benefit derived from a line-item by line-item application. As previously noted, many fund line items are reclassified, combined with other accounts, or eliminated for government-wide reporting purposes. Therefore, an

individual account equivalency does not exist. This is very confusing for students, and is not based on actual practice. Another difference involves the fact that most governments keep fund books on a cash basis and convert to modified accrual at year-end for reporting purposes.

Methodology

Our paper does not support either the dual approach or the conversion approach per se as a pedagogical methodology. Having taught from both texts and having participated in governmental audits, we find that neither of the proposed pedagogical methods is typically practiced as described in the texts. Our paper proposes that governmental accounting under the GASB 34 reporting model be taught as it is actually implemented in practice by city and state governments. In this way, students are better prepared to enter governmental accounting careers to apply professional expertise to government audits. Relevance is gained by using a teaching methodology consistent with practice.

To demonstrate our approach, we utilize the City of Pearl, Mississippi fund and government-wide financial statements, reclassification journal entries, and other basis entries. Copies of these statements are available at the city's website. The first difference in our approach acknowledges that many governmental entities do not keep fund accounting books on a modified accrual basis, but on a cash basis. Therefore, fund books must be converted to modified accrual before preparing fund statements. Secondly, when adjusting fund books (restated to modified accrual) to full accrual for the preparation of government-wide statements, adjustments, reclassifications, and eliminations are made **not** on a line-item by line-item basis, but to the fund books as a whole. The emphasis is on reconciliation of the fund statement ending balances with government-wide statement ending balances. Our teaching methodology also includes a comparison/contrast of real world entries and textbook entries at both the fund and government-wide level (Exhibit 1). From this exhibit, notice that many textbook entries are not booked in actual practice.

For our approach, the first step in preparing government-wide statements is to convert fund accounting books from cash to modified accrual basis through a set of memorandum reclassification entries. An example of these entries (RJEs) for the City of Pearl is presented in Table 1. After these adjustments, fund financial statements are prepared. The second step converts fund books from modified accrual to full accrual through another set of memorandum entries called other basis entries (OBEs), shown in Table 2. OBEs are a combination of reclassifications, eliminations, and conversions. To help students remember the major changes required to convert fund books to full accrual, we employ the following mnemonic:

B =	**Bond Proceeds**	To reclassify debt principal expenditures; accrue interest; change Bond Proceeds to LTD
R =	**Revenue**	To convert revenue recognition to accrual basis
E =	**Expense**	To record expenses on an accrual basis
A =	**Assets**	To reclassify capital outlay expenditures as LT Assets, record depreciation, to convert capital asset sales to accrual basis
D =	**Due To/ Due From**	To eliminate transfers between government funds and inter-fund balances

S = Service Funds Internal To add internal service fund balances to governmental fund balances

Once other basis memo entries are recorded in the worksheet, reconciliations of fund statement ending balances to government-wide ending balances are prepared, along with government-wide statements. Emphasis is placed on understanding reconciliation components, which allows students to link the two sets of statements together. In this way, students, we believe, are better able to see the connection between the statements and the relevance of each.

Exhibit 1:
A Comparison between Typical Textbook Entries for Governmental Funds and the Real World:

TEXTBOOK			**REAL WORLD**	
1. Recording the budget				
Fund:	Debit	Credit		Debit Credit
Estimated Revenues	5,000,000		No journal entry	
Est. Other Financing Sources	4,000,000		Legally adopted per minutes	
Budgetary Fund Balance		9,000,000		
Budgetary Fund Balance	8,000,000			
Appropriations Control		6,000,000		
Est. Other Financing Uses		2,000,000		
Governmental Activities:				
No entry				
2. Accounting for revenues				
Fund and Governmental Activities:				
Cash basis revenues:				
Cash	1,000,000		Same	
Revenues Control		1,000,000		
Property tax levy:				
Taxes Receivable—Current	4,000,000		No entry at time of levy	
Est. Uncollectible Cur. Taxes		50,000		
Revenues Control		3,950,000		
Collection of current taxes:				
Cash	3,940,000		Cash	3,940,000
Taxes Rec.—Current		3,940,000	Rev.-Real Prop.	3,000,000

			Rev.-Pers. Prop. 940,000

Collection of delinquent taxes:

Interest & Penalties Rec.	1,000		
Revenues Control		1,000	
Cash	51,000		Cash 51,000
Taxes Rec.-Delinquent		50,000	Rev.-Real Prop. 40,000
Interest & Penalties Rec.		1,000	Rev.-Pers. Prop. 10,000
			Rev.-Int. & Pen. 1,000

3. Accounting for encumbrances

When purchase order is placed:

Fund:

Encumbrances Control	20,000		No entry
Budgetary Fund Bal.-Reserve Encum.		20,000	

Governmental Activities:

No entry

Recognition of expenditure for encumbered item:

Fund:

Budgetary Fund Balance- Reserve for Encumbrances	20,000		No entry
Encumbrances		20,000	
Expenditures Control	20,500		Expendiures-
Accounts Payable		20,500	Capital Outlay 20,500
			Cash 20,500
			(When paid)

Governmental Activities:

Equipment	20,500	
Accounts Payable		20,500

4. Payroll

Fund:

Expenditures Control	50,000		Expend. (Dept) 50,000
Accounts Payable		50,000	Payroll Clearing 50,000
Accounts Payable	50,000		Payroll Clearing 50,000
Cash		50,000	Cash 50,000

Governmental Activities:

Expenses by function	50,000	
Accounts Payable		50,000

5. Leases

Fund:

Origination of Lease:

Expenditures	100,000		No entry
Other Financing Sources-Cap. Lease		100,000	

Governmental Activities:

Equipment	100,000	
Capital Lease Obligation Payable		100,000

Payment for lease:

Fund:

Expenditures Control	1,000		Same
Cash		1,000	

Governmental Activities:

Capital Lease Obligation Payable	600	
Interest Expense	400	
Cash		1,000

6. Long-term notes and bonds:

Date of Issue:

Fund:

Cash	1,000,000		Same
Other Financing Sources-Proceeds Bonds		1,000,000	

Governmental Activities:

Cash	1,000,000	
Bonds Payable		1,000,000

Payment on long-term debt and interest:

Fund:

Expenditures	120,000		Same
Cash		120,000	

Governmental Activities:

Bonds Payable	100,000	
Interest Expense	20,000	
Cash		120,000

7. Construction of Capital Assets

Fund:

Expenditures	1,000,000		Same
Cash		1,000,000	

Governmental Activities:

Building	1,000,000	
Cash		1,000,000

8. Adjusting Entries

Fund---to modified accrual basis **None---part of the audit process**
Delinquent taxes; interest & penalties receivable;
Inventories; deferred revenues; interest receivable
Governmental Activities---full accrual basis
Depreciation of all capital assets including infrastructure
Accrue all receivables; accrue all payables

Table 1: An Explanation of the "Real World"

The county/city keeps their books using the cash basis of accounting. Revenues are recognized when collected and expenditures when approved for payment. Adjustments are made to change the balances in the funds from the cash basis to the modified accrual basis of accounting. These entries are referred to as RJE's. The governmental fund financial statements are prepared based on the totals after the RJE's are entered.

Conversion—Cash to Modified Accrual Basis for Revenues in Governmental Funds

Cash revenues are recorded in the governmental funds during the year. RJE entries are entered in the worksheet.

RJE 1 To record fines receivable at the beginning of year as deferred revenue
RJE 2 To adjust fines receivable for change during the year
RJE 4 To accrue revenue received within 60 days of year end
RJE 5 To adjust prior year revenue accrual
RJE 6 To accrue property taxes levied as deferred revenue

Conversion---Cash to Modified Accrual Basis for Expenditures

Expenditures are recorded in the governmental funds during the year. RJE entries are entered in the worksheet.

RJE 8 To accrue expenditures made after year end
RJE 11 To reverse prior year accrual

To Record Capital Leases

RJE 3 To initially record the lease as the expenditure did not require a cash outlay

Table 2: An Explanation of the "Real World"

The modified accrual basis fund financial statements are converted to full accrual basis for the Government-Wide financial statements. The adjustments referred to as OJE's are used to create the Other Basis column on the worksheet which is used to derive the Government-Wide statements.

Modified Accrual Expenditures Converted to Full Accrual Basis

OJE 19 To record beginning of year balances in capital assets
OJE 21/23 To reclassify capital outlay expenditures as asset additions
OJE 24 To reclass additions to construction in progress
OJE 25 To reclass completions of construction in progress
OJE 20 To record depreciation on general capital assets
OJE 27 To accrue interest payable
OJE 28 To reclass debt principal payments recorded as expenditures

To Convert Debt Proceeds to Long Term Debt

OJE 13 To record beginning balances in L/T debt
OJE 16/17 To record proceeds of L/T debt to liability accounts
OJE 29 To reclass long term debt to current
OJE 32 To record compensated absences
OJE 36 To record capital lease

Modified Accrual Revenues Converted to Full Accrual Revenues

OJE 14 To reclass beginning deferred revenue for fines to Unrestricted Net Assets
OJE 15 To record accrued fines for current year

Other Conversion Entries

OJE 6 To reclass bond issue cost from expense to amortizable asset
OJE 5 To amortize bond issue cost
OJE 18 To eliminate internal service fund and allocate net income to other funds
OJE 33 To eliminate transfers between governmental type funds
OJE 34 To eliminate due to/from except for proprietary funds

Our teaching approach also utilizes the following order of presentation for governmental accounting concepts:

(1) bases of accounting---cash, full accrual, modified accrual
(2) fund accounting
(3) GASB 34
(4) Reconciliation and Reporting
(5) Performance Evaluation

The initial discussion is a brief review of cash and accrual bases of accounting, concepts students have already studied in earlier accounting courses. Next, we introduce the modified accrual basis and compare and contrast it with cash and full accrual bases. Next, we introduce fund accounting concepts and use this information to prepare fund statements. We then introduce the GASB 34 reporting model and the benefits of government-wide financial statements. Emphasis is placed on the adjustments, eliminations, and reclassifications needed to convert from fund books (modified accrual basis) to government-wide ending totals (full accrual basis). Attention is directed to the reconciliation of the total fund balances reported in the governmental funds Balance Sheet to the ending balance for Net Assets of governmental activities in the Statement of Net Assets and to the reconciliation

of the Net Change in Fund Balances for governmental funds with the Change in Net Assets of governmental activities from the Statement of Activities. Our teaching approach does not convert or reconcile each fund statement balance to individual government-wide statement balances. Reconciling each account balance (fund to government-wide) is characteristic of the conversion approach used by Copley and Engstrom [2007]. This is a cumbersome and extremely difficult approach to implement in practice or in the classroom. Some balances are eliminated because of inter-fund governmental activities, some balances are reclassified to reflect a long-term measurement focus, and some balances are adjusted to recognize full accrual accounting basis. Our pedagogical approach focuses on reconciliation of the statements as a whole, rather than on an account by account basis. In this way, students can more effectively see how the fund financial statements and the government-wide financial statements connect. Our approach is consistent with actual practice for city, county, and state governments.

As part of our course requirements, we require each governmental accounting student to obtain actual financial statements for a local city government. This financial information is a matter of public record and is easily accessible from the internet or from the governments themselves. Once students are taught fund accounting concepts, students are required to analyze and interpret their government's statements; likewise, once GASB 34's reporting model is introduced students are required to do the same for government-wide statements. Emphasis is placed on reconciliations for the two sets of books and the adjustments necessary to bring this about. Finally, students evaluate the performance of the government as a whole using government-wide statements. Our approach, we believe, focuses on the concepts and applications competencies necessary to practice governmental accounting and auditing in the real world. Therefore, relevance is added through this teaching methodology. Using actual government data provides an interactive case study approach to teaching governmental concepts. It sparks student interest and engages the student in active learning. We believe this enhances learning effectiveness.

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Government Policy Impacts On Technology Commercialization: A Case of Digital Television

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Abstract

This paper is a case study of social marketing activities surrounding the implementation of the Federal Communications Commission's (FCC) Digital Transition program as it pertains to the effects of government policy on technology commercialization. Driven by the Digital Television Transition and Public Safety Act of 2005, the FCC has mandated that effective February 17, 2009 all over-the-air television stations must begin exclusively broadcasting digital television (DTV) signals. On that date, older televisions that only receive analog signals will no longer function unless connected to a convertor box that can receive digital signals and translated them to analogue signals or subscribe to a cable television service. While manifest functions of the new broadcast standards are recognized, the transition presents social marketing challenges for those concerned with consumer acceptance and cost effective transition. This paper reviews the social marketing actions taken by the FCC to meet those challenges.

Introduction

Technology commercialization often presents critical challenges to marketers of technology. Even "continuous" innovations technology initiatives can present difficult challenges. This paper reviews the case of the United States (US) transition from an analogue television broadcasting standard to a digital television broadcast standard as an illustration of the challenges involved in technology commercialization. In particular, this paper reviews activities surrounding the implementation of the FCC Digital Transition program as a case study of the affects of government policy on technology commercialization. With the development of digital television, the Digital Television Transition and Public Safety Act of 2005, and the resulting US Federal Communications Commission mandate that by February, 2009 all over-the-air broadcasters broadcast solely in digital television (DTV) signals, social marketing challenges and business opportunities were raised. The new DTV signals would not be receivable by older model televisions. Older model televisions receiving signals via cable systems would receive an analogue signal that was converted from a digital signal through the cable system. A second alternative was to fit older sets with a DTV to Analogue convertor box. A third alternative would be for the consumer to buy a new DTV compatible television. The new DTV Televisions would provide rectangular screens and even higher resolution images than the older analogue televisions. In this paper we review the social marketing process by which the consumer adoption process regarding DTV is being facilitated by government policies and programs.

The Situation

"Is my TV going to be useless after February 17, 2009?" This is a new fear being presented to consumers in anticipation of an FCC mandate that all over-the-air television stations must begin broadcasting digital signals as of February 17, 2009. On that date, United States broadcasters will no longer be allowed to broadcast analog signals, and older televisions that only receive analog signals will no longer function unless connected to a cable system or convertor box that can receive digital signals and transform those signals to analogue signals.

Manifest Functions and Latent Dysfunctions of Government Policies. Government policies often include what the social theorist Robert K. Merton (1968) has referred to as manifest and latent functions of social institutions. In the current context, manifest functions are the intended beneficial consequences of the FCC policy of requiring that broadcasters transmit only DTV signals. These "intended" or "manifest" functions are that digital transmission will provide a better viewing experience, and will free broadcast spectrum (available frequencies) to be used by emergency responders and government agencies. This will occur because the DTV signals can be more precisely limited to their specified radio/television broadcast frequencies with less bleed into adjacent frequencies. Consumers, broadcasters and the FCC are believed to be beneficiaries. More specifically, anticipated consumer benefits that have driven the new regulations include clearer pictures with better sound quality, more channels available to broadcasters over their currently licensed frequencies, and the freeing up and reclaiming of valuable spectrum for public safety and new wireless services. Reclaimed spectrum can also be auctioned by the government to the industry in order to raise government funds for new projects. Similar approaches have been used in the United Kingdom with positive results.

However, latent dysfunctions, unintended negative consequences, may also attach to the new regulations. Latent dysfunctions may often be unrecognized at the initial enactment of a policy despite extended periods of public hearings intended to bring negative consequences to light. Even when dysfunctions are recognized they may be accepted, even though not intended, as "necessary evils" for technological or social progress. Moreover, once recognized, dysfunctions may be addressed through social marketing programs that encourage and facilitate the rapid diffusion and acceptance of the new technology, and so avoid social backlash. In the case of the FCC's DTV broadcast policies, potential negative consequences may accrue to key market segments such as rural viewers, persons with fixed incomes, persons with little education, and those whose first language is not English. Such disadvantaged market segments might loose access to digital signals due to income constraints that prevent new television or equipment purchases, or lack of understanding of the issues. One major potential latent dysfunction is the ecological effect that would occur if 16 million households were to discard their older model televisions.

Opportunities for the Broadcast Industry

The new regulations provide television cable and satellite operators a strategic window of opportunity to grow their markets by recruiting new customers who see cable as an alternative to a converter box or a new television purchase. To this end the cable industry has begun aggressive information campaigns that emphasize that after the deadline date, older televisions will not work except for those connected to cable systems. These ads ignore a less aggressively pursued government social marketing program by which households can obtain coupons to purchase up two converter boxes that will allow older televisions that are

not attached to cable systems to display televisions programs. These boxes are DTV receivers that translate the DTV signal to the analogue signal required by the older televisions. These converter boxes represent a second industry opportunity in that they are sold by the same stores that sell new televisions and are paid for with government coupons by which the stores are reimbursed. If a household needs more than two, that household must pay for the additional convertors. Perhaps the greatest benefit of the new technology to the broadcast television industry will accrue to new television manufacturers. The DTV signals is claimed to provide greatly audio and video quality, rectangular screens more in keeping with the movie experience, and many more broadcast channels with better reception than now available for over-the-air broadcasts.

Social Marketing and Public Acceptance

Social marketing programs are already being implemented to encourage adoption of DTV technologies. As noted above, government programs have been developed to promote convertor boxes and to monitor convertor box sales. These programs are active on the Internet. Although the Department of Commerce allocated $1.5 billion for the coupon program, Congress allocated only $10 million in funds specifically to DTV consumer education (as compared to $400 million in the United Kingdom). Still, the Department of Commerce offers partner toolkits, posters, fact sheets, public service announcements as part of its social marketing efforts. The result has been that as of early Spring 2008, three months after the start of the program, two-million households out of approximately 15 million households that depend on over-the-air broadcasting had already requested coupons. This would appear to be a strong start so early into the program. It is estimated that there are 112,275,000 households with televisions in the United States. Of these, cable has about 65 million with 58% penetration and satellite has 32 million customers. To benefit from the program, consumers must request coupons between January 1, 2008 and March 31, 2009 through a government sponsored DTV hotline (888.DTV.2009) or the DTV website www.dtv2009.gov. The coupons are essentially plastic gift cards that can only be used to buy a converter box. Each household can request only two $40 coupons, and coupons expire within 90 days of the date they are mailed. Cable providers, recognizing the commercial potential of the new technology, are promoting the benefits of DTV and new DTV channels. Some have raised prices with the justification that the new DTV channels provide a better viewing experience and more programming variety. The success of the various social marketing programs is possibly demonstrated by a National Association of Broadcasters poll that found that almost four in five Americans have heard about the impending transition to digital. However, a Consumers Union poll found that three-quarters of the people it surveyed were wrong about what they have to do to get ready for this transition. This may be a result of multiple sources of information with conflicting interests.

To further facilitate the commercialization of digital broadcasting, industry organizations, such as the National Association of Broadcasters (see www.dtvanswers.com), is actively educating consumers with road shows and public service ads. Still, as of early 2008, although many television broadcasters have begun dual digital and analogue broadcasting, few over-the-air broadcasters have begun aggressive promotional programs to take advantage of the potential strategic window of opportunity as the new technology is rolled out. It may be that the opportunity to gain market share during the transition is overlooked as broadcasters recognize that all broadcasters will have to offer DTV in February 2008. While the FCC mandate does level the playing field, the period of confusion during the technological transition could be a marketing opportunity for broadcasters wishing

to emphasize their commitment to broadcast quality, diverse programming, and care for viewers.

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Political Economy of Trade Policy: Viability of Free Trade Agreements

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Abstract

In this paper, we examine the political viability of Free Trade Agreements (FTA) between home country (HC) and foreign country (FC) under tariff, quota and subsidy in a three-country model (consisting of HC, FC, and rest of the world). Using a government objective function which is a weighted sum of welfare and producers surplus, we show that under tariff, a necessary condition for FTA to be approved by HC and FC is that gain in producers' surplus is greater than loss of tariff revenue. Also, a necessary condition for FTA to be approved by FC under quota is that gain in producers' surplus is less than loss of quota rent. We finally show that while subsidy on import competing industry will FTA viable in HC (with FC remaining indifferent) if weighted cost of subsidy exceeds weighted gain in producers' surplus, an export subsidy in FC will make FTA viable in FC (with HC remaining indifferent) if weighted cost of subsidy exceeds weighted gain in producers' surplus in FC.

Introduction

Role of special interest groups or lobbies in determining trade policy has been discussed in the literature (See Panagariya (2000), Panagariya-Duttagupta (2002), Grossman-Helpman (1994, 1995)). One of the key issues that received considerable attention in recent years is the extent to which free trade agreements (FTA) are politically viable in the presence of lobbying activities. In an influential paper Grossman and Helpman (1995) argue that viability of free trade agreements is enhanced by trade diversion rather than trade creation. They apply a model developed in an earlier paper (Grossman-Helpman 1994) where government maximizes an objective function which is a sum of (weighted) welfare and political contributions. Hence consumers' surplus enters only once in calculus of government (through welfare function) where as producers' surplus enters twice (through welfare and political contribution). Krishna (1998) uses a partial equilibrium model to reach the same conclusion. When an FTA is formed each member benefits from obtaining access to partner's market. In the absence of trade diversion this is a zero sum game, since it loses from giving a similar access to its partner. However if its member can capture a part of the outside country's share in the union's market without corresponding loss of their share on the outside market, they can generate positive net benefit. The FTA is more likely to be accepted. Richardson, (1993) using a 3-good model with lobbying, concludes that FTA is less likely to be trade diverting and formation of FTA may lead to reduction in external tariffs. Cadot, de Melo and Olaragge (1999) uses Grossman – Helpman model (1995) and a three good framework to show that in FTA an arrangement without rules of origin where goods destined to a high tariff member can be imported through a low tariff member competition for tariff revenue may lead to competition for tariff revenue may lead to competitive reduction in tariff until they are completely removed. However, lobbying may lead to higher protection. Panagariya and Findley (1994) argue that FTA may lead to greater protection between blocks. When an FTA is enacted, the labor that was formerly employed

lobbying for protection against FTA partner countries will be released into labor pool. The wage will be driven down and then more labor will be employed lobbying for protection against the rest of the world. Tariffs between blocks should rise. Levy (1997) shows that in a two good Heckscher Ohlin model with median voter, voters will never choose bilateral free trade in favor of multilateral free trade unless both yield same relative price. This result is reversed if one introduces product variety and increasing returns to scale.

Role of foreign lobbies has also been analyzed in the literature. In Hillman-Ursprung (1989), foreign participation in representative democracy can take the form of campaign contribution or other transfer directed at influencing the trade policy position taken by a particular candidate. Steven Husted (1991) documents comprehensive account of foreign lobbying. Gawande, Krishna and M. Robbins (2006) show that if policy outcome absent any lobbying by foreigners is characterized by welfare reducing trade barriers, lobbying by foreigners may result in reduction in such barriers and raise consumer surplus (and possibility improve welfare). Their data analysis suggests that foreign lobbing activity has significant impact on trade policy. Tariff and non tariff barriers are both found to be negatively related to foreign lobbying activity.

In an important paper, Panagariya and Dattagupta (2002) compared tariff with quota in terms of political viability of FTA and concluded that for a given level of protection FTA that may not be politically viable in the presence of tariff may be accepted in the presence of voluntary export quota that restricts imports at the same level as tariff. In a three-country model consisting of home country (HC), foreign country (FC) and rest of the world (RW) governments in both HCF and FC maximize an objective in which if a weighted sum of profit and welfare.. HC which is a small country imports from FC and RW. Formation of FTA implies removal of tariff in HC's market. As long as HC continues to import from RW, internal price does not change within the union and FTA leads to an increase in import from partner at the expense of RW without a change in price. FTA is purely trade diverting for HC. FC experiences an increase in welfare as profits of its domestic firms rise. Hence FC supports FTA. However, HC loses tariff revenue and since price does not change consumers' surplus does not change. Therefore, the weighted sum of welfare and profit decreases. Hence, HC rejects FTA. Under a voluntary export quota, import from RW is fixed. Hence FTA can not be trade diverting. Moreover, increased competition from FC lowers the internal price. This implies higher consumer surplus in HC leading to higher overall welfare and lower profits by import competing firms. If the former effect on welfare dominates the latter effect on profits of domestic import competing firms, FTA may be politically viable for HC. Since FC receives a quota free access to HC's market its objective function may also increase. Hence FC may also vote for FTA.

The objective of this paper is to show that presence of lobbying expenditure in Panagariya-Duttagupta (2002) model may make FTA politically viable in HC under tariff while FTA may not be politically viable under voluntary export quota. This is a departure from the existing result. However, if lobbying expenditure is explicitly introduced in the model, FC may accept FTA under quota. We also extend the Panagariya-Duttagupta (2002) model to show that under import subsidy although FC is indifferent between accepting and rejecting FTA, HC will accept FTA if cost of subsidy exceeds weighted gain in producers' surplus. Finally, we consider viability of FTA under export subsidy in FC. We show that although HC is indifferent between accepting and rejecting FTA. FC may accept FTA if weighted cost of subsidy exceeds weighted gain in producers' surplus. In section 2 and 3, we present the basic model followed by the results and some concluding remarks.

Political Viability of FTA

We assume, following Panagariya-Duttagupta (2002) and Grossman-Helpman (1994), that government maximizes a weighted sum of profit and welfare. We denote government objective function in HC by

$R = \pi + gU,$ (1)

where $U = CS + \pi + TR.$ (2)

Note that π, TR and CS represent profit or producers' surplus, tariff revenue and consumers' surplus respectively. Finally, g is the weight chosen by the government and U represents welfare. In the presence of lobbying, profit receives a higher weight than consumers' surplus[1].

We write objective function in FC, R*, analogously by attaching an asterisk to each variable in (1) and (2). For simplicity we restrict our analysis to linear demand and supply functions.

We denote the demand and supply functions in HC by $D = D_o - 2cP$ *and* $S = S_o + 2kP$. Demand and supply functions in FC are represented by $D^* = D_0^* - 2c^*P^*$ and $S^* = S_0^* + 2k^*P^*$ respectively. Note that $D_0, D_0^*, S_0, S_0^*, c, c^*, k, k^* > 0$. The world price is normalized and equal to 1. Total import by HC is $M = D\text{-}S = (D_o+S_o) - 2(c+k)P$ and total export by FC is $E^* = S^* - D^* = -\left(D_0^* + S_0^*\right) + 2\left(c^* + k^*\right)P^*$.

We now derive conditions under which FTA will be approved under tariff, voluntary export quota, import subsidy and export subsidy.

FTA Under Tariff

We now consider the effect of FTA on HC and FC. We assume that both HC and FC are small and HC imports from both FC and RW. Also, we assume that demand in HC is too large to be met by FC. Therefore, HC has to import from RW at the prevailing price P(1+t) where t represents per unit tariff. Then, tariff induced consumers' surplus, CS_t, is written as

$$CS_t = \frac{[(\frac{Do}{2}) - (1+t)][Do - 2c(1+t)]}{2} = \frac{D_t^{\,2}}{4c},$$

where $D_t = D_o - 2c(1+t)$,

Tariff induced producers' surplus, PS_t, can be written as

$$PS_t = \frac{[-S_o + 2k(1+t)]^2}{4k} = \frac{S_t^{\,2}}{4k}$$

For FC, similarly, CS_t^* and PS_t^* can be written as

$$CS_t^* = \frac{[D_o^* - 2c_c^*]^2}{4c^*} = \frac{D_t^{*2}}{4c^*}, \text{ and}$$

$$PS_t^* = \frac{[-S_o^* + 2k^*]^2}{4k^*} = \frac{S_t^{*2}}{4k^*}.$$

[1] See Baldwin (1987) for a detailed explanation.

In HC, since price remains at P(1+t) under FTA due to small country assumption and import from RW, producers' surplus and consumers' surplus do not change in HC. However, due to FTA, HC would suffer loss of tariff revenue, tS_F^*, where S_F^* is FC's export under FTA. Note that loss of tariff revenue leads to a decrease in R in equation (1). Hence FTA will not be approved by HC.

FC, by assumption, does not produce enough to meet the demand in HC and its own demand. Therefore, it has to import from RW at the world price which is equal to (normalized) 1. Due to rules of origin, FC can not resell its import from RW. Under these circumstances consumers surplus in FC, CS, remains unchanged. But FC's export to HC increases and hence, producers' surplus in FC increases. Producers' surplus in FC under FTA is

$$PS_F^* = \frac{[-S_o^* + 2k^*(1+t)]^2}{4k^*} = \frac{S_F^{*2}}{4k^*}$$

Therefore, gain in producers' surplus due to FTA is

$$PS_F^* - PS_t^* = \frac{(S_F^*)^2 - (S_t^*)^2}{4k^*} = t(-S_o^* + 2k^* + k^*t) = t(S_t^* + k^*t)$$

Since $(PS_F^* - PS_t^*) > 0$, FTA will be approved by FC. But FTA will not be politically viable because FTA will not be approved by HC.

It can, however, be argued that expenditure by foreign lobbies may make FTA between HC and FC politically viable. Note that expenditure by foreign lobbies is a mechanism to transfer some of the gains made by FC to HC. We let *l* represent expenditure by foreign lobbies. Also let R_F^L, R_F^{*L}, R_t and R_t^* denote value of R function in HC with transfer from FC (lobbying expenditure), value of R function net of lobbying expenditure in FC, value of R function under tariff in HC and value of R function under tariff in FC respectively. Then, FC will lobby for FTA if $(R_F^{*L} - R_t^*) > 0$ and HC will accept FTA if $(R_F^L - R_t) > 0$. This implies that FTA will be approved by both countries if

$$(R_F^{*L} - R_t^*) = \{(1+g^*)[t(-S_o^* + 2k^* + k^*t)] - g^*l\} > 0.$$

And $(R_F^L - R_t) = \{-g[t(-S_o^* + 2k^*t)] + (1+g)l\} > 0$. Combining these two inequalities we get, $\frac{g(t(-S_O^* + 2k^* + 2k^*t))}{1+g} < l < \frac{(1+g^*)(t(-S_O^* + 2k^* + k^*t))}{g^*}$. This implies that FC and HC will accept FTA if

$$\frac{g}{1+g}(\textit{loss of tariff revenue in HC}) < l < \frac{1+g^*}{g^*}\ (\textit{gain in producers' surplus in FC}).$$

Since $\left(\frac{g}{1+g}\right) < \left(\frac{1+g^*}{g^*}\right)$, a sufficient condition for FTA to be approved by both FC and HC is that gain in producers' surplus must be greater than loss of tariff revenue.

FTA Under Export Quota or Voluntary Export Restraint.

In this section we analyze viability of FTA under voluntary export quota. Under quota, consumers in HC pay $P_Q = 1+e_Q$ where e_Q is quota rent earned by exporting countries. Consumers' surplus and producers' surplus in HC are

$$CS_Q = \frac{(D_o - 2cP_Q)^2}{4c} = \frac{D_Q{}^2}{4c}$$

$$PS_Q = \frac{(-S_o + 2kP_Q)^2}{4k} = \frac{S_Q{}^2}{4k}$$

Hence government objective function under quota, R_Q, is

$$R_Q = PS_Q + g\,(PS_Q + CS_Q) = g\frac{D_Q{}^2}{4c} + (1+g)\frac{S_Q{}^2}{4k}.$$

Suppose FTA is approved by HC. Then export from FC increases while that from RW remains the same. The export from FC is determined by $S^* = S_0^* + 2k * P*$. Under FTA equilibrium, home price, P_F, is determined by foreign supply and residual home demand which is the difference between total home demand and quota from RW. It can be easily shown that $1 < P_F < P_Q$. The consumers' surplus, producers' surplus and government objective function R under FTA are

$$CS_F = \frac{(D_o - 2cP_F)^2}{4c} = \frac{D_F^2}{4c}$$

$$PS_F = \frac{(-S_o + 2kP_F)^2}{4k} = \frac{S_F^2}{4k}$$

$$R_F = g\frac{D_F{}^2}{4c} + (1+g)\frac{S_F^2}{4k}$$

Letting R_Q denote government objective function under quota, FTA will be approved by HC if $(R_F - R_Q) > 0$. Note,

$$R_F - R_Q = g\left(\frac{D_F^2 - D_Q^2}{4c}\right) + (1+g)\left(\frac{S_F^2 - S_Q^2}{4c}\right) \qquad (3)$$

$$= \tfrac{1}{2}(P_Q - P_F)\left[g(D_Q + D_F) - (1+g)(S_Q + S_F)\right]$$

As Panagariya – Dattagupta (2002) has suggested (3) can be positive. Therefore while HC may not approve FTA under tariff it may approve FTA under quota.

However, FC may not approve FTA under quota. To see this, consider consumers' surplus, producers' surplus and government objective functions under quota and FTA in FC.

$$CS_Q^* = \frac{(D_0^* - 2c^*)^2}{2c^*} = \frac{D_Q^{*2}}{4c^*}$$

$$PS_Q^* = \frac{(-S_O^* + 2k^*)^2}{2k^*} = \frac{S_Q^{*2}}{4k^*}$$

$R_Q^* = PS_Q^* + g^*(PS_Q^* + CS_Q^* +$ quota rent), where

quota rent is $e_Q(S_Q^* - D_Q^*) = e_Q(-S_0^* + 2k^* - D_0^* + 2c^*)$

Suppose FTA is approved by FC. Under FTA, consumers' surplus and producers' surplus in FC are

$$CS_F^* = \frac{D_Q^{*2}}{4c^*}$$

and

$$PS_F^* = \frac{(-S_O^* + 2k * P_F)^2}{4k^*} = \frac{S_F^{*2}}{4k^*}$$

$$= S_Q^{*2}/4k^* + (P_F - 1)S_Q^* + (P_F - 1)\frac{S_F^* - S_Q^*}{2}.$$

Note that

$$R_Q^* - R_F^* = (1+g^*)(PS_F^* - PS_Q^*) - g^* \text{(loss of quota rent)}$$

$$= (1+g^*)\left[(P_F - 1)\frac{(S_F + S_Q)}{2}\right] - g^* e_Q\left(-(S_o^* + D_o^*) + 2(c^* + k^*\right) \quad (4)$$

If equation (4) is negative then FTA will be approved by FC. In equation (4), $\left[(P_F - 1)\frac{(S_F^* + S_Q^*)}{2}\right]$ is gain in producers' surplus under FTA and $e_Q\left(-(S_o^* + D_o^*) + 2(c^* + k^*)\right)$ is loss of quota rent due to FTA. Therefore, FTA will be approved by FC if $\left(1+g^*\right)$ (gain in producers' surplus) is less than g* (loss of quota rent).

But it is quite possible that gain in producers' surplus is greater than loss of quota rent and FTA will not be approved by FC. We argue below that introduction of lobbying expenditure explicitly may make FTA viable in FC even if gain in producers' surplus is greater than loss of quota rent. Let R_F^{*l} represent government objective function for FC under FTA with lobbying expenditure by HC. Then

$$R_F^{*l} = g^* \frac{D_Q^{*2}}{4c^*} + (1+g^*)(\frac{S_F^*}{4k^*} + l)$$

As long as $(R_F^{*l} - R_F^*) > 0$, FTA will be approved by FC even if (4) is positive.
This implies FC will approve FTA if

$$l > \frac{R_Q^* - R_F^*}{1+g*}$$

We assume R_F^l is the government objective function in HC under FTA and lobbying expenditure.

Then

$$R_F^l = g\left(\frac{D_F^2}{4c} - l\right) + (1+g)\frac{S_F^2}{4k}.$$

If $(R_F^l - R_Q) > 0$, then HC will approve FTA. This implies FTA will be approved by HC if

$$l < \frac{R_F - R_Q}{g}.$$

Therefore, FTA will be approved by both FC and HC if

$$\frac{R_Q^* - R_F^*}{1+g^*} < l < \frac{R_F - R_Q}{g}.$$

FTA under Subsidy to Import Competing Industry

In this section we consider viability of FTA under subsidy given by HC to its import competing industry. We assume that import competing industry receives subsidy s per unit. Consumers' surplus, producers' surplus and R in HC under subsidy, *CSs, PS$_s$,* and R_S can be written as:

$$CS_s = \frac{(D_o - 2c)^2}{4c} = \frac{D_s^2}{4c}$$

$$PS_s = \frac{[-S_o + 2k(1+s)]^2}{4k} = \frac{S_s{}^2}{4k}$$

$$R_s = \frac{S_s^2}{4k} + g\left(\frac{S_s^2}{4k} + \frac{D_S^2}{4c} - sS_s\right)$$

Again, we assume that FTA is approved by HC. Under FTA, consumers' surplus does not change in HC. Following are producers' surplus and R under FTA denoted by PS_F and R_F respectively.

$$PS_F = \frac{(-S_o + 2k)^2}{4k} = \frac{S_F^2}{4k}$$

and

$$R_F = \frac{S_F^2}{4k} + g\left(\frac{S_F^2}{4k} + \frac{D_s^2}{4c}\right)$$

FTA will be approved by HC if $(R_F - R_s) > 0$, where

$$\begin{aligned} R_F - R_s &= (1+g)\frac{S_F^2}{4k} - (1+g)\frac{S_s^2}{4k} + gsS_s \\ &= -(1+g)\frac{(S_s^2 - S_F^2)}{4k} + gsS_s \\ &= -(1+g)\frac{s}{2}(S_F + S_s) + gsS_s. \end{aligned}$$

Thus FTA will be approved by HC if

$$gsS_s > (1+g)\frac{s}{2}(S_F + S_s).$$

Note that sS_s represents cost of subsidy and $\frac{s}{2}(S_F + S_s)$ represents gain in producers' surplus.

Therefore FTA will be approved by HC if weighted cost of subsidy exceeds weighted gain in producers' surplus.

In FC, since world price is 1 and FC exports at world price regardless of whether there is subsidy in HC or not, neither consumers' surplus nor producers' surplus will change.

$$CS_s^* = \frac{D_s^{*2}}{4c^*} = CS_F^*$$

$$PS_s^* = \frac{S_s^{*2}}{4k^*} = PS_F^*.$$

Thus FC is indifferent between accepting or rejecting FTA under import subsidy.

As subsidy to import competing industry is withdrawn, price received by domestic producers in HC return to world price. Therefore, output supplied by domestic producers in HC decrease. The decrease in price and decrease in output supplied lead to decrease in producers' surplus in HC. However, withdrawal of subsidy also implies that government saves cost of subsidy. If cost saving weighted by 'g' is greater than loss of producers' surplus weighted by '(1+g)' then value of R increases and HC accepts FTA. Note that world price did not change and, hence, output supplied by FC did not change (any shortfall in supply in HC is being made up by importing from RW). Therefore, consumers' surplus, producers' surplus and value of R* do not change. This implies that FC remains indifferent between accepting or rejecting FTA.

FTA Under Export subsidy

In this section we consider FTA under export subsidy. Under export subsidy, consumer's surplus, producers' surplus and objective function in FC denoted by CS_e^*, PS_e^* and R_e^* respectively are

$$CS_e^* = \frac{(D_o^* - 2c^*)^2}{4c^*} = \frac{(D_e^*)^2}{4c^*}$$

$$PS_e^* = \frac{\left(-S_o^* + 2k^*(1+e)\right)^2}{4k^*} = \frac{(S_e^*)^2}{4k^*}$$

$$R_e^* = PS_e^* + g^*(PS_e^* + CS_e^* - eS_e^*)$$

Note eS_e^* is the cost of export subsidy. Below, we show that FTA will be approved by FC if weighted cost of subsidy is greater than weighted gain in producers' surplus.

Under FTA, consumers' surplus, producers' surplus and the objective function in FC denoted by CS_F^*, PS_F^*, and R_F^* respectively are

$$CS_F^* = CS_e^*$$

$$PS_F^* = \frac{(-S_o^* + 2k^*)^2}{4k^*} = \frac{(S_F^*)^2}{4k^*}$$

$$R_F^* = PS_F^* + g^*(PS_F^* + CS_F^*).$$

FTA will be approved by FC if $(R_F^* - R_e^*) > 0$. Hence FTA will be approved by FC if

$$g^* e S_e^* > (1+g)\, e\left(\frac{S_e^* + S_F^*}{2}\right)$$

Note that $g^* e S_e^*$ and $e\left(\frac{S_e^* + S_F^*}{2}\right)$ represent cost of subsidy and gain in producers' surplus respectively.

In HC domestic price does not change since world price remains 1. Consumers' surplus and producers' surplus denoted by CS_e and PS_e under export subsidy are

$$CS_e = \frac{(D_o - 2c)^2}{4c} = \frac{D_e^2}{4c}$$

$$PS_e = \frac{(-S_o + 2k)^2}{4k} = \frac{S_e^*}{4k}$$

As export subsidy is eliminated in FC under FTA, export supply decreases and price received by exporters return to world price. The decrease in export and decrease in price lead to decrease in producers' surplus. However, under FTA, government also saves cost of subsidy. If cost saving weighted by 'g' exceeds loss of producers' surplus weighted by '(1+g)' then value of R* increases and FTA is approved by FC. In HC, meanwhile, world price remains 1 and RW steps in to make up for any shortfall in import from FC so that total import remains the same. Therefore, consumers' surplus, producers' surplus and value of R do not change. This implies that HC is indifferent between accepting or rejecting FTA.

Conclusion

The literature on trade policy has analyzed the impact of lobbying on trade agreements. In this paper we use a government objective function which is a sum of welfare (weighted) and profit to analyze political viability of free trade agreement (FTA). This is a topic that has been addressed by several authors. In an important paper, using a three-country (HC, FC and RW) and two-good model, Panagariya-Duttagupta (2002) have shown that while FTA may be rejected under tariff, FTA will be accepted by HC and possibly by FC under quota. We have shown that a sufficient condition for FTA to be approved by HC and FC under tariff is that gain in producers' surplus is greater than loss of tariff revenue. Furthermore, we show that a necessary condition for FTA to be approved under quota in FC is that gain in producers' surplus is less than loss of quota rent. Also, it is shown that FTA will be approved by HC under subsidy to import competing industry while FC remains indifferent if weighted cost of subsidy exceeds weighted gain in producers' surplus. Finally, we have shown that FTA will be approved by FC under export subsidy while HC remains indifferent if weighted cost of subsidy exceeds weighted gain in producers' surplus.

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Opportunity Recognition: The Road to Entrepreneurial Success

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Abstract

The main theme of this article is opportunity recognition, especially in the context of entrepreneurial activities, and the founding of small business firms. In the United States, and elsewhere around the world, business opportunities are plentiful, and largely attractive. They are often hidden and need to be discovered, assessed, and utilized. Many entrepreneurs are unaware of key signal for the emergence and /or existence of opportunities in various sectors of the economy. The article provides clues about how would-be entrepreneurs can become familiar with potentially lucrative opportunities, and seek to benefit from them. The framework of analysis is centered around inside-out and outside-in approach.

Introduction

To articulate the critical role of technology, it is asserted that "Shovels built America". Indeed, shovels have been utilized in building and beatifying the United States, and the rest of the world. One might add, however, that the perceived opportunity for selling shovels in the first place had made their invention possible1. Business opportunities play a significant role in our society, for the following reasons:

- They give rise to the introduction of new, and improved, goods and services such as the shovel, the iphone, and the Internet;
- They are the driving force for the creation of entrepreneurial companies[2]. In 2002, for example, there were 5,179,000 companies with less than 100 employees, or 90.9 percent of all companies that were operating in the economy[3], a large number of which were newly established firms. Undoubtedly, the firms in their totality were founded to cultivate opportunities.
- Opportunities are the source of income and growth for business firms;
- They are the motivating factors for invention, innovation, and new ideas;
- They are the chief reason for the emergence of new technologies and industries.
- They enhance the country's economic performance through job creation, increasing national income, and rising output.

In brief, society is better off with a greater amount of opportunities than otherwise. The purpose of this paper is to discuss the nature of business opportunities, explain opportunity recognition, and provide guidelines for opportunity assessment.

What's an Opportunity?

The essence of entrepreneurship is opportunity recognition and exploitation Successful businesspeople are good at doing both. For example, Larry Haverty[4], the portfolio manager of Gabelli Multimedia and Trust company, has a special gift in seeing opportunities that are seemingly invisible to other fund managers. He calls opportunities "the elephant in

the room". As is the case with many concepts, there is a lack of a uniform, and widely accepted, definition of opportunity. The following are three interrelated definitions:

1. "An occasion or situation which makes it possible to do something that you want or have to do or the possibility of doing something"[5].
2. A perceived means of generating economic value (i.e., profit) that previously has not been exploited and is not currently being exploited by others[6].

By combing elements from both definitions, opportunity can be defined as:

3. A situation which makes it possible for an entrepreneur to exploit something of value for profit purpose. This definition is implied in this paper.

Opportunities have the attribute of being attractive, and are also related to products or services that create, or add value, to buyers or end users.[7] In founding a business venture, therefore, a prospective entrepreneur should be able to answer the following questions:

☞ What kind of value will I bring to the product or service I am planning to offer?

☞ What kind of value will the product or service bring to potential customers?

☞ Will it be financially rewarding for me to engage in this business?

☞ Are the expected rewards (e.g., financial, emotional) worth the efforts?

These and other related questions might induce the would-be entrepreneur to gather and analyze necessary information about the feasibility and profitability of the intended venture.

Opportunities Beget Opportunities

Business opportunities bring about new opportunities. Indeed, current opportunities (for example, increasing spending on homeland security) can lead to the creation of business ventures and, in turn, to rising income and the opening of further opportunities (for example, a growing demand for housing). To illustrate further, in early 2007, the television network CNBC reported that the "battle for the living room" has begun. It's ushering a new era for opportunities in the field of electronics. The battle, or more precisely the predictable tough competition, is about a digital living room – large screen flat panel television, electronic wall papers, smart phones, and other advanced forms of entertainment and communication devises soon to flood the market. Although the major players are large corporations such as Apple, Sony, Research in Motion, and Microsoft, the battle will certainly involve numerous entrepreneurial companies that are ready in a position to participate and contribute.

Alertness to opportunities is a trait of successful entrepreneurs, as is the search to unearth them. Active search is an indispensable task for entrepreneurial companies. It's the path for survival. Ideally, the search for opportunities shouldn't be limited to a locality, a region, or even a country; rather it should extend beyond the national boundary, whenever possible. Many entrepreneurs, because of resource shortage, focus their attention on local markets to the exclusion of other markets. For such individuals (or companies), the geographic horizon will be limited, and perhaps barely rewarding. Conversely, some authors recommend that entrepreneurial companies, especially during their early years of development, need to focus on narrow segments and not delay revenue generation with some global plans[8]. In any event, business firms must seek fast-growing, large markets. Wider markets offer greater return on investment, in addition to being reliable sources of revenue generation.

Where Do Opportunities Come From?

In the United States, business opportunities are ubiquitous, and diversified. Opportunities originate in external events and developments. These occurrences take different forms, and intensity. They are commonly known as economic, social, cultural, political, and natural forces. As an example of environmental developments, the healthcare industry is planning to embark on a huge task: the digitization of health records for the entire nation. The cost of the project is estimated at $300 billion. Clearly, this development will open vast opportunities for many business firms. In addition to the external environment, individuals themselves can be a source of opportunity creation by means of inventions, innovations, and other forms of contributions. Examples of individuals who have created immense opportunities in recent years include Bill Gates (Microsoft), Steve Jobs (Apple), Jeff Bezos (Amazon.com), and Pierre Omidyar (eBay). In general, sources of opportunities can be classified into the following categories:

- ✓ ***Consumers.*** Consumers make opportunities happen. This is achieved in two important ways: first, consumers spend their own and borrowed money on a variety of goods and services, including expenditures on housing, food, and recreation. In 2005, for instance, personal consumption expenditures in the United States amounted to $8,746 billion, or 70 percent of the country's gross domestic product (GDP)[9]. In the same year, moreover, consumers allocated $770 billion, or 6 percent, of GDP to residential investment. As the data indicate, consumer expenditures are very impressive, and growing. It goes without saying that the higher the level of income (and borrowing), the larger the demand for goods and services and, consequently, the greater the opportunities for entrepreneurs.
- ✓ ***Organizations.*** Organizations, especially business firms, create opportunities. This is done through several channels, including capital expenditures on technology and spending on research and development. The various kinds of expenditures usually culminate into new and improved products and services that, in turn, lead to the emergence of further opportunities. In 2005, for instance, gross private investment (excluding investment in residential projects) amounted to $1,287 billion, or 10 percent of the country's GDP. On the other hand, business firms' growth-oriented strategies such as diversification and integration often end up in creating additional opportunities, because of increasing resource base for of the companies concerned[10]. It's interesting to observe that, as a result of increased competition, and the tendency of some companies to downsize, new business opportunities have emerged for entrepreneurs. For example, some employees who lost or quit their jobs have become entrepreneurs by reentering the private sector as independent subcontractors working for their previous employers, and hiring their own staff.
- ✓ ***Government.*** The United States government (federal, state, and local) has become the main source of revenue for thousands of firms. The federal government, for example, in addition to spending on a wide array of goods and services, offers huge amount of funds in the form of grants to individuals and small companies to encourage them to come up with new products and technologies. In 2005, for instance, government spending on consumption and gross investment amounted to $2,363 billion, or 19 percent of GDP. As a result of increasing public spending, entrepreneurial companies are gaining a growing share of government budget. For instance, the *Entrepreneur* magazine published in its May 2007 issue a study showing the share of small business firms in federal government contracting dollars. The share was 25.36% for fiscal year 2005 (as compared to 23.09% for fiscal 2004) for the top 25 major procuring agencies, as shown below for selected agencies:

Table 1
The share of Small Business Firms in Selected Federal Contracting Dollars
(FY 2005, Percentage)

Agency	%	Agency	%
Department of Defense	24.57	Department of Energy	4.11
Department of Homeland Security	46.63	Social Security Administration	35.93
Department of Health & Human Services	36.43	Department of Housing & Urban Development	63.56
NASA	14.44	Department of Education	9.20
General Services Administration	34.96	Department of Labor	33.69

Source: *Entrepreneur, May 2007, p.16.*

As Table 1 indicates, small business firms, as a group, occupy a prominent position in the U. S. economy for their vital activities.

- ✓ ***International economy.*** International demand for U.S. goods and services constitutes an important source of opportunities for business firms. The list of exports is large, and includes such items as airplanes, steel, agricultural products, pharmaceuticals, chemicals, and financial services. In 2005 for example, total exports of goods and services amounted to $1,301 billion, or 10 percent of the country's GDP. The international demand for U.S. offerings extends to include direct investment, franchising, licensing, turnkey projects, and other forms of business activities. Similarly, U.S. imports create market opportunities for thousands of domestic companies and millions of individuals. In 2005, total imports of goods and services amounted to $2,028 billion, or 16 percent of GDP. The U. S. economy is progressively becoming more globalized in the sense that it influences the economies of other nations and is being influenced by them.
- ✓ ***Nature.*** Nature, in its blessing and fury, plays a major role in opportunity creation. Earthquakes, tsunamis, flood, fire, and other disasters typically lead to construction, and the introduction of better material and technologies in the long-term. Likewise, nature's blessing in terms of weather, landscape, and other attractions can bring about lucrative opportunities for business firms. A deep reflection upon natural beauties, for example, in a locality or region could provide entrepreneurs with a good sense of hidden, and potentially profitable, business ventures.
- ✓ ***Conflicts.*** Despite the enormous human and financial tolls that could result from regional or global military conflicts, wars (or the threat of wars) are a source of opportunities creation, particularly in terms of weapon production, supplies, and means of transportation. Moreover, as recent history of wars in Europe and elsewhere reveals, military conflicts had resulted in construction boom, wealth accumulation, and economic progress in affected countries. This, of course, doesn't imply that national prosperity can only be achieved through armed hostilities.

Opportunity Recognition

Opportunity recognition is defined as a mental process that answers the question: does this idea (about a product or service) represent real value to current or potential customers?[11]

Clearly, not all business-related ideas are practical or profitable. Many ideas that seem initially to be appealing might not be in reality economical or feasible. Entrepreneurs recognize opportunities differently, because their mental processes are far from being similar. This is largely due to the following reasons:

First, entrepreneurs differ in terms of education, experience, and market knowledge, as well as in the way they think and react to trends and events. They also differ in the level of alertness to existing, or emerging, opportunities as well as in their willingness to take risk. Moreover, they differ in terms of financial abilities, and investment targets.

Second, it's difficult for many entrepreneurs, especially the less experienced ones, to anticipate with a reasonable degree of accuracy future opportunities.

Third, many opportunities often come suddenly and without warning. Consequently, very few entrepreneurs can take advantage of them.

Fourth, different opportunities appeal to different entrepreneurs.

Granted that entrepreneurs approach opportunities differently, the question is how do they go about recognizing them? Let's first point out that many scholars agree that the process of opportunity recognition is complex**.** This is because entrepreneurs travel different paths in search of opportunities, as alluded to in the previous section. Nevertheless, David W. Ewing[12] came up with an innovative framework for opportunity recognition. He point out that there are two broad approaches by which entrepreneurs identify opportunities: *inside-out*, and *outside-in*. Inside-out refers to individuals' ability to "create" opportunities for themselves by means of their choice such as inventing new products or services. Outside-in approach, on the other hand, refers to individuals' ability to "discover" opportunities in the external environment.

A number of authors have expanded on Ewing's framework. For example, DeTienne and Chandler[13] indicate that there are four ways to identify opportunities, as follows:

1. Active search. Active search means that prospective entrepreneurs believe that opportunities reside in the environment (outside-in approach), and they seek to uncover them by undertaking vigorous search. For example, let's assume that an entrepreneur, upon observing people, became convinced that the public in general has a strong preference for readily made fresh fruit juice. He also concluded that there's a lack of specialty outlets that serve the beverage. The conviction, therefore, motivates the individual in question to investigate the validity of his perception, and its business feasibility.
2. Passive search. As is the case with active search, passive search implies that business opportunities exist out there in the environment awaiting exploitation. In this kind of search, it's assumed that a prospective entrepreneur is not actively searching for opportunities; but he or she is vigilant for attractive ones that might come by. As an example, let's assume that a local dealer for used construction equipment, who is interested in expanding his business in other countries, finds out, during a vacation in Mexico, that the country is experiencing a construction boom and, as a result, there is a growing need for second-hand construction equipment, especially bulldozers, excavators, and industrial cranes. The dealer then entertains the idea to get involved in exporting the equipment in question, after becoming convinced about the feasibility of the project.
3. Fortuitous discovery. Fortuitous discovery means that an individual (or company) uncovers opportunities accidentally. For example, a biotechnology entrepreneurial company, while seeking to find a cure for brain cancer, suddenly comes across a cure for

Alzheimer's disease. Fortuitous discoveries imply that discoverers or inventors are often at a heightened level of alertness for seeking opportunities.

4. Opportunity creation. The previous three ways indicate that opportunities already exist out there in the marketplace, and the task of entrepreneurs is to find and exploit them. Opportunity creation (inside-out approach), however, assumes that opportunities reside in the minds of individuals, that is, individuals, and not the environment, are the main source of opportunities, as is the case of introducing new products.

Furthermore, in line with the inside-out and outside-in approach, a number of scholars suggest that there are four *processes* by which entrepreneurs employ to identify opportunities, as discussed below[14]:

First, learn about market needs, and replicate the product or service. This process is an outside-in approach, whereby an entrepreneur surveys available goods and/or services in order to gain knowledge about profitable business ventures, and select the specific line of business of interest.

Second, learn about market need, and innovate product or service that is desired by consumers or end users. This is also an outside-in approach in which the individual observes market trends in order to identify suitable opportunities. Unlike the first process, this case involves the introduction of novel products or services such as, for example, a new kind of after shave cologne. Innovative products or services call for creativity, experience, and knowledge in the field of interest. They also require in many instances a lengthy period of research, testing, and modification.

Third, learn about an existing income stream, and acquire it. In this case, an entrepreneur chooses to learn about, or perhaps is already familiar with, a product or service, say dry cleaning, and attempts to buy an established business.

Fourth, invent. This is the most challenging, and perhaps rewarding, approach of opportunity creation for prospective entrepreneurs. Product invention is an inside-out approach in which an individual introduces "something" new, regardless whether or not he or she is aware of its market value, or relevance to consumers. For instance, two young entrepreneurs came up with a free online service called "You Tube" in 2006 in which individuals can post pictures or video clips to share with viewers at large. The service became a gold mine for the founders; the business venture was sold in 2007 to Google for more than $1.2 billion.

In regard to opportunity recognition, one may wonder as *how* do individuals in reality come across specific opportunities? The answer to the question is explained below[15]:

- Entrepreneurial alertness. Entrepreneurial alertness is a tendency to notice information about factors in the environment such as incidents, trends, and objects that give individuals cues to undertake business ventures. For instance, a would-be entrepreneur may notice that wedding planning, which involves organizing groups for wedding and honeymoon occasions that take place domestically and abroad, is gradually becoming an important market. Alertness to this opportunity might entice the individual concerned to gather more information, seek expert guidance, and found a wedding planning venture
- Prior knowledge. Prior knowledge refers to specific kind of information possessed by individuals that enable them to identify business opportunities a head of others. The motivation here is that individuals pay more attention to trends and issues that are related to the information they already possess. As a result, these individuals can discover opportunities related to their prior knowledge about, for example, customers' specific preferences for products or services.

- Social networks. Research findings indicate that individuals who have extensive social networks of friends, acquaintances, and relatives are usually in a better position to identify opportunities than solo individuals. The reason is that social networks could act as channels for providing valuable information and ideas for the creation of new profitable business ventures. Some writers[16] believe that the "secret of success lies in the power of relationships".
- Personal attributes. As far as opportunity recognition is concerned, personality attributes of entrepreneurs have received a lot of attention in entrepreneurial publications in recent years[17]. Personality characteristics are many, and include: vision, communication skills, leadership ability, self-reliance, self-regard, competency, inspiration, intelligence, and risk-taking. It's thought that some of the key attributes make the person more optimistic than others in making decisions. It's also suggested that optimistic individuals view the future positively, and are more likely to recognize opportunities than pessimistic persons. Similarly, one may say that strategic thinkers are more likely to recognize opportunities than ordinary people, because strategic thinkers are normally more creative in the ways they view the world around them.

Opportunity Assessment

Some entrepreneurs, once they come across opportunities, tend to exploit them without proper assessment. They do so because they fear that the window of opportunities might suddenly close. Obviously hasty decisions in such a situation could lead to intolerable consequences. The following are some of the key issues that need to be considered by would-be entrepreneurs before committing themselves to founding business ventures:

1. Real opportunities. It's impossible to take advantage of nonexistent (or highly exaggerated) opportunities. Common sense is essential for opportunity recognition. Let's consider an extreme case to illustrate the issue. It's unrealistic, for example, to found a venture for the purpose of selling unprocessed ocean water to customers. The opportunity in this case is imaginary, because rational people are unwilling to purchase useless and contaminated water. Opportunities exist for goods and services that satisfy consumers' needs and desires.
2. Resource Availability. One must have the necessary resources (e.g., capital, skills) in order to take advantage of market opportunities.
3. Feasibility. Once an opportunity is identified, it should be analyzed thoroughly to determine its feasibility. The analysis should focus on at least two kinds of feasibility standards: technical feasibility and economic feasibility. Technical feasibility means that the venture (or project) under consideration can be implemented without major technical difficulties. Feasibility also implies efficiency and effective in the production and marketing of the product or service. Economic feasibility, on the other hand, means that the venture is expected to be profitable in the future.

Competing Opportunities

A prospective entrepreneur may find himself or herself in a position to select a business opportunity from among two or more competing alternatives. What should the final decision be? Well, let's suppose that an individual is presented with two opportunities: (A) to open a fast food outlet, or (B) to join a friend in founding an upscale restaurant. Which of these alternatives should this individual select? Clearly, the alternatives are unequally

attractive to the individual concerned, and need to be assessed on the basis of their attractiveness. How then can the attractiveness be estimated? With the help of a well-established technique know as competitive strength assessment (CSA), one can arrive at an answer, as explained below:

1. List five to seven factors that influence the attractiveness of the venture;
2. Assign a rating for each factor listed. The rating varies from 1 (the least important) to 10 (the most important). The greater the effect of the factor on the venture attractiveness, the higher the rating is;
3. Assign a weight for each factor. Total weights for the factors listed is 1;
4. Multiply each factor by its weight to arrive at a weighted score for each factor; and
5. Add the weighted scores for each alternative to arrive at total weighted scores for the alternative;
6. The highest the total scores for the alternative, the more attractive the alternative is. Table 2 lists five factors for the two alternatives mentioned above, as well as their ratings and weights. The weight for each factor is the same for both alternatives.

Table 2
Factors, Scores, and Weights for Alternatives A and B

	Alternative A		Alternative B	
Factors	Rating	Weights	Rating	Weight
Required Investment	5	.20	7	.20
Return on investment	6	.40	9	.40
Anticipated success	4	.20	8	.20
Degree of risk	8	.10	4	.10
Efforts require	10	.10	5	.10
Total weights		1.0		1.0

Table 3 shows the result of multiplying the rating by the weights and total scores for each alternative:

Table 3
Weights and Total Scores for the Alternatives

Factors	Alternative A Weighted Scores	Alternative B Weighted Scores
Required investment	1.0	1.4
Return on investment	2.4	3.6
Anticipated success	.8	1.6
Degree of risk	.8	.4
Efforts required	1.0	.5
Total	6	7.5

As Table 3 shows, alternative B (joining a friend in founding a restaurant) is more attractive than option A (opening a fast food outlet), because it has the highest total weighted scores.

Ideas for Opportunity Recognition

What are some of the business ideas worth considering for ventures creation? *Business 2.0*, in its August 2007 issue, carried out a topic entitled "The 29 best business ideas in the world". The following are selected from the list:

1. Scour the planet for inspiration, and bring the best ideas back home;
2. Make your Website accessible to users across the globe;
3. Plenty of markets have yet to make use of the efficiency of the Internet;
4. Better service – not just better technology – can be an efficient way to disrupt a huge industry;
5. Take a look at products past their prime;
6. Take advantage of subsidies to get your project off the ground;
7. Where there's a vice, there's demand for a healthier alternative;
8. You won't go wrong offering travelers the comforts of home;
9. Everyone can benefit from going green;
10. Exploit the blind spots of a ubiquitous service;
11. Tap into government resources to reinvent your company;
12. Build a suite of novel services around a traditional product;
13. When market conditions change, revive a concept that was a head of its time;
14. Lean on foreign customers when domestic demand hits a slump; and
15. View market downturns as an opportunity to buy up assets on the cheap.

Conclusion

A business opportunity is an occasion which makes it possible for an entrepreneur to exploit something of value. Business opportunities are to be searched for in the marketplace. They come about because of changes in economic, technological, and other variables. Consumers spending create opportunities; so does spending by governments and organizations. Natural and man-made disasters play a role in opportunity creation as well. While military conflicts lead to human misery and suffering, they also bring about attractive opportunities. As is the case with domestic demand, international demand for U.S. goods and services generates opportunities, and help stimulate the creation of entrepreneurial companies. Factors such as alertness, social contacts, and strategic thinking play indispensable role in opportunity recognition. Entrepreneurs' decisions to take advantage of opportunities are influenced by several factors, including expected profit and degree of risk involved.

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Small Public Company's Audit Strategy in the Post-SOX Era

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Abstract

The purpose of this paper is to explain changes in small public companies (SPC's) audit strategy in the post-Sarbanes Oxley (SOX) era. In the post-SOX era, SPC's do not have to comply with SOX's Section 404 requirements until 2009. Section 404 requires public companies to assess and report on its internal controls. The costs of complying with SOX, including Section 404 have been a contentious issue for SPC's. Many SPC's have argued that the compliance costs are excessive; a recent Government Accountability Report (GAO) confirms this assessment. Thus, some SPC's have made the decision to deregister their securities to avoid the compliance costs. A game theory model developed by Fellingham and Newman (F&N 1985) is modified to explain the effect on SPC's audit strategy. Results of simulated games run on the modified model indicate a substantial reduction in the probability of a material error occurring in the financial statements is required for SPC's to fully embrace SOX and Section 404's internal control reporting.

Introduction

Small public companies (SPC's) with a market capitalization of less than $75 million were not required to comply with Section 404 of the Sarbanes-Oxley Act of 2002 (SOX). This section of SOX stipulates a public company must assess and report annually on the adequacy of its internal control system according to the standards established by the Public Company Accounting Oversight Board (PCAOB). The exemption was granted because of the excessive annual audit fees and costs of complying with Section 404. A recent Government Accountability Office (GAO) report finds that SPC's spent almost nine times more than larger firms in audit fees (U.S. Fed News 2007).

Commencing with their Securities and Exchange Commission (SEC) annual filings in 2009, SPC's must comply with the provisions of Section 404. Discussions over the effect of higher audit fees and compliance with Section 404 have led some to believe that small public firms will either de-register their shares (Leuz et al. 2004) or list their shares on foreign stock exchanges (Onaran 2006). Higher compliance costs for small companies are an important factor in the post-SOX era[1]; however, this issue should not be analyzed in isolation without considering the likelihood of a material error occurring in the financial statements. That is, if the probability of a material error occurring in the financial statements is reduced sufficiently, then the additional compliance costs may be justifiable.

The purpose of enacting SOX was to improve corporate governance and to restore investors' confidence. From a financial statement audit perspective, this should translate into a reduction in the likelihood of material error occurring in a firm's financial statements. The

[1] Pre-SOX (Post-SOX) refer to the period before (after) the implementation of SOX.

firm should expend a high-level effort to maintain an adequate system of internal controls and to prevent a material error from occurring. Through the use of game theory the external auditor's and public company's (firm's or client's) relationship can be modeled to examine how SOX affects the firm's strategy.

Specifically, the purpose of this paper is to modify the game theory model developed by Fellingham and Newman (F&N 1985) and to examine how SPC's audit strategy might change in the post-SOX era. On the one hand, if SOX is functioning as intended, then SPC's should be more inclined to perform at high-level effort in support of stronger internal controls than during the pre-SOX era. Results from performing game simulations indicate firms are indeed more inclined to perform at high-level effort in support of stronger internal controls during the post-SOX era. These results suggest regulation can be an effective means of changing firms' behavior in support of the public interest. On the other hand, SPC's may find the costs associated with complying with SOX outweigh the benefits, including a lower likelihood of a material error occurring in the financial statements. For these firms, de-registering their securities is a viable option.

The rest of the paper is organized as follows. Section 2 discusses the effect of SOX on SPC's from the perspectives of those firms that do and do not embrace SOX. Section 3 outlines the F&N (1985) game theory model used to explain the strategic relationship between external auditor and firm. A sensitivity analysis is conducted in Section 4 that compares pre-SOX and post-SOX strategies beginning with the basic numerical example from the F&N (1985) paper (F&N 1985, 641). Section 5 summarizes the results from section 4 and provides conclusions.

The Effect of SOX on SPC's

SOX should have a significant impact on SPC's financial reporting for several reasons. First, SPC's that embrace SOX[2] should see a significant reduction in the conditional probability of a material error occurring in their financial statements. Second, SPC's costs should increase because of the additional costs to comply with SOX, higher directors' fees, and higher expected litigation costs. Finally, SPC's that do not embrace SOX must comply with Section 404 by 2009. Thus, these firms might decide that the costs of complying exceed the benefit of public listing and choose to de-register their securities.

SPC's that Embrace SOX

SPC's that embrace SOX should see a decrease in the probability of a material error occurring in their financial statements because of several requirements under SOX: (1) audit committee requirements; (2) prevention of outsourcing of internal audit function; (3) whistleblower program; (4) code of ethics; and (5) management's assessment of internal controls.

1. Audit Committee Requirements:

Section 301 of SOX sets the standards for audit committees. Each member of the public company's audit committee must be independent. Independence means "a director may not have accepted any direct or indirect compensation from the company or its

[2] SPC's that embrace SOX are those firms that have the intention to comply with SOX's requirements including section 404.

subsidiaries, other than compensation for service as a director, and may not be an 'affiliated person' of the company" (Lander 2004, 54). In addition, section 301 empowers the audit committee to approve all audit and non-audit services. Section 407 requires each public company to disclose whether or not at least one member of the committee is a "financial expert." A financial expert is an individual with: experience in preparing financial statements; an understanding of generally accepted accounting principles (GAAP); experience in internal accounting controls; and an understanding of audit committee functions. Finally, the audit committee must have a charter that details its duties and responsibilities. These changes strengthen the role of the audit committee, improve internal controls, and should reduce the probability of a material error occurring in the financial statements if the firm adopts the changes with high-level effort. High-level effort means the firm is serious about internal controls and reducing the probability of a material occurring.

2. Prevention of Outsourcing of Internal Audit Function:

Section 201 prohibits the external auditor from performing functions typically performed by a firm's internal audit department. Activities included in this prohibition are bookkeeping, consulting, financial information systems design, and senior officers' financial planning services. External auditors' reliance on fees from non-audit services provided to their existing audit clients has been a contentious issue and led many observers to seriously question the external auditors' independence and objectivity (Moeller 2004, 10). Section 201 means the external auditor is "out of the internal audit outsourcing business" (Moeller 2004, 29) if they wish to remain the firm's external auditor.

3. Whistleblower Program

Section 806 provides whistleblower protection to employees of public companies who observe, detect, and report fraudulent activity to an outside party (e.g. SEC). The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) administers Section 806. This department has extensive experience in administering whistleblower programs under federal statutes (e.g., The Clean Air Act). Section 1107 provides criminal sanctions against an individual who retaliates against the whistleblower. Penalties include fines and imprisonment for up to ten years. Thus, a firm's senior managers should be less inclined to commit fraud and use employee intimidation tactics as a means to cover up the fraud.

4. Code of Ethics

Section 406 requires a public company to disclose whether or not it has a code of ethics for its chief accounting officers (e.g., chief financial officer, controller, etc.). Companies without a code of ethics must explain why none is present. Prior studies show stronger corporate governance reduces the likelihood of fraud (Beasley 1996; Abbott et al. 2000).

5. Management's Assessment of Internal Controls

Section 404 states a public company must assess and report annually on the adequacy of its internal control system according to the standards established by the Public Company Accounting Oversight Board (PCAOB). An effective system of internal controls is the most important factor in detecting the occurrence of a material error in the financial statements. If

a firm has strong internal controls, then the system will detect a material error when one does occur and corrective action can be taken by management.

In summary, these changes brought about by SOX should result in the reduction of a material error occurring in the financial statements as there is improved capability to detect and correct material errors.

SPC's operating in the post-SOX era should see a significant increase in costs. SPC's complained that the provisions of Section 404 were too onerous and lobbied publicly elected officials to delay the implementation of Section 404 (PR Newswire US 2007). Currently, SPC's are not required to report on their systems of internal control. Over 6,000 public companies satisfy the terms of this exclusion (States News Service 2007). Thus, the most important requirement used to detect a material error in the financial statements (item 5 above) does not apply to SPC's.

In particular, SPC's did not like the PCAOB's Auditing Standard No. 2 (AS2) which regulates internal control audits. The important sections of the standard are as follows:

- a control deficiency must be reported in writing by the external auditor to the firm's management;
- a significant deficiency in internal controls must be reported in writing to the firm's audit committee; and
- a material weakness must be reported to the audit committee and publicly disclosed as an adverse opinion by the external auditor (PCAOB Auditing Standard No.2 2004). If a material weakness is discovered, the external auditor must issue an adverse opinion. AS2 does not provide the external auditor with an option to issue a qualified opinion.

SPC's complained that external auditors followed an overly detailed approach to these audits by examining all internal controls, even those controls that might have little bearing on the financial statements.

As a result, the PCAOB has initiated a new guideline effective for the SEC's 2009 annual filings. The new guideline is Auditing Standard No. 5 (AS5) which stipulates a risk-based assessment of internal controls with a focus on only the most critical internal controls that could result in a material misstatement in the financial statements. Only time will tell whether a reduction in compliance costs will materialize for SPC's with the adoption of this new standard.

Other cost increases are affecting SPC's. In the post-SOX era, a public company faces an increase in costs if a material error is discovered or if the external auditor attaches a qualified audit opinion to the company's financial statements. Two explanations for the increase in costs are given below. First, firms must increase compensation to attract and retain qualified outside directors. Recent court decisions have personally penalized directors for their companies' accounting frauds. For example, the lead plaintiff in the WorldCom Inc. (WorldCom) case, the New York State Retirement Fund, insisted the directors personally pay a substantial portion of the settlement, approximately 20% of directors' net worth. Although the directors did not participate in the accounting fraud, the plaintiff argued that the directors performed insufficient due diligence in monitoring management's activities. Likewise in settlement with former Enron Corp. (Enron) shareholders, former directors of Enron acknowledged to pay $13 million from their own personal assets (Shein 2005).

Plaintiffs are not the only parties seeking financial settlements from directors. Federal and state legislators are increasingly attacking directors' personal assets by getting away from limited statutory penalties against companies and by pursuing potentially larger

suits against directors. Regulators realize that requiring fraudulent companies to pay large fines essentially punishes innocent shareholders. Further, state insurance codes prevent insurance carriers from providing directors' liability coverage when liability results from "willful conduct" (Shein 2005).

However, directors' risk exposure does not end there. The Securities and Exchange Commission (SEC) has increased enforcement of director and officer bars (D&O Bars). A D&O Bar occurs when the SEC bans a person from acting as an officer or director of any issuer of registered securities. SEC bars for the years 2000 to 2004 are as follows: 2000: 38; 2001: 51; 2002: 126; 2003: 170; and 2004: 161 (Crowe and Canavan 2005). D&O Bars decrease the supply of directors by discouraging potential directors from entering the profession. In reference to the case SEC v. Patel, Crowe and Canavan state a D&O Bar "serves to destroy a person's reputation."

Linck et al. (2007) find the cost of board of directors has increased more for small firms in the post-SOX era. "Our results also suggest that changes in director pay fall disproportionately on smaller firms, a fact that was exacerbated by SOX given the dramatic post-SOX rise in director compensation. For example, small firms paid $3.19 in director fees per $1,000 of net sales in 2004, which is $0.84 more than they paid in 2001 and $1.21 more than in 1998. In contrast, large firms paid $0.32 in director fees per $1,000 of net sales in 2004, seven cents more than they paid in 2001 and ten cents more than in 1998" (Linck et al. 2007, 2). Archer examines increases in directors' compensation in the post-SOX era and finds similar results with compensation increases falling disproportionately on small firms (Archer 2005). Firms are categorized by size as "Smaller," "Small," "Medium," "Large," and "Top 200." The increases in non-employee director compensation costs from 2003 to 2004 are 36%, 20%, 23%, 22%, and 14% for the respective categories.

Overall, the economic and legal risks facing directors in the post-SOX era are quite substantial. Directors are now on the front lines alongside firms' management. If a material error is discovered or an audit opinion is qualified, then firms can expect to pay higher compensation costs to attract and retain qualified directors.

The second area of higher costs in the post-SOX era concerns an increase in firms' litigation risk. First, the new whistleblower protection rules under SOX "promotes a more hospitable environment for whistleblowers in the corporate and securities context through a decreased threat for employer retaliation" (Steinberg and Kaufman 2005). Steinberg and Kaufman assert that whistleblowers possess a unique advantage with employers because of a minimal burden of proof to assert their claim. Whistleblowers are entitled to any compensatory damages (excluding punitive damages) to make them "whole" again, under section 806. Relief afforded to the whistleblower includes job reinstatement at the same level of seniority, litigation costs, and attorney's fees. Criminal penalties under Section 1107 include ten years of jail time for those individuals who retaliate against a whistleblower (Steinberg and Kaufman 2005). Thus, firms' litigation risk and the expected costs associated with this risk have definitely increased with the advent of SOX's whistleblower protection rules.

Another example of an increase in firms' expected litigation costs relate to section 404. SEC chairman, William H. Donaldson, stated in March 2005 that approximately 200 of the 2,500 firms filing internal control reports also reported a material weakness (Coffee 2005). Coffee states the number of firms that have reported or will report a material weakness in the future is not a trivial matter. Firms that report a weakness in internal control in one or more years are open to potential future litigation because the firm's management can not claim they were unaware of control deficiencies that could result in fraudulent

activities. Coffee stresses one practical consequence of these internal control report failures is to expect increased litigation.

In summary, higher litigation costs are to be expected in the post-SOX era. SOX's whistleblowers' protection rules and the external auditor's reporting of internal control problems create a significant increase in a firm's litigation risk. For financial statement reporting purposes, the increased risk translates into higher expected costs when a material error is discovered or when the auditor's report is qualified.

SPC's that do not Embrace SOX

SPC's have effectively lobbied the SEC for exclusion from Section 404's requirements since the inception of SOX in 2002. In April 2007, Senators Olympia J. Snowe (R-Maine) and Norm Coleman (R-MN) introduced legislation "to ensure that Sarbanes-Oxley Act regulations due in June do not disproportionately impact the nation's small businesses" (US Fed News 2007).

In May 2007, the PCAOB issued AS5 to guide external auditors in enforcing Section 404. Although the Big Four audit firms support the change, other parties are not as supportive including the NASDAQ exchange. Michael Oxley, the stock market's vice-chairman and lead legislator behind SOX states: "While AS5 represents improvement over the previous standard, it does not go far enough to help decrease regulatory complexity and reduce the risk for overzealous auditing" (Johnson 2007).

Given the opposition to SOX's Section 404, some SPC's have decided to exit the public listing of their securities in order to avoid SEC reporting. Leuz et al. (2004) find approximately 200 firms went "dark" in 2003. Going "dark" means the firm deregisters its common stock and ceases reporting to the SEC, but the firm's stock can still trade on the over-the-counter market. Firms must satisfy stringent criteria to voluntarily deregister their securities. Specifically, they must have less than 300 shareholders of record or less than 500 holders of record and less than $10 million of assets in each of the three prior years (Leuz et al. 2004, 1). Thus, it is not uncommon now to see firms buy back their stock to meet these requirements. Recently, PSB Group Inc., a holding company for Peoples State Bank repurchased its shares to fall below the 300 shareholder threshold and exempt it from SOX's requirements (Henderson 2007). In a similar maneuver First Ipswich Bancorp reclassified its common shares (Business Wire 2007). Leuz et al. state, "We do find that smaller and distressed firms, for which reporting costs may be particularly burdensome, are more likely to go dark. We also find that firms that have fewer growth opportunities ands lower trading volume are more prone to deregister, indicating that a rational tradeoff between costs and benefits of reporting may be at least in part driving the deregistration decision for many firms in our sample. However, we find a large negative market reaction to the firm's decision to go dark" (Leuz et al. 2004, 2).

Firms that decide to go public are increasingly seeking foreign exchanges to list their stocks (Onaran 2006). For example, Timothy Trankina, the president and founder of Peach Holdings Inc. states, "The cost of being a public company is lower by more than a third in the U.K. It would cost us as much as $3.5 million a year to comply with the vigorous reporting requirements in the U.S. For a $100 million company, that's 3 to 4 percent of gross revenue" (Onaran 2006). Many U.S. startup firms now choose to list their securities on AIM, the London Stock Exchanges' international smallcap market. Clara Furse, the chief executive of the London Stock Exchange states "it costs $1 million to be traded in London, compared with $3 million on NASDAQ" in reference to a U.S. maker of portable fuel supplies that listed on AIM (Levitz 2007).

In summary, some small firms have made a well-thought out decision to avoid the requirements of SOX, in particular the provisions of Section 404. These firms believe the benefits of improved financial reporting do not outweigh the additional compliance costs.

The Game Theory Model

The F&N (1985) paper is a seminal paper in using a game theory model to explain the external auditor/firm relationship. The model can be modified to account for the conditions that SPC's face in the post-SOX financial statement audit environment. F&N (1985) defined the audit relationship as a simple two player game (external auditor and firm). On the one hand, the external auditor has to make two decisions. The first decision is whether to extend audit procedures (A1) or not extend audit procedures (A2). The second decision is whether to qualify (Q) or not qualify (NQ) the financial statement audit opinion. On the other hand, the firm has to decide whether or not to provide high-level (E1) or low-level (E2) effort. A high-level effort by the firm supports the firm's internal control system, thus reducing the probability of a material error occurring. The object of both players is to minimize their respective expected costs. The external auditor is assumed to prefer A2 to A1 because additional audit work is costly. Similarly, the firm prefers E2 to E1 to minimize time and costs. The external auditor's action A1 perfectly reveals the firm's effort (either E1 or E2), but does not uncover whether or not a material error exists. Based on the choice of A1 or A2, and the firm's choice of E1 or E2, the external auditor decides to qualify or not qualify the audit report. A complete list of the variables deployed in the model is listed in Exhibit 1. The notation follows that used by F&N (1985).

The costs are not limited to the cost of extending audit procedures (external auditor) and the cost of providing high-level effort (firm). For the external auditor, the relationship between its cost variables is as follows: C2 > C1 > CA. The highest cost to the external auditor is the expected cost of not qualifying the audit report given a material error in the financial statements (C_2). Such an error represents audit failure and exposes the external auditor to higher litigation costs. For the firm's costs, the relationship between its cost variables is defined in a similar manner: $CE_Q > CE_{NQ} > C_H > C_Q$. The expected cost of a material error when the opinion is qualified (CE_Q) is a discovered error made public. This type of error is the most severe to the firm and includes penalties imposed by the SEC and litigation costs. Overall, the relationships between parameters are reasonable and consistent with prior research (F&N 1985; Hatherly et al. 1996; Cook et al. 1997).

The interpretation of p and q is a reflection of the firm's internal control system. As F&N (1985, 637) point out, lower probabilities for both p and q indicate a more effective internal control system. Thus, $p \leq q$ is expected because the firm's high-level effort increases the overall effectiveness of the internal control system and reduces the risk of a material error occurring.

Exhibit 2 displays the game in decision tree format. The arrowed lines joining I and II indicate the firm can not distinguish the external auditor's choice of A_1 or A_2. Similarly, the arrowed lines joining III and IV indicate the external auditor can not distinguish the firm's choice of E_1 or E_2 because the external auditor decided not to extend audit procedures (A_2). The expected costs are shown at the right-hand side of Exhibit 2.

The external auditor's strategies can be reduced to the dominant strategies. The external auditor has three dominant strategies (see F&N 1985, 640 for an explanation). These strategies are:

- (A_1, NQ, Q): perform additional audit procedures; do not qualify if the firm chooses high-level effort (E_1) or qualify if the firm chooses low-level effort (E_2).
- (A_2, Q): do not perform additional audit procedures; qualify audit report whether or not the firm chooses high-level effort (E_1) or low-level effort (E_2).
- (A_2, NQ): do not perform additional audit procedures; do not qualify audit report whether or not the firm chooses high-level effort (E_1) or low-level effort (E_2).

Exhibit 3 displays the external auditor's three primary strategies, the firm's two strategies, and the respective expected costs. The solution to any iteration of the game is a Nash equilibrium, defined as a vector of original strategies chosen by the firm and external auditor (either E_1 or E_2 by the firm or [A_1, NQ, Q]; [A_2, Q]; or [A_2, NQ] by the external auditor) such that neither player has an incentive to choose an alternative action. As F&N (1985) point out, there exists at least one Nash equilibrium solution, but the solution may not be a dominant strategy. Players may choose to randomize between two strategies. For example, the external auditor may choose to play (A_1, NQ, Q) with probability 0.25 and (A_2, NQ) with probability 0.75. Similarly, the firm may choose to play E_1 with probability 0.80 and E_2 with probability 0.20. Randomized audit strategies are representative of a real audit environment (F&N 1985). Thus, game theory modeling provides insights into the external auditor/firm relationship.

Other studies utilizing game theory modeling have examined the effect of increasing the expected costs of a material error to the game's players. Hatherly et al. (1996) examine the effect on the external auditor's and firm's (auditee's) audit strategy when the external auditor and auditee experience an increase in penalties. The external auditor's increase in penalties is operationalized as an increase in the external auditor's expected cost of not qualifying when there is a material error. Similarly, the auditee's increase in penalties is operationalized as an increase in the auditee's expected cost of not qualifying when there is a material error. They find low penalty costs for both players result in low-level efforts. The socially desirable result of high-level efforts by both parties is accomplished only by a mid-range level of penalties.

Hatherly et al. (1996) state two social policy objectives exist. First, society is better off if both the external auditor and auditee exercise high-level efforts. Alternatively, the external auditor need not employ high-level effort, but only to induce the auditee to exercise a high-level effort. These objectives are achievable through a cooperative game format such that the players' joint total costs are minimized. This format differs from the F&N (1985) non-cooperative game model whereby each game is resolved by minimizing the costs to the external auditor. Prior research supports the use of either non-cooperative (e.g. F&N 1985; and Fellingham, Newman, and Patterson 1989) or cooperative (e.g. Demski and Swieringa 1974; Hatherly et al. 1996; and Cook et al. 1997) games' approaches. Support for the cooperative game format stems from the players' "cooperative mode" and "audit fee bargaining carried out up front in the context of pre-agreeing strategies" (Hatherly et al. 1996, 31). However, two players bargaining in a cooperative manner is not a sufficient condition for a cooperative game. For example, a buyer and seller of real estate can bargain cooperatively, but generally act to minimize their own respective costs. Further, professional standards require the external auditor to be independent of the client. Especially in the post-SOX era, external auditors will have fewer ties with their clients, given the consequences of recent cases (e.g. Arthur Andersen and Enron Corp.) and services banned by SOX (Section 201).

The Cook et al. (1997) game theory model builds on the Hatherly et al. (1996) model and allows the external auditor substantive testing. Results are compared between cooperative and non-cooperative game formats and indicate a region of penalties (expected

costs to the external auditor/auditee of not qualifying when a material error is present) that induces both players to exercise high-level effort. The penalty regions allow for the external auditor to receive a discount provided that high-level effort is achieved. Thus, the external auditor is not penalized for failing to uncover a material error because it had acted with high-level effort. As in Hatherly et al. (1996), the socially desirable result is achieved by both parties exercising high-level effort.

Section 404 stresses the importance of internal controls. The F&N (1985) game theory model is appropriate because the players' strategies involve the firm's high-level or low-level effort with respect to internal controls and the external auditor's efforts in investigating the internal control system. Further, the model is in a non-cooperative game format, suitable for the post-SOX environment. The model can be modified to account for the effect of the changes indicated in Section 2 for the post-SOX environment. Specifically, p and q can be adjusted downward to reflect the strengthening of internal controls for SPC's that embrace SOX. This effect is represented by variables p_2 and q_2 respectively. The increase in an SPC's costs (C_{QPS}, CE_{QPS}, and CE_{NQPS}) in the post-SOX era can be incorporated into the F & N (1985) model. Exhibit 4 provides a description of the additional variables required to modify the game theory model. The interpretation of p and q remains unchanged; that is, $p \leq q$ is expected because an SPC's high-level effort increases the overall effectiveness of the internal control system and reduces the risk of a material error occurring. However, the relation between p_2 and q_2 depends on the nature of the SPC's business and the degree that the SPC embraces SOX. For example, an SPC may have limited growth opportunities and have no intention to issue additional securities to the public. In this situation, an SPC may choose not to embrace SOX and not make additional efforts to improve its internal control system. Thus, $p_2 < q_2$ is plausible.

In summary, the F&N (1985) game theory model can be modified to distinguish the relationship between external auditor and firm during the pre- and post-SOX era. A tree diagram representing the revised model and the revised strategies are contained in Exhibits 5 and 6 respectively.

Sensitivity Analysis

From Exhibit 5, the SPC's expected cost for a particular outcome consists of a fixed and variable cost component. For example, if the external auditor chooses not to extend audit procedures (A_2) and not to qualify the audit report and the SPC chooses low-level effort (E_2), then the SPC's expected cost function is:

$$C_C + q\ CE_{NQPS}.$$

The SPC's fixed cost component is C_C, the direct cost of complying with SOX and a variable cost component dependent on the probability of an error occurring in the post-SOX era (q). The probability, q, is dependent on q_2, the reduction in the probability of an error occurring due to the changes brought about by SOX. Thus, for SPC's that embrace SOX, the reduction in the probability of an error occurring in post-SOX (q_2) must be sufficient to reduce overall costs to an acceptable level, otherwise the SPC would choose not to embrace SOX and to deregister its securities. The relationship between costs and effect on SPC's audit strategy can be explored by running simulated games with the original and modified versions of the F&N (1985) model to obtain pre-SOX and post-SOX results.

F&N (1985) provided numerical results to forty-three games by assigning numerical values to the model's parameters and by varying the conditional probabilities of p and q (F&N1985, Table 6). Hatherly et al. (1996) and Cook et al. (1997) also used numerical examples to illustrate their game theory models. Their parameter values are similar to those

by F&N (1985). Although these values do not represent actual costs, the relative values between parameters are similar across the three studies. F&N state, "that the optimality of various strategies depends crucially on the interaction of internal control systems and client effort. This result generalizes to a wide range of parameter values," (F&N1985, 641, footnote 13). This study commences with parameter values used by F&N (1985) for three levels of internal control. Two advantages of this approach are: first, the results from this study are a logical extension of F&N (1985) and second, comparability is enhanced between the studies by using similar parameter values.

F&N (1985) assigned the following parameter values:

- $C_1 = 20$; $C_2 = 90$; $C_A = 5$; $C_H = 35$; $C_Q = 20$; $CE_Q = 200$; and $CE_{NQ} = 40$.

In addition, values need to be assigned to the post-SOX additional variables (See Exhibit 4). The relationship between p_1 and q_1 reflects the strength of the SPC's internal control system. Lower probabilities for both p_1 and q_1 indicate a more effective internal control system. Three levels of internal control effectiveness are specified as follows:

- Weak: $p_1 = 0.15$; $q_1 = 0.40$;
- Average: $p_1 = 0.10$; $q_1 = 0.25$; and
- Strong: $p_1 = 0.05$; $q_1 = 0.15$.

In the post-SOX era, higher values for p_2 and q_2 reduce p and q respectively and indicate SOX is beneficial in reducing the probability of a material error occurring in the financial statements. If an SPC embraces SOX, then $p_2 > q_2$; otherwise, the SPC does not embrace SOX and $p_2 < q_2$. SPC's that do not embrace SOX will still benefit from several of SOX's provisions (audit committee requirements; code of ethics, etc.) even though they are not required to comply with Section 404. This "benefit" is quantified as a 5% reduction in the probability of a material error occurring with low-level effort. However, the SPC achieves only a marginal reduction in p. This reduction in p is quantified as a 1% reduction in the probability of a material error occurring with high-level effort (p_2). For example, a weak internal control system that has $p_1 = 0.15$ and $q_1 = 0.40$, then $p_2 = 0.0015$ and $q_2 = 0.02$.

For the SPC's that embrace SOX, the "benefit" is a greater reduction in p and is quantified by a 75% reduction in the probability of a material error occurring with high-level effort. Exhibit 7 provides the details for the revised probabilities.

In the pre-SOX era, an SPC with weak internal controls will choose E_1 with a probability of 0.792 and E_2 with a probability of 0.208 (Exhibit 8, Panel A). The SPC's expected cost is 41. For the SPC to perform at high-level effort, the probability of E_1 must equal 1.0. With a probability of 0.792 for E_1, uncertainty exists as to whether the SPC will perform at high-level effort. Similarly for average and strong levels of internal control, the SPC is not inclined to perform at high-level effort. Getting the SPC to perform at high-level effort with certainty is the socially desirable result because the SPC would be doing its utmost to minimize the risk of a material misstatement. Prior studies (Hatherly et al. 1996 and Cook et al.1997) employ this criterion in their game theory models. Exhibit 8, Panel A summarizes these results.

In the post-SOX era, SPC's face the following costs:

- C_C = the SPC's direct cost of complying with SOX;
- C_{QPS} = the expected cost of a qualified opinion to the SPC when there is no material error in the post-SOX era;

- CE_{QPS} = the expected cost of a material error to the SPC when the opinion is qualified in the post-SOX era; and
- CE_{NQPS} = the expected cost of a material error to the SPC when the opinion is not qualified in the post-SOX era.

C_{QPS}, CE_{QPS}, and CE_{NQPS} mirror C_Q, CE_Q, and CE_{NQ} respectively from the pre-SOX era, but these costs are expected to be higher because of the issues discussed in section 2 (higher directors' compensation, higher litigation costs, etc.). C_C, the direct cost of complying with SOX, is assigned a value of 35 and is considered a fixed cost. That is, any reduction in the probability of material error occurring due to SOX (audit committee requirements, code of ethics, etc. as discussed in section 2) would not affect this cost.

Panel B of Exhibit 8, illustrates the situations when SPC's would most likely not embrace SOX (games 4 through 9) or when SOX is least effective. In game 4, costs C_{QPS}, CE_{QPS}, and CE_{NQPS} are kept at the same values as their pre-SOX counterparts. For example, $C_{QPS} = C_Q = 20$. Similarly, $CE_{QPS} = CE_Q = 200$ and $CE_{NQPS} = CE_{NQ} = 40$. The only additional cost to the SPC is the direct cost of complying with SOX (C_C). The SPC's total expected cost is 75.94 which is 85.2% higher than the pre-SOX cost of 41 for the same level of internal control (weak). With weak internal controls, the reduction in material error is only 1% (p_2 = 1% of p_1, see Exhibit 7 line 4 of Panel A). Thus, the additional SOX costs exceed the savings associated with the reduction in the probability of a material error by a substantial margin. Further, the SPC is not performing at high-level effort as the probability of $E_1$is 0.771. If the post-SOX costs, C_{QPS}, CE_{QPS}, and CE_{NQPS} increase by a multiplicative factor of 3.7797, then the SPC is choosing high-level effort with certainty as the probability of $E_1$is 1.00. However, the SPC's total expected cost increase by another 21.7% from 75.94 to 92.45. With such cost increases, it is reasonable to expect an SPC to consider de-registration of its securities in this situation and not to embrace SOX.

Games 6 and 7 provide similar results for average level internal controls. The total expected cost to the SPC increases by another 28.5% from 73.96 to 95.02 to achieve certainty of high-level effort. The multiplicative cost factor increase in C_{QPS}, CE_{QPS}, and CE_{NQPS} is 6.3177. Games 8 and 9 illustrate the results for a strong internal control system. The total expected cost to the SPC increases by another 117.8% from 40.70 to 88.63 to achieve certainty of high-level effort. The multiplicative cost factor increase in C_{QPS}, CE_{QPS}, and CE_{NQPS} is 9.4086. In the latter case, SPC's with existing strong internal controls will see little benefit from SOX without a substantial additional reduction in the probability of a material error occurring in the financial statements.

Panel C of Exhibit 8, illustrates the situations when SPC's would most likely embrace SOX (games 10 through 15) or when SOX is most effective. The reduction in the probability of an error occurring with high-level effort is 75% (p_2 = 75% of p_1, see Exhibit 7 line 4 of Panel B). In game 10, costs C_{QPS}, CE_{QPS}, and CE_{NQPS} are kept at the same values as in the pre-SOX era. The SPC's total expected cost is 71.50 which is 74.4% higher than the pre-SOX cost of 41 for the same level of internal control (weak). However, the multiplicative cost factor to get the SPC to choose high-level effort with certainty is only 2.5547 and the SPC's total expected cost only increases by an additional 3.26% from 71.50 to 73.83 (game 11). For average level internal controls, the results are similar with a 4.4% expected total cost increase for the SPC and a multiplicative cost factor of 4.1176 (games 12 and 13). For strong internal controls, the increase in expected total costs is much higher at 80.3% and the multiplicative cost factor is 6.7308.

The results from Panels B and C of Exhibit 8 corroborate SPC's reactions to SOX and provide an explanation of why an SPC would embrace SOX or not embrace SOX. First, costs in the post-SOX era are much higher than the pre-SOX era. The reasons for the cost increases include costs to comply with SOX, higher expected litigation costs, and higher

director compensation costs. Second, a benefit of SOX is the reduction in the probability of a material error occurring in the financial statements. However, the reduction needs to be substantial (75% reduction used as an example in Panel C of Exhibit 8) for weak and average level internal control firms to realize modest additional cost increases to embrace SOX. For SPC's with strong internal controls, the additional cost increases are substantial. Finally, SPC's that realize a substantial reduction (75%) in the probability of an error occurring obtain lower total expected costs than SPC's that realize a modest reduction (1%) in the probability of an error occurring at all levels of internal control (compare the SPC's Cost column in Panels B and C).

Conclusion

The implementation of SOX results in substantial cost increase for SPC's. The GAO confirms that these cost increases fall disproportionately on SPC's (U.S. Fed News 2007).

Specific provisions of SOX should result in an improvement in financial reporting. These provisions include: (1) audit committee requirements; (2) prevention of outsourcing of internal audit function; (3) whistleblower program; (4) code of ethics; and (5) management's assessment of internal controls. The assessment of internal controls has a substantial impact in the financial statement audit, but currently SPC's are not required to comply with this section of SOX (Section 404). Compliance for SPC's begins in 2009.

The costs of complying with SOX, especially the provisions of Section 404 have already had an effect on some SPC's audit strategy. Some SPC's have decided not to embrace SOX and to de-register their securities (Leuz et al. 2004). Other firms have decided to list their securities on foreign stock exchanges (e.g. London Stock Exchange's international smallcap market – AIM).

The SPC's decisions regarding its financial statement audit can be modeled using a modified F&N (1985) game theory model. Beginning with the parameter values specified by F&N (1985), game results indicate that a substantial reduction in the probability of a material error occurring in the financial statements is required for an SPC to embrace SOX. If only a marginal reduction in the probability of a material error occurring is feasible, then the SPC may strongly consider de-registering its securities to avoid complying with SOX. This conclusion provides a logical explanation why some SPC's, such as upstart growth-oriented companies, may seek to register their securities outside the U.S.

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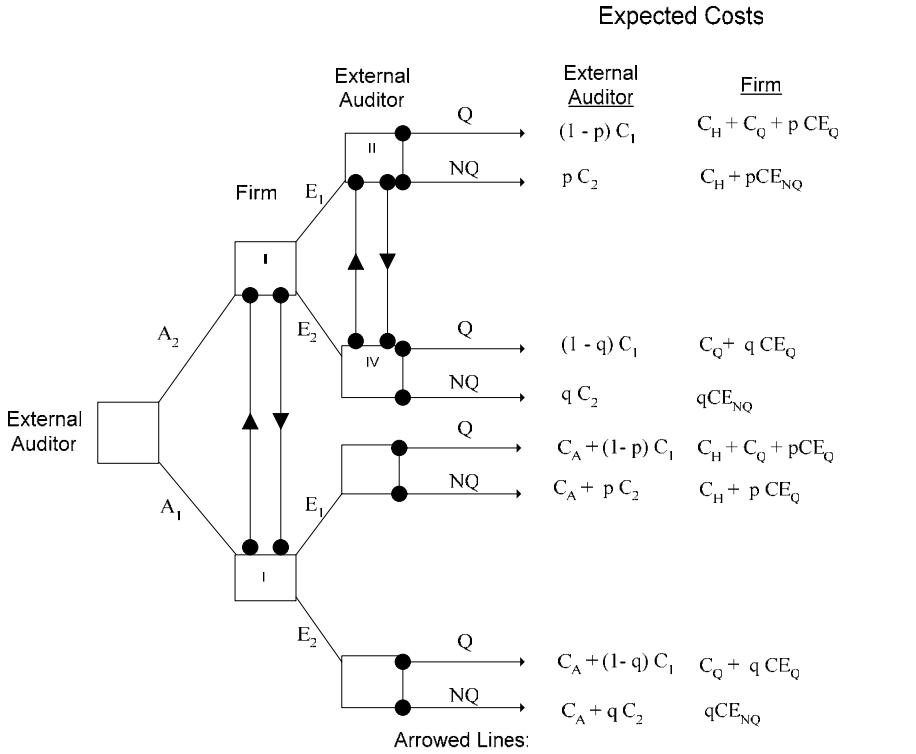
Appendix

Exhibit 1: Game Theory Model Variables

- A_1 = no additional reliance on the firm. Thus, the external auditor is required to perform additional audit procedures;
- A_2 = additional reliance on the firm. Thus, the external auditor does not have to perform additional audit procedures;
- E_1 = high-level effort provided by the firm;
- E_2 = low-level effort provided by the firm ;
- C_1 = the external auditor's expected cost of qualifying the audit report given no material errors in the financial statements;
- C_2 = the external auditor's expected cost of not qualifying the audit report given a material error in the financial statements;
- C_A = the external auditor's direct cost of extending audit tests; the direct cost of not extending the tests is zero;
- C_H = the firm s' direct cost of providing a high-level effort (E_1); the direct cost of providing a low-level effort (E_2) is zero;
- C_Q = the expected cost of a qualified opinion to the firm when there is no material error;
- CE_Q = the expected cost of a material error to the firm when the opinion is qualified;
- CE_{NQ} = the expected cost of a material error to the firm when the opinion is not qualified;
- p = the conditional probability of an error if the firm chooses E_1 (high-level effort); and
- q = the conditional probability of an error if the firm chooses E_2 (low-level effort).

Exhibit 2: Tree Diagram of External Auditor's and Firm's Game



I to II: Means the firm can not distinguish between branches, thus the firm does not know whether the external auditor chooses A_1 or A_2.

III to IV: Means the external auditor can not distinguish between branches, thus the external auditor does not know whether the firm chooses E_1 or E_2.

Source: Fellingham, J.C., and Newman, P.D., "Strategic Considerations in Auditing", *The Accounting Review*, October 1985, 639, Figure 1.

Exhibit 3: External Auditor's and Firm's Primary Strategies

		Firm's Strategies	
		E_1	**E_2**
	A_1, NQ, Q	$C_A + p\ C_2$; $C_H + p\ CE_{NQ}$	$C_A + (1 - q)\ C_1$; $C_Q + q\ CE_Q$
External Auditor's Strategies			
	A_2, Q	$(1 - p)\ C_1$; $C_H + C_Q + p\ CE_Q$	$(1 - q)\ C_1$; $C_Q + q\ CE_Q$
	A_2, NQ	$p\ C_2$; $C_H + p\ CE_{NQ}$	$q\ C_2$; $q\ CE_{NQ}$

Notes:

1. External auditor's expected cost is followed by the firm's expected cost for each cell.

2. External auditor's and firm's strategies are described as follows:

A_1, NQ, Q: external auditor performs additional audit procedures; do not qualify if the firm chooses E_1; qualify if the firm chooses E_2.

A_2, Q: external auditor does not perform additional audit procedures; qualify if the firm chooses E_1 or E_2.

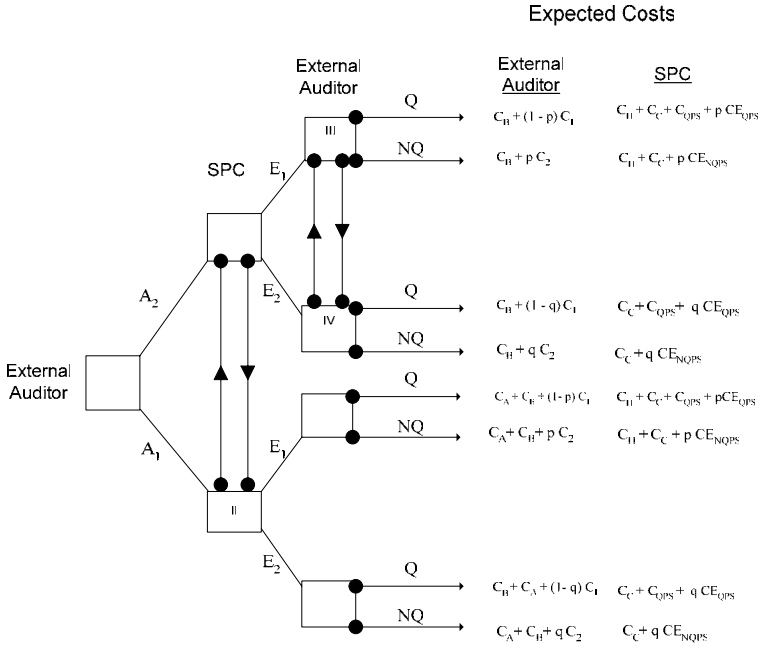
A_2, NQ: external auditor does not perform additional audit procedures; do not qualify whether or not the firm chooses E_1 or E_2.

Source: Fellingham, J.C., and Newman, P.D., "Strategic Considerations in Auditing", *The Accounting Review*, October 1985, 641, Table 2.

Exhibit 4: Additional Variables for Post-SOX Game Theory Model

- p_1 = the conditional probability of an error if the firm chooses E_1 (high-level effort) in the pre-SOX era;
- q_1 = the conditional probability of an error if the firm chooses E_2 (low-level effort) in the pre-SOX era;
- p_2 = the reduction in the conditional probability of an error if the firm chooses E_1 (high-level effort) and receives an unqualified opinion on its internal control report (section 404), otherwise $p_2 = 0$;
- q_2 = the reduction in the conditional probability of an error if the firm chooses E_2 (low-level effort) and receives an unqualified opinion on its internal control report (section 404), otherwise $q_2 = 0$;
- $p = p_1 - p_2$; that is, the conditional probability of an error if the firm chooses E_1 (high-level effort) in the post-SOX era;
- $q = q_1 - q_2$; that is, the conditional probability of an error if the firm chooses E_2 (low-level effort) in the post-SOX era;
- C_B = the external auditor's direct cost of preparing the internal control report;
- C_C = the SPC's direct cost of complying with SOX;
- C_{QPS} = the expected cost of a qualified opinion to the firm when there is no material error in the post-SOX era;
- CE_{QPS} = the expected cost of a material error to the firm when the opinion is qualified in the post-SOX era; and
- CE_{NQPS} = the expected cost of a material error to the firm when the opinion is not qualified in the post-SOX era.

Exhibit 5: Revised Tree Diagram of External Auditor's and SPC's Game



Arrowed Lines:

I to II: Means the SPC can not distinguish between branches, thus the SPC does not know whether the external auditor chooses A_1 or A_2.

III to IV: Means the external auditor can not distinguish between branches, thus the external auditor does not know whether the SPC chooses E_1 or E_2.

Exhibit 6: Revised External Auditor's and SPCs Primary Strategies

		SPC's Strategies	
		E_1	**E_2**
	A_1, NQ, Q	$C_A + C_B + p\ C_2$; $C_H + C_C + p\ CE_{NQPS}$	$C_A + C_B + (1 - q)\ C_1$; $C_C + C_{QPS} + q\ CE_{QPS}$
External Auditor's Strategies			
	A_2, Q	$C_B + (1 – p)\ C_1$; $C_H + C_C + C_{QPS} + p\ CE_{QPS}$	$C_B + (1 – q)\ C_1$; $C_C + C_{QPS} + q\ CE_{QPS}$
	A_2, NQ	$C_B + p\ C_2$; $C_H + C_C + p\ CE_{NQPS}$	$C_B + q\ C_2$; $C_C + q\ CE_{NQPS}$

Notes:

1. External auditor's expected cost is followed by the SPC's expected cost for each cell.

2. External auditor's and SPCs strategies are described as follows:

A_1, NQ, Q: external auditor performs additional audit procedures; do not qualify if the SPC chooses E_1; qualify if the firm chooses E_2.

A_2, Q: external auditor does not perform additional audit procedures; qualify if the SPC chooses E_1 or E_2.

A_2, NQ: external auditor does not perform additional audit procedures; do not qualify whether or not the SPC chooses E_1 or E_2.

Exhibit 7: Pre-SOX and Post-SOX Probabilities of a Material Error Occurring

Period	Internal Control Effectiveness	Probability of an Error Occurring (pre-SOX): p_1	q_1	Reduction in Probability of Error (post-SOX) p_2	q_2	Probability of an Error Occurring (p_1-p_2; q_1-q_2) p	q
Panel A: Ineffective SOX ($p_2 < q_2$; 1% reduction in p_1)							
Pre-SOX	Weak	0.15	0.40	0	0	0.15	0.40
	Average	0.10	0.25	0	0	0.10	0.25
	Strong	0.05	0.15	0	0	0.05	0.15
Post-SOX	Weak	0.15	0.40	0.0015	0.02	0.1485	0.38
	Average	0.10	0.25	0.001	0.0125	0.099	0.2375
	Strong	0.05	0.15	0.0005	0.0075	0.0495	0.1425
Panel B: Effective SOX ($p_2 > q_2$; 75% reduction in p_1)							
Pre-SOX	Weak	0.15	0.40	0	0	0.15	0.40
	Average	0.10	0.25	0	0	0.10	0.25
	Strong	0.05	0.15	0	0	0.05	0.15
Post-SOX	Weak	0.15	0.40	0.1125	0.02	0.0375	0.38
	Average	0.10	0.25	0.075	0.0125	0.025	0.2375
	Strong	0.05	0.15	0.0375	0.0075	0.0125	0.1425

Exhibit 8: SPC's Expected Costs in the pre-SOX and post-SOX Eras

Game #	Level of Internal Control	Multiplicative Cost Factor (a)	SPC's Choices E_1	SPC's Choices E_2	SPC's Expected Cost
Panel A: Pre-SOX Era					
1	Weak	1.0	0.792	0.208	41
2	Average	1.0	0.333	0.667	39
3	Strong	1.0	0	1.0	6
Panel B: Ineffective Post-SOX Era ($p_2 < q_2$; 1% reduction in p_1)					
4	Weak	1.0	0.771	0.229	75.94
5	**Weak**	**3.7797**	**1.0**	**0**	**92.45**
6	Average	1.0	0.184	0.816	73.96
7	**Average**	**6.3177**	**1.0**	**0**	**95.02**
8	Strong	1.0	0	1.0	40.70
9	**Strong**	**9.4086**	**1.0**	**0**	**88.63**
Panel C: Effective SOX Era ($p_2 > q_2$; 75% reduction in p_1)					
10	Weak	1.0	0.771	0.229	71.50
11	**Weak**	**2.5547**	**1.0**	**0**	**73.83**
12	Average	1.0	0.184	0.816	71.00
13	**Average**	**4.1176**	**1.0**	**0**	**74.12**
14	Strong	1.0	0	1.0	40.70
15	**Strong**	**6.7308**	**1.0**	**0**	**73.37**

Notes:

a) The multiplicative cost factor represents the factor that the parameters, C_{QPS}, CE_{QPS}, and CE_{NQPS}, are multiplied by. For games 5, 7, 9, 11, 13, and 15, the result is to achieve a probability of 1.00 for SPC's high-level effort and the external auditor chooses A_2, NQ.

Does Small Business Type Affect Preferences regarding Internet Service?

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Abstract

Small businesses also need access to the internet in today's global economy. Their spending on internet usage and IT related activities has been on the rise and they have many internet service providers (ISPs) to choose from. These small and very small businesses will likely choose a provider whose service is designed to meet their needs. This research examined what internet service features and benefits are important to the small businesses when choosing their ISP and whether small business "Type" affects the preferences. A questionnaire was designed to collect data. Analysis showed that "Business Type" did not affect the perceived importance of most features of the Internet Service.

Introduction

There are many small Businesses in the U.S. and they represent an important part of the US economy. According to In-Stat/MDR ("Small Biz, Small Growth", 2002) the small business market grew from 2.2 million in 2001 to 2.3 million by the end of 2002, representing more than one-fifth of U.S. businesses. In-Stat forecasted a small but steady increase in the number of organizations with 5 to 99 employees for the next few years, growing as high as 2.7 million by 2006, and employing approximately 42 million workers—up from roughly 38 million in 2001.

According to research firm AMI Partners, businesses with fewer than 100 employees spend more than $12 billion on network and telecom equipment in 2004. Furthermore, small businesses were expected to account for 24% of all IT hardware and software spending in 2005 (Hochmuth, 2005). CEO of "Vendio" Mr. Rodrigo Sales said, "We are entering a new era in e-commerce—one increasingly driven by smaller businesses and merchants." (Kooser, 2003). Indeed, the Web hosting industry is waking up to small business needs. Yet, to our surprise, there have not been many studies on ISPs and the needs of small businesses. Realizing this gap, this study attempts to explore what the small business market's needs are with regard to the services provided by ISPs. The paper focuses on what features of ISPs are important to small businesses and to ascertain whether these preferences are somehow dependent on certain characteristics of small businesses. Specifically, the paper looks for some insights to the two aspects of the issue: (1) Do different small businesses have different preferences for various features provided by ISPs? (2) Does small business "Type" affect these preferences?

Market Background

Before we can explore the small business market, we need to assess a few important indicators of this market. Our focus will be on the following questions. Is there a need for

ISPs among small businesses? If so, what are some of the applications that small businesses are using? How much do these small businesses spend on IT?

Let us first examine briefly the computing and web access needs of small businesses. According to Dun & Bradstreet's 20th Annual Small Business Survey (2001) on computer and Internet usage, eighty percent of U.S. small businesses have at least one computer on site used for business purposes, and in some sectors computer usage has almost reached saturation,. The survey, which measures attitudes, behaviors and trends in the U.S. small business market, also found out that two-thirds of all small businesses and approximately 85 percent of small business computer owners have Internet access, more than half of those have a Web site and the number is rising. However, only 27 percent of those with a Web site sell on the Internet and average less than three Web-based orders per month. This survey shows that the need for the internet access and web presence is strong regardless of the different characteristics among many disparate companies.

Regarding the type of transactions that small businesses do, a study conducted by Celent stated that small businesses infrequently use the Internet for basic transactions such as online banking. Only two percent of businesses indicated that they regularly paid bills online. Despite the fact that small businesses do not currently utilize the Internet for banking transactions, the study found that the majority of small businesses would like more services automated online, suggesting that the propensity of small businesses to use online services is high, but small businesses are either unaware of what is currently available online or frustrated by the lack of robust solutions. (Moore et al., 2001)

With respect to the amount of IT spending by small businesses, it is interesting to observe a gap between the commercial small businesses vs. the home office small businesses. The COMDEX Small Business Survey by Key3Media Group, Inc. found that home office small businesses have very different IT needs than commercial office small businesses in regards to IT investment priorities, IT budgets and preferred purchasing channels. Nineteen percent of home office businesses consider computer systems to be the most important technology investment, while 23 percent of commercial office businesses are most concerned with investing in Web products or services. This difference, as might be expected, is reflected in small business IT budgets. Commercial office small businesses have an average annual IT budget more than twice the size of home office small businesses - $1.3 million vs. $622,000 (Greenspan, 2002). Regardless, small-business spending on information technology and other such functional support areas is going to be significant according to an estimate from the Kelsey Group that the spending was expected to grow from just over $300 billion to nearly a half-trillion dollar by 2005 according.

Like any other technology, the pace of changes is rapid. Any of the technological changes will likely impact small businesses and Internet service Providers. For instance, one such study by ISP-Market LLC (“Taking the Pulse”, 2003) reported that wireless broadband and web hosting are two new fast growing business areas. The worldwide market for Web hosting services is expected to grow from some $10.3 billion in 2001 to more than $46.9 billion and more than 40 percent of small businesses are expected to subscribe to broadband in 2006 (Pastore, 2002).

Based on these observations of key indicators and trends, the small business market is potentially lucrative to ISPs. The key to successfully exploit this market will rest upon their ability to understand the market needs and to fulfill these needs effectively. The next section presents a detailed description of a survey study that focuses on determining what the needs of the small business market are.

Conceptual Context

When considering different features/benefits offered by various ISPs, the list can be difficult to determine. Almost two decades ago, simple capabilities such as file transfer, terminal emulation, speed of the dial up would be sufficient. Over the years, the choices have greatly expanded. They range from ease of installation to connection reliability and from quality of customer support to multiprotocol operability. Recently, security and privacy are also important factors to consider. We came up with a list of features and benefits that we believe to be relevant and important. Then, we refined this list through our consultation with a number of small business owners. The following list is in part based on their input. A brief description of each feature/capability is elaborated below:

_ Multiple User Capability: Permits multiple users to connect to network and share information at the same time without breakdowns.

_ Company's Name Recognition: Reputation and standing of Internet Service Provider.

_ Speed of Connection: Speed with which Internet data is transmitted over telephone lines. Speed is dependent on the type of connection. Different connections work at different speed such as Dial up (56 Kbs), ISDN (64 Kbps-128 Kbps), DSL (128 Kbs - 768 Kbs), Satellite (400 Kbps) and Cable (200 Kbs - 2 Mbs).

_ Remote Access Capability: Access through a terminal to a computer that is geographically removed from the terminal.

_ Repair/Quality of service: Quality of after sale and repair services offered by an Internet Service Provider.

_ Accessible Help Line: Telephone help line that can be easily/readily accessed 24 hours.

_ Ease of Installation/Set–up: Ease with which configuration of hardware and connectivity to Internet is established.

_ Small Business Incentives: Special incentives offered to small businesses.

_ Cost per month of Service: Fee and other costs paid per month by user for Internet Services

_ Web Space: (also called Server space) is file storage space that is available to anyone on the World Wide Web through ISPs. Web space is typically used for storing personal Web pages. Web hosting is a typical service provided by many Internet Service Providers to design web sites for small businesses and help them maintain Internet presence on a continuous basis.

Research Question and Hypotheses

In this study, we wanted to examine the relationship between the preference for various features/capabilities provided by ISPs and the small business "Type." Understanding how the preferences vary according to type of small business and how important specific features are to the different type of small businesses would be very beneficial to ISPs. Such knowledge would help in guiding their market campaign and also help in developing appropriate package of features to meet the needs of various small businesses. This study attempted to answer the following research question:

Question: Is the perceived importance of different ISP features independent of the "Type" of small business? To answer this question, following hypotheses were proposed and tested.

Hypothesis 1: Perceived importance of the feature "multiple user capability" is independent of the Type of business.

Hypothesis 2: Perceived importance of the feature "speed of connection" is independent of the Type of business.

Hypothesis 3: Perceived importance of the feature "remote access capability" is independent of the Type of business.

Hypothesis 4: Perceived importance of the feature "web space presence" is independent of the Type of business.

Hypothesis 5: Perceived importance of the feature "repair/quality of service" is independent of the Type of business.

Hypothesis 6: Perceived importance of the feature "accessible help line" is independent of the Type of business.

Hypothesis 7: Perceived importance of the feature "ease of installation/setup" is independent of the Type of business.

Hypothesis 8: Perceived importance of the feature "company's name recognition" is independent of the Type of business.

Hypothesis 9: Perceived importance of the feature "small business incentives" is independent of the Type of business.

Hypothesis 10: Perceived importance of the feature "cost per month of service" is independent of the Type of business.

Method

This study used survey method to collect data. A questionnaire was designed to determine the small businesses' preferences regarding the various features provided by internet service providers. The questionnaire consisted of three major segments. The first segment consisted of general questions regarding demographics such as type of industry, number of employees, years of existence, gender, etc. The ten features/benefits mentioned earlier along with the rating choices for each appeared in section 3.

The study included only the small businesses situated in Southern Louisiana. The typical business type represented by the sample was services or retail businesses, which comprised of industries with fewer than 10 employees and average earnings of less than $500,000. The questionnaire, along with a letter explaining the purpose of the study and instructions for completing the survey was sent to 500 small businesses. These small businesses were mainly from Southeastern Louisiana and were randomly selected from the compiled listing by Southeastern Louisiana University's "Small Business Development Centre". One hundred twenty of the 500 questionnaires were completed and returned. The rating for preferences was done using Likert rating scale of 1 to 5 where, 1 = Very Unimportant, 2 = Unimportant, 3 = Neutral, 4 = Important, and 5 = Very Important.

In this study, χ^2 test of Independence was employed to test the relationship between two categorical variables in each hypothesis. Contingency tables were used to examine the relationship between respondents' preference (importance) ratings for features offered by ISPs and "Business Type" for significance. Chi square method of analysis was chosen and applied in this study because the data obtained from the survey were measured at nominal or ordinal levels. Following were the two assumptions for a test of Independence (Archambault, 2000):

1. None of the expected values may be less than 5
2 No more than 20 percent of the expected values may be less than 5

Results

The small businesses sampled in the survey though regional in scope seemed to represent a reasonable cross section of typical small business sector. The sample included

those involved in construction, retail, real estate, manufacturing, healthcare, service, as well as others. About 29 percent of the companies were from retailing, 27 percent from services, 6 percent from construction, 8 percent from real estate, 4 percent from manufacturing, 7 percent from housing and 19 percent were from other industries.

The sample showed that 68 percent of the companies in the sample had fewer than twenty five employees, 15 percent had a workforce between twenty-five and fifty, 8 percent between fifty-one and hundred, only 9 percent had more than hundred employees.

Hypothesis Testing Results

The results for the hypotheses testing are shown in summary form in Table 1. The table was created to show the significant findings (hypotheses of independence rejected) along with the p-Value and also show hypotheses that were not rejected, labeled "not significant" with the corresponding p-value.

The research question addressed the potential of whether there is a relationship between the perceived level of importance regarding various features provided by internet service providers and the "Type" of small business. Specifically, is the perceived importance of different features independent of the Type of the business? The variable small business Type involved the categories mentioned earlier.

The finding for the research question was that the business type as a variable was found to be not significantly related to any of the features considered in the study. The research focused on whether there is a relationship between the perceived level of importance for various features provided by ISPs and small business type. Type was specified according to the following categories: construction, retail, real estate, manufacturing, healthcare, service, and others.

The results show no statistically significant relationship between various features and the type of small business. None of the hypotheses were rejected. Although the relationships between the type of industry and importance of features in all three categories were found to be statistically insignificant, these results are interesting in a number of ways. Common wisdom suggests that different type of businesses would have different preferences regarding features, because of differences in their operations. Perhaps, this is true in case of larger businesses. Yet, unexpectedly for small businesses in this study, the "Type of business" variable didn't seem to play a significant role. The perceived importance level for features did not vary according to the type of small business. This could be taken as good news for ISPs. Instead of custom creating packages for various types of small businesses, ISPs should pay attention to different needs based on various sizes of small businesses. In other words, ISPs should offer few packages with a subset of features that meet the preference of certain size group. This could simplify greatly the design of Internet service package for small businesses given their characteristics of highly fragmented market segment. Also, ISPs could concentrate on the size of small businesses and cater their services to meet the needs of small businesses based on their size rather than their type.

Although not reported here, analysis showed that "Business Size" as a variable was significantly related to the perceived importance for many features of the internet service.

Discussion

Findings from this study show that the Type of small business is not a relevant variable in assessing what features in Internet services are perceived to be important by small businesses. Perhaps, this is why more and more ISPs have recently begun to woo "smaller" businesses defined by size rather than type with tailor-made online services. (Kooser, 2003)

There is an ever-increasing competition between Internet service providers, largely because there are no restrictions to market entries. The gap between a local and a national player is waning, as all ISPs compete on the same platform and try to lure as many customers as they possibly can.

While common sense suggests that service charge such as cost per month of service should be perceived to be important, the result for this study shows the contrary. What does this mean? This does not mean that small businesses do not prefer low cost. Rather, it may suggest that differences do not exist across different type of industries. The result reveals the need for differentiated pricing structure based on relevant industry variables. In increasingly significant segment of the Internet, market is moving away from simple cost-driven undifferentiated commodity market into a market where there is a serious attempt to provide differentiation based on a specific feature of the delivered services.

The result of low level of importance placed on non-technical feature "small business incentives" provides evidence for opportunity that ISPs could pursue. What this means is that ISPs should develop more differentiated incentives to attract their potential small business clients. Today's typical offering for businesses may include the followings: A DSL fast access, dedicated access, and web hosting solutions. Its package includes static IP, 20 Email addresses, backup dialup account, DNS hosting with customer's domain name, and 24 hour technical support.

Conclusion

ISPs serve as an electronic gateway to the outside world. It plays a critical role in the operation of many small businesses. One of the implications from this study is that small business is a potential lucrative market for ISPs. An increasing number of the small businesses are relying and using Internet technology for carrying operations and are demanding services specifically designed to satisfy their business needs. More and more firms realize that the use of Internet-based applications and platforms such as electronic mail, instant messaging helps promote improved communications among employees, customers, and partners, while reducing associated costs and enables them to establish a national or even global presence without having to invest in physical infrastructure. What this means is a strong growing demand for good, reliable internet service by small business. In turn, this demand will continue to drive the growth of ISPs in the years to come.

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Appendix

Table 1: Summary of all Hypothesis Testing

Hypotheses	Result		P-Value
Hypothesis 1: Perceived importance of the technical feature "multiple user capability" is independent of the Type of business.	Not Sig		0.76
Hypothesis 2: Perceived importance of the technical feature "speed of connection" is independent of the Type of business.	Not Sig		0.93
Hypothesis 3: Perceived importance of the technical feature "remote access capability" is independent of the Type of business.	Not Sig		0.35
Hypothesis 4: Perceived importance of the technical feature "web space presence" is independent of the type of business.	Not Sig		0.62
Hypothesis 5: Perceived importance of the support feature "repair/quality of service" is independent of the Type of business.	Not Sig		0.59
Hypothesis 6: Perceived importance of the support feature "accessible help line" is independent of the Type of business.	Not Sig		0.64
Hypothesis 7: Perceived importance of the support feature "ease of installation/setup" is independent of the Type of business.	Not Sig		0.20
Hypothesis 8: Perceived importance of the non-technical feature "company's name recognition" is independent of the Type of business.	Not Sig		0.63
Hypothesis 9: Perceived importance of the non-technical feature "small business incentives" is independent of the Type of business.	Not Sig		0.88
Hypothesis 10: Perceived importance of the non-technical feature "cost per month of service" is independent of the size of business.	Not Sig		0.34

The Effect of Asset Protection Trust Legislation

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Abstract

This paper will examine the relationship between the number of trusts within a particular state before and after Asset Protection Trust legislation was enacted. We will explore the impact of this legislation by taking a detailed look at the number of trusts created after the legislation was passed. Our data includes information for nine states over the past ten years.

Lifestyle Statutes and Discrimination: An Exploratory Study

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Abstract

U.S. workers acknowledge and accept that employers have a certain level of control over employee activities in the workplace. In the past decade, however, an increasing number of employers are widening that field of control to encompass what employees do while off-duty or in their own homes. As a result of this change, an increasing percentage of employers refuse to hire job candidates whose personal and private lives are determined to be unhealthy, unsafe, or otherwise undesirable. Some organizations may even opt to fire existing, long-term employees who do not adapt their lifestyles to conform to corporate demands. Until recently, smokers, homosexuals, and overweight people were the most common victims of this discrimination. More and more companies, however, are now refusing to hire people who engage in such activities as: moonlighting, drinking alcohol, having heterosexual affairs, gambling, developing poor credit records, consuming specified legal products outside of work hours and off the employer's premises, dating within the company, and participating in civic/political activities. Acknowledging that refusal to hire job candidates for legal behavior that is unrelated to job performance may result in a failure to hire the best qualified candidate, some employers have opted to require these "at risk" candidates to pay an additional premium for their company health insurance.

While federal statutes prohibit discrimination on the basis of race, religion, national origin, gender, age, and disability, federal law presently provides no protection against discrimination based on the factors described above. A few states have enacted "lifestyle" or "lawful activities" statutes to give employees some protection from employment discrimination based on sexual orientation or legal conduct that is not work-related. Most states have no such statutes, however, and those that do provide varying degrees of protection. Moreover, because this is a developing area of the law, neither employers nor employees can be certain how such statutes would apply in some circumstances.

This exploratory study investigates attitudes toward lifestyle statutes and lifestyle discrimination. Twenty-five students from a small university in the south participated in a pilot study to assess their attitudes regarding employer control over employees' legal off-duty behaviors and activities. For purposes of the study, a four-part survey was designed to collect data on student demographics and student attitudes on this subject. The study provides an overview of the state of the law on this topic, discusses the results of the pilot study, and addresses future research that needs to be conducted on this volatile issue.

Hedge Funds: The Future of Alternate Investments

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Abstract

To most traditional investors, hedge funds have been a mystery. It was considered an alternate vehicle of investment only for the very wealthy. The failure of Long-Term Capital Management and its subsequent bail out by the federal government which found its tentacles in many businesses around the globe brought hedge funds into the lime light. Since that time, however, with the increasing investment of institutional investors in hedge funds, even the portfolios of ordinary investors have been affected by the fortunes of hedge funds. Currently, the effects of the debt crisis have spilled over into hedge funds putting those funds with complex trading strategies at a disadvantage while hedge funds with simpler trading strategies continue to remain popular.

This paper addresses some of the mystery surrounding hedge funds. The paper explains its origin, its structure, its benefits and its strategies. The strategies adopted can vary from those that use a global macro point of view, wherein the political and economic trends within a country affect investments, (a strategy popularized by George Soros), to complex mathematical models, to a simple long/short strategy, where investors, go long (buy) some securities and short (sell) others. Success of a hedge fund is reflected in the reputation of its management and therefore by the "assets under control" of the management team. Therefore, in selecting a hedge fund an investor must consider both the strategy adopted by the fund and its management. The enigma of hedge funds to the investing public originates from a lack of transparency in its dealing. Given the small group of investors in a hedge fund, it falls below the radar of SEC supervision. In this paper we address these issues and the current status of hedge funds as an investment vehicle while other alternatives like sovereign funds appear on the horizon.

It has often been argued that the success of a hedge fund is mirrored by the assets under its management. A regression of cumulative returns against assets under management shows that there is no significant correlation between the two. Next, the strategy adopted by a hedge fund is regressed against its cumulative returns. This analysis indicates that the fixed income strategy best explains the cumulative returns with the discretionary strategy having the least explanatory power. Thus, the analysis implies that the success of a hedge fund at any point in time is dependent on management's ability to navigate the economic conditions that exist.

Assessment of Critical Thinking Skills in Accounting Students

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Abstract

Critical thinking is at the forefront of accounting education. Critical thinking is a learning objective that is being measured and assessed in our business schools. This study investigates one method of assessment of critical thinking skills in accounting students. It is important that our students develop the ability to identify and solve unstructured problems in unfamiliar settings and to apply accounting knowledge to solve real-world problems. Some researchers think that business school professors are overconfident in their belief that they are helping students develop critical thinking skills when in fact students may be deficient in their ability to use these skills. This may be true of accounting professors in particular as there is already an emphasis on problem solving in most accounting courses. With relatively little effort, instructors can get feedback that will help them see the need for implementing changes in teaching methods that have been shown to increase critical thinking skills. To assess accounting students critical thinking skills, their performance on selected exam questions were tabulated. These questions measure the students' ability to apply concepts to complex situations. The students were required to extend the basic knowledge beyond what was discussed in class or illustrated in the textbook. This may require pulling from material covered in previous sections of the course or material covered in other accounting courses. Preliminary indications are that most accounting students are not able to do this. The expectation is that professors will use this information to make improvements. Different applications of this assessment method are discusses along with advantages and disadvantages. This assessment and modification of teaching for improved student learning is a mark of excellence demanded by accrediting agencies including The Association to Advance Collegiate Schools of Business (AACSB).

Brand Leveraging

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Abstract

Brand expectations result from a four-stage process (Tom et al., 1987). First, brands are characterized according to general features of the brand's product category. Next, consumers form expectations based upon the relevant cues associated with a particular brand. During the third stage the consumer performs a confirmation check, whereby he/she attempts to match formulating brand perceptions with pre-existing knowledge (stored in memory) about the brand/product category. As such, consumer perceptions of brand performance are subjective and may be heavily influenced by cues such as brand name, packaging, color, price, etc. which are under the control of the marketer. In this study, a survey was used to assess consumers' perceptions about brands based upon the price and brand equity. Using a systematic random sampling technique, a total of 130 shoppers in a southwestern mall were surveyed. Participants provided their expectations about a brand's durability, performance, overall quality, and value based upon whether the brand was well known (high brand equity) or not (low brand equity). Responses were coded using a seven-point scale where higher values indicated more favorable brand expectations (i.e., more durable, better performance, higher quality and value). The results indicate that in the realm of consumer expectations, well-known brands have competitive advantages over lesser-known brands. That is, well-known brands are perceived as being more durable, of higher quality and value, and as having higher performance than lesser-known brands.

Overall, the survey provides evidence that consumers have predisposed notions about well-known brands. It appears that consumers are less critical of well known brands, or brands of higher equity, than of lesser-known, low equity brands. Therefore, products with higher brand equity have leverage in the form of a number of marketing advantages over their lower equity counterparts including:

- They can sell for higher prices.
- They can command advantageous shelf space from the retailer.
- They maintain higher market awareness, thus increasing product trials and repeat purchase behavior.
- They are generally perceived as being higher quality.
- They are generally perceived as being a lower perceived risk.

Assessing Students' Ability to Use Technology to Support Managerial Decisions

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Abstract

This paper reports on a research effort in progress. Arkansas Tech University's School of Business plans to conduct an assessment of its students' ability to use technology to support managerial decisions during the spring 2008 semester. This assessment is part of a larger, cross-disciplinary project that involves senior-level students in Engineering and Health Information Management as well as senior-level business students in three majors. To measure students' abilities and levels of performance, the study will use the *iSkills* instrument from the Educational Testing Service (ETS) organization. This instrument is scored by the ETS and provides individual student feedback, department and institutional feedback, as well as comparisons to student scores nation-wide. These scores can be used to identify students' strengths and weaknesses and to guide faculty in making changes to course activities and to the curriculum in general. The study is being funded by internal grants that support assessment activities. The research plan is to collect the data near the end of the spring term, analyze the results in May, report the results to the administration and faculty in the summer, and report results to the larger professional and research community through conference and journal outlets in the fall.

The *iSkills* assessment measures how well students search through and critically evaluate data and information available through a variety of information technology resources in order to make a typical business decision. This assessment simulates an environment in which students must demonstrate the ability to effectively use the Web (browsers, search engines, email, instant messaging, and forums), searching and managing a database, and use of standard office suite packages (word processing, spreadsheet, presentation, graphics) to analyze data and to communicate with others. The *iSkills* measures seven information and communication technology (ICT) literacy proficiencies: define access, evaluate, manage, integrate, create, and communicate. These proficiencies also include thinking skills (evaluating, summarizing, comparing and contrasting, synthesizing, critical thinking, and problem solving skills) and the ability to use information and technology to persuasively communicate and support a decision and a point of view.

Ethics Assessment: A Pilot Study

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Abstract

The problem motivating this study is the growing concern over the ethical choices and behavior of both individuals and corporations and the subsequent effect on society. Faulty ethical reasoning and unethical choices have resulted in damage to individuals, a negative impact on organizations, and a reduction in society's confidence in institutions in general. For several years, the idea that ethics should be "taught" to students has been gaining in popularity. There has also been concern about whether academic programs can actually have an impact on the ethical reasoning of students. This study was a pilot effort to examine the validity of a locally developed ethics assessment. This assessment is intended to measure whether students recognize an ethical problem in a business/engineering situation, how they reason their way through an ethical problem, and what types of solutions they suggest for solving an ethical problem. When administered to students either at the beginning or at the end of their undergraduate program, these different factors also address a second concern: assurance of learning. The pilot instrument was administered to sophomore and senior business students in December of 2007. With respect to student responses, initial results indicate a positive difference for students at the end of the business program. In addition, the student responses and faculty ratings of those responses identified several opportunities for improvement in the assessment instrument and response rating rubrics that will be used in the full-scale assessment to be conducted in the spring 2008 term. The next phase of the research will measure the responses of both business and engineering undergraduate students.

A Study of Motivational Factors for Accounting Educators: What Are Their Concerns?

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Abstract

Improving accounting educator performance is critical to the success of accounting programs. To accomplish the goal of improving the performance of accounting educators, the authors turned to motivational theories developed by Frederick Herzberg. Herzberg developed two sets of factors: one set contained factors regarding job satisfaction, sometimes called motivators, while the second set had factors regarding job dissatisfaction which he called hygiene factors. Using Herzberg's factors as a base, the authors developed a questionnaire. This questionnaire was sent to accounting educators in order to identify their concerns and to categorize these concerns into motivating and hygiene factors. The results of the study revealed that accounting educators are concerned about areas such as conditions of work, making the transition from new hire to experienced tenured faculty, changes in research expectations, and changes in tenure requirements. Interestingly, the study found that salary, while an important hygiene factor, is not a motivating factor. In conclusion, the study revealed that accounting departments should stress both the motivating and hygiene factors such as those shown above and work to provide an environment where these factors will lead to accounting educator and department success.

Morgan Stanley:
A Leading Global Financial Services Firm

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Abstract

In June of 2005, in an extraordinary capitulation to a group of dissident former executives known as the "Gang of Eight," Morgan Stanley CEO Philip Purcell announced his resignation. Although Purcell tried to portray his departure as a dignified response to personal attacks against him, a continuing exodus of Morgan Stanley's senior executives, seemed to have finally turned the board of directors against the embattled chief. In a letter to Morgan Stanley's 50,000 employees, Purcell said he would step down at the firm's next shareholder meeting in March 2006, unless the board finds a replacement before then. On June 30th 2005 a replacement was duly announced, John Mack a Morgan Stanley veteran of twenty five years would take over with immediate effect. Purcell's departure was the latest chapter in a long-running battle between two cultures that had been at war since the investment bankers of Morgan Stanley agreed to merge with the retail stock salesmen of Dean Witter in 1997.

Morgan Stanley was originally founded in New York on September 5, 1935 as an investment bank by Henry S. Morgan, and Harold Stanley of J. P. Morgan & Co. along with others from Drexel & Co. In 1964, Morgan Stanley created the first computer model for financial analysis. By 1971, the Mergers & Acquisitions business was established along with Sales & Trading. In 1986, Morgan Stanley Group, Inc. became publicly listed.

On February 5, 1997, the company was acquired by Dean Witter, Discover & Co. (a.k.a. Dean Witter Reynolds) the spun-off financial services business of Sears Roebuck. The merged company was briefly known as "Morgan Stanley Dean Witter Discover & Co." until 1998 when it was known as "Morgan Stanley Dean Witter & Co." until late 2001. To foster brand recognition and marketing the Dean Witter name was dropped and the firm became "Morgan Stanley". The merger was controversial, and the firm lost some of its blue chip status with its corporate client base. The two firms could not have been more different. Morgan Stanley, a Wall Street investment bank founded in 1935, specialized in lucrative financing deals around the globe. Dean Witter, a chain of retail stockbrokers acquired by Sears in 1981, catered to small-time investors of limited means.

While Purcell's strategy for consolidating power at the firm succeeded, Purcell's vision of "one-stop shopping" in the financial marketplace faltered. Purcell, as Dean Witter's CEO, convinced Morgan Stanley that the financial supermarket concept could work by combining investment banking services with a strong sales force pushing stocks to Main Street investors at the retail level. Morgan Stanley Dean Witter, as the combined firm was originally called, could do everything from the financing of initial public offerings to the sale of that new stock to investors across the country. Citigroup and Merrill Lynch had succeeded in fusing high finance with retail commerce, but Morgan Stanley stumbled in its attempts.

The bursting of the dot-com bubble in 2000 hurt all the investment banks, but Morgan Stanley had the most difficult time recovering. In the preceding years, rivals such as Goldman Sachs, Lehman Bros., and Bear Stearns had outperformed it significantly. The

situation got so bad that a coalition of eight former Morgan Stanley bankers sent a confidential letter to the company's board on March 3rd 2005, suggesting some steps the directors might take to improve the company's performance. Instead, on March 28, Purcell demoted Stephan Newhouse, the firm's Morgan-Stanley-bred president, and replaced him with Zoe Cruz and Stephen Crawford, two loyalists from the Dean Witter side of the house. The next day several members of Morgan Stanley's management committee resigned from the firm. The Gang of Eight went public with their criticism of Purcell's management style [Group of Eight, 2005].

In response to the criticism, Purcell agreed to spin off the firm's Discover card unit but maintained an iron grip on the levers of power at Morgan Stanley. But the high-level defections from the once-vaunted investment bank continued in April 2005, when 18 more executives departed for rival firms. "The drip, drip, drip of top leadership at Morgan Stanley convinced institutional investors that the dissident group was right," says Richard Ferlauto, director of pension and investment policy at AFSCME. In his resignation letter, Purcell focused on the Gang of Eight's unrelenting criticism of him and insisted that Morgan Stanley's one-stop shopping concept would eventually succeed. "It has become clear that in light of the continuing personal attacks on me and the unprecedented level of negative attention our firm and each of you has had to endure, that this is the best thing I can do for you, our clients and our shareholders," Purcell wrote. "I feel strongly that the attacks are unjustified, but unfortunately, they show no signs of abating. A simple reality check tells us that people are spending more time reading about the acrimony and not enough time reading about the outstanding work that is being accomplished by our firm."

John Mack in his acceptance speech as CEO of the firm said, “I am proud to return home to the world’s premier financial services company and to the most talented team on Wall Street. Morgan Stanley remains the gold standard for client service, product excellence, teamwork and integrity in our industry. I look forward to working shoulder-to-shoulder with my colleagues old and new, across all of the Firm’s businesses. I am eager to hear and execute their ideas on how we can bring out the best in Morgan Stanley and continue delivering innovation for our clients, growth for our shareholders, and opportunity for our employees.” Mr. Mack added, “I see four key priorities for our Firm. First, we need to ensure that we have the right people in place and that everyone is working together as a united team toward common goals. Second, we must ensure that we have the right strategy to enhance profitability in the face of intense global competition. Third, we need to focus relentlessly on our clients, delivering them the outstanding service and innovative solutions they expect from Morgan Stanley. And finally, we must assure productive working relationships with regulatory and public officials and other key constituencies of the Firm.”

The main problem to be resolved was how to improve Morgan Stanley’s company wide position against its competition and to achieve a winning edge over competitors within an intensely competitive industry. One key decision to be made was whether the company should offer a one-stop shop service as advocated by previous management or focus on their core activities.

Procter and Gamble: The Beauty/Feminine Care Segment of the Consumer Goods Industry

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Abstract

In 2005, A.G. Lafley, chairman, president, and chief executive of Procter and Gamble (P&G), told the shareholders that since 2000 sales had grown more than 40% to $57 billion and profit had more than doubled [P&G Annual Report, 2005]. P&G was a global manufacturing, distribution, and marketing company focusing on providing branded products with superior quality and value. Two billion times a day, P&G brand products touched the lives of people around the world. The company provided over 300 brands reaching consumers in about 140 countries.

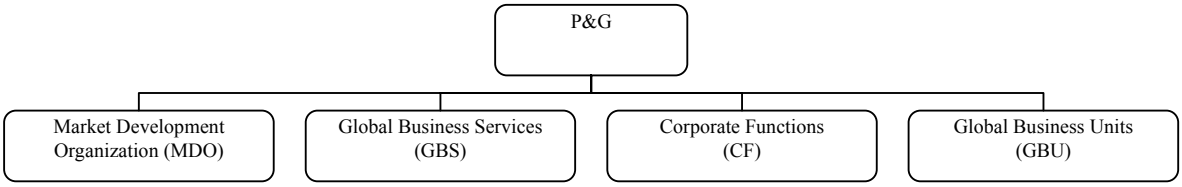
P&G was formed in 1837 by William Procter and James Gamble. It all started by making and selling soaps and candles. On August 22, 1837, they formalized their business relationship by pledging $3,596.47 a piece; in early 2006, the company made approximately $68 billion annually in sales. In 1862, during the civil war, the company was awarded several contracts to supply soap and candles to the Union armies. These orders kept the factory busy day and night, building the Company's reputation as soldiers returned home with their P&G products. Since then P&G had continued to grow in sales and in the introduction of new products [P&G Company Information, 2006].

Over the years P&G has acquired new product brands and companies such as Iams, Clairol, and Wella. The most recent one was on October 1, 2005, when P&G added Gillette to expand the Company's product mix to 22 brands. The Gillette Company was a manufacturer and distributor of various types of consumer goods in the following five areas/brands: Blades and Razors, Duracell (batteries), Oral Care, Braun (small appliances), and Personal Care. The merger with Gillette made P&G a more balanced company in terms of brands, employees, and sales against its competitors over the intermediate and long-term future.

The consumer goods industry was changing drastically in the last few years leading up to 2006. Retail power was increasing and today's consumers were more confidently deciding when, where, and how to shop, and at what price to buy. There were various reasons for these changes, such as more variety of products in the market place. In addition, according to the Bureau of Economic Analysis (BEA), personal income increased to $41.1 billion and disposable personal income (DPI) increased to $35.5 billion, in December 2005 [BEA, 2006].

P&G, as illustrated in Figure 1, was structured into four organizational units: Market Development Organization (MDO), Global Business Services (GBS), Corporate Functions (CF), and Global Business Unit (GBU).

Figure 1
PROCTER AND GAMBLE'S STRUCTURE DIVISION



- **Market Development Organizations (MDO**) studied consumers to build local understanding which was used as a foundation for marketing campaigns. Interacting with consumers helped ensure that the company's marketing plans and campaigns were structured to change the game to favor P&G at the point of purchase.
- **Global Business Services (GBS)** provided business technology and services that drove business success and won customers and consumers. This unit provided services and solutions that enabled the company to operate efficiently around the world, collaborate effectively with business partners, and helped employees to become more productive.
- **Corporate Functions (CF)** worked to maintain P&G's place as the leader of the consumer good's industries. This unit ensured that the functional capability integrated into the rest of the company remained on the cutting edge of the industry.
- **Global Business Unit (GBU)** created strong brand equities, robust strategies, and ongoing innovation in products and marketing to build major global brands [P&G Corporate Information, 2006]. The main philosophy of the GBU was to think globally instead of locally. This case study will concentrate on this unit to get a better understanding of the global operations of P&G. In early 2006, P&G had 5 divisions in its GBU: Baby/Family care, Fabric/Home care, Snacks and Beverage, Health care, and Beauty/Feminine care.

With the acquisition of Gillette, P&G's product mix of billion-dollar brands were well-balanced. In early 2006, the company had 12 billion-dollar brands in Baby/Family care and Fabric/Home care, and 10 billion-dollar brands in Beauty/Feminine care and Health care [P&G Annual Report, 2005]. The effects on the Beauty/Feminine care segment due to the acquisition of Gillette and the natural fast growth nature of this segment will be further discussed in detailed later in this case. It is also important to note that even though this division is named Beauty/Feminine care, most people would assume it focuses just on products for females, but in reality quite a few products in this division are geared towards men.

P&G was always creating and acquiring new products. To make the public aware of these products, the company had high advertising and marketing expenses. It also had a very good distribution channel that acted as a revenue source for the company, when it partnered

with other companies to help distribute its products. Some of the threats facing P&G were the increase in commodity costs and competition in the consumer goods industry. There were a couple of strategic business decisions that P&G could focus on: it could produce more products with natural ingredients and more men's products because these were the growing trends in the industry; or it could focus on one of its product segments such as skin products for a while and then later introduce its other products. All these were possible alternatives, but the main question to be resolved was how to differentiate P&G from its competition, and so achieve a winning edge over competitors within intensely competitive, rapidly changing immediate, intermediate, and long-term time frames.

The Impact of a Sales Course on Students' Perceptions of Sales Careers

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Abstract

The study was conducted to determine the impact, if any, of a sales course on students' perceptions of sales careers. Samples consisting of business students who had and had not taken a course in sales were surveyed and the results compared to determine, if any, the differences in perceptions of sales careers. This study was designed to answer three questions: Do business students who have taken a sales course have more favorable attitudes of sales careers than students who have not? Are business students who have completed a course in sales more likely to feel that others have favorable views of sales careers? Do business students who have completed a course in sales have fewer misconceptions about sales careers?

Teaching Sales Promotions with a "What IF" Spreadsheet Approach to Temporary Price Reductions

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Abstract

This paper presents a marketing, management, and information systems teaching innovation involving a "what if" experiential assignment. The assignment utilizes a spreadsheet for assessing potential profit and unit sales impacts of a temporary price reduction (TPR) (Gates 2007), and written student assignments for reporting the results of the analysis, managerial recommendations, and student experience with the spreadsheet. Teachers at other institutions are invited to obtain the spreadsheet and formal assignment, and the evaluation materials, from the contact author for use in their own classes.

Research on price promotions has found that temporary price reduction promotions in retail stores generally do not increase store or manufacturers' profits or long term market share. In addition, Walters and Rinne (1986) have shown that the promotion of loss leaders do not shown affect the sale of non-promotional items and that price promotions effects on profits are negative for both producers and retailers. These authors also observed that most of the sales activity for popular "double coupon promotions" occurs from among the stores' regular customers and not the non-regular buyers as intended. Moreover, most promotional effects on market share are short lived even when promotions are repeated (Pauwels et al. 2002). Customers generally return to their previous brand when the promotion is concluded resulting in no permanent change in market share (Srinvassan et al., 2002). Results of extensive research on long-term effects show that positive effects are more likely and greater for brands with small market share and brands with infrequent promotions. Retailers appear to gain sales, including additional buys from the new customers, but manufacturers do not retain market share.

The goal of the teaching innovation presented here is to enhance students' abilities to integrate pricing sales promotions concepts, and apply these to product management decisions using spreadsheet-based "what-if" analyses (Gross 2006). In this way, students learn about using what-if analyses to guide management decisions. Making these management decisions gives the students experience in practicing and applying the power of the spreadsheet and its ability to revise and update data to generate and compare results. Using spreadsheet what-if-analysis, teachers can set various conditions and, within these conditions, students can experiment with different assumptions regarding size of price discount, expected impact on sales during the promotion period, and the number of months sales might be affected due to customers "stocking up" on the product at the lower cost. Output from the spreadsheet allows students to see how much profits would go up or down in comparison to average monthly sales with no promotion. Students can also note the percentage and number of units sales must increase in the promotion period to offset unit contribution losses and program setup fees charged by the retailer. In so doing the assignment is intended to achieve Bloom's (1956) higher order educational objectives of understanding, integration and application, and to respond to Maxwell's (1998) admonitions for pricing education to address the needs of business.

The assignment has eight learning objectives that reflect marketing, management and information systems concerns:

1. To increase student understanding of how a what-if analysis works;
2. To increase student understanding of the types of information a what-if analysis provides;
3. To increase student understanding of using what-if analysis results to make decisions;
4. To increase student understanding of the impact that sales promotions can have on profits;
5. To increase student understanding of the need to balance sales channel demands with sales and profit objectives;
6. To increase student understanding of how breakeven analysis could be used to assess sales promotions program assumptions;
7. To increase student understanding that price reductions require substantial increases in unit sales to offset program costs and lost revenue.

The effectiveness of the assignment for achieving the learning objectives was assessed with an online Business Information Systems course for non-majors. The course was taught using Elluminate, a synchronous online classroom environment which allows for presentation software (PowerPoint) and other software (Excel) to be displayed during a live online lecture. Students interact with the instructor by voice, via a microphone, or by typing on an online messaging board. The model was presented in the context of a review of the marketing aspects of a temporary price reduction. The spreadsheet capabilities for "what-if" analysis was explained when the spreadsheet was presented. Following class discussion with the teacher demonstrating the spreadsheet, students were given the assignment to experiment with the size of the price discount, expected impact on sales during the promotion period, and the number of months that sales might be affected due to customers "stocking up." The students were given two more demonstrations as the semester progressed and given more tips and suggestions with special regard to profit gain or loss relative to not participating in the TPR, required unit sales increases for breakeven, and the number of months in which sales might be affected by the TPR. After students developed their own recommendations, students then wrote a business memo reporting and justifying their recommendations regarding whether or not to participate in a TPR and, if so, at what discount levels to set the promotion. They were also to add a second memo to consider the spreadsheet analysis specifically.

A questionnaire was used to obtain anonymous student assessments of their learning experiences on each learning objective. Students were asked to rate, on a scale of 1 to 5, their level of understanding regarding each objective before the introduction of the spreadsheet and the assignment, and after having completed the assignment. Difference of means t-tests for related samples were used to assess learning achievement by comparing mean before and after scores. All comparisons showed statistically significant improvements in ratings. Students were also asked to write in comments about the assignment. Student experiences with the spreadsheet and assignment were highly encouraging, and student feedback and written assignments have led to modifications to the original assignment and to recommendations for class discussions.

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Human Commonalities as Determinants of Global Marketing Strategy: Standardization versus Adaptation

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Abstract

A topic of continued interest to marketers (e.g., Payne, Raibom, and Askvik 1997; Zou and Cavusgil 2002), social scientists (e.g., Chase-Dunn, Kawano, and Brewer 2000), and economists (e.g., Williamson 1996) is globalization of business across physical boundaries and varied societies. Globalization is a process of standardizing communications, business functions, and management practices throughout a global organization (Miranda 2003). One factor believed to contribute significantly to the globalization process is the use of global marketing strategies in the production and selling of goods and services in the global marketplace. In the global marketplace, global companies seek to standardize production and selling to maximize profit. Although higher global performance may be obtained through global marketing strategies (i.e., standardization across the world), the pervasive nature of social qualities, such as social norms, legal system, and political system, prescribes some degree of adaptation.

The conceptual framework presented in this paper focuses on the most basic elements of the human race that define us, as the driver of global marketing strategies. It is proposed that common human qualities (i.e., biological and psychological), social qualities (e.g., social norms, political system), and geographical qualities (e.g., physical terrain, climate) drive the degree of standardization of marketing strategies in the global marketplace. Therefore, this paper puts forward a Framework for Marketing Strategy in the Global Marketplace and contributes to the discipline in several ways. First, although conceptualizations of what drives globalization (e.g., advances in technology and telecommunications) exist in the literature (e.g., Sheth 1992), a framework for developing marketing strategies based on human commonalities and a global market (i.e., the world is one marketplace) has yet to be proposed. Second, this is the first attempt to develop a model of global marketing strategy based on common human qualities. Third, this study also defines the role of society in the development of marketing strategies for global organizations. From this perspective, the adoption of the most effective marketing strategy for the global marketplace may be predicted.