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THE EVALUATION OF STOCK MARKET EFFICIENCY AFTER THE SEPTEMBER 11TH TERRORIST ATTACKS

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ABSTRACT

This case study will address what happens to companies, their stocks, and the efficiency of the stock market when an unpredicted disaster occurs and causes the market to shutdown. Market efficiency was tested by analyzing risk adjusted stock price returns before and after the September 11th (9/11) terrorist attacks on a sample of ten firms, ranging from insurance firms to travel companies to weapon manufacturers. Stock prices can be affected by internal controls or management decisions specific to individual firms. Stock prices can also be affected by an abundance of other market-wide factors, including one single event. Thus, stock prices are strong indicators of the impact of an event's overall efficiency; however, stock prices cannot be the only factor taken into consideration when evaluating an event. This case study will evaluate the stock market before and after the attacks, taking into consideration the large payout by insurance companies as a consequence of the event, as well as the effects on airline travel.

PURPOSE OF STUDY

What happens to companies, their stocks, and the efficiency of the stock market when an unpredicted disaster occurs and causes the market to shutdown? Is there a way for investors to turn such a disaster into a profit through profitable investments? How efficiently did the market react to the disaster at hand? This case study evaluates the efficiency of the stock market by analyzing how quickly the market reacted to the September 11th attacks. The differences considered within this study are the average excess return coefficients utilizing a two-tailed test.

LITERATURE REVIEW

The Market Efficiency Theory indicates that stock prices reflect all public information of a company at any given point in time. The nature of knowledge affecting a company's stock is not limited to information solely pertaining to quantitative, financial data; instead, social, economic, and political events can have just as meaningful of an impact on the stock prices and stock market as well. Thus, when stocks fully reflect the current information of an individual company at a specific point in time, the stock market is efficient. However, this is not always the case, as markets are frequently inefficient. When this occurs, investors in the market have the opportunity to use these inefficiencies to their advantage by capitalizing on the information not being taken into consideration. Then, they buy stock at a low price, benefitting from the high returns. (Chessa, Flori, Pammolli, Pappalardo, Puliga)

In an efficient market, stock prices cannot be predicted, but are instead unpredictable and random. There are investors whose strategy focuses on capitalizing on undervalued stocks to make profits or creating stock portfolios of randomized stocks that result in substantial profits. Instances like these are anomalies in the world of finance. (Chen, Fan, Xiang)

The effects of an expected event, such as a dividend omission or an expected company announcement, can be verified on the cumulative excess returns. If investors know an event is going to happen prior to the announcement date, investors will act on the expected information in advance (Expectation Theory) and respond to the information as soon as it becomes available. In an expected event, by date zero, the inside information will lead to a cumulative abnormal return. However, in an unexpected event, the cumulative average expected returns would not demonstrate this behavior, because the event was unanticipated. (Madura)

METHODOLOGY

For the purposes of this case study, the event chosen was the unexpected terrorist attack that occurred on September 11^{th}. This date (the announcement date) was labeled as ‘Day 0’ for testing purposes.

The samples utilized for this study and their historical adjusted closing price data were found via *Yahoo Finance* researching companies substantially affected by the September 11^{th} attack. The companies chosen were either travel companies or insurance firms and were seriously affected by the terrorist attack.

This study uses an estimation period of 181 trading days prior to the announcement date and 30 trading days post the announcement date. The 181 trading days before the announcement date landed on December 20^{th}, 2000 and the 30 days after the announcement date landed on October 26^{th}, 2001. The New York Stock Exchange was closed one trading week after the September 11^{th} terrorist attack, because of the collapse of the world trade center and in respect of the tragic event. This estimation period must also be utilized to calculate the values of alpha and beta for each stock chosen.

The expected returns are calculated using the market-adjusted method along with the risk-adjusted method. The expected return is equal to alpha plus beta times the return on the market, considering alpha represents the speed at which the market reacts to the event, and the return on the market over the pre-event period, which in this case is the S&P 500 index. Alpha and beta were calculated by running a regression using the market return as the independent variable, and the companies stock as the dependent variable. Once the calculations were entered into excel and the regression information was calculated, the alpha value was equal to the intercept and the beta was equal to the standardized coefficient.

The average excess returns (AER’s) are equal to the sum of the excess return divided by the number of firms in the sample (10 for this study).

The significance of the AER is tested using a regression analysis. Using this analysis, assign the market return as the dependent variable and the AER as the independent variable to find a p-value to determine if the differences are significant. Since the results are unexpected, a two-tailed test will need to be used when finding the significance of AER. (Henderson)

QUANTITATIVE TEST AND RESULTS SAMPLE SELECTION

Insurance and airline companies were chosen as the samples for this study. Insurance companies were most affected by the event, because of the large sums of money these companies were required to pay out for the life insurance policies of the individuals killed or injured by the attack on the Pentagon, the crash of Flight 93, and the collapse of the World Trade Center towers. Over ninety billion dollars was paid out by insurance companies to cover life insurance policies as a result of 9/11, which negatively impacted the efficiency of each insurance firm, as well as the stock market as a whole. Airline companies also experienced a significant decrease in profits after the attack, because of lack of interest in airline travel, combined with the immediate increase in regulations placed on air travel procedures, such as the creation and implementation of the Transportation Security Administration.

Beta was calculated through regressing the company's periodic stock returns on corresponding periodic returns of a market index, such as the S&P 500 for this study. Beta and alpha were estimated for the 181-day before and after estimation period.

CALCULATING ALPHA AND BETA

Using the results from the regression analysis to calculate the alphas and the betas for each chosen firm. To calculate the two values, the percent return from each stock was the dependent variable and the percent return on the market was the independent variable when inputting the data into the regression analysis in excel. To output the standardized coefficients or the betas, the box must be selected through statistical analysis. The value for alpha is the intercept as given in the regression.

RISK ADJUSTED

The expected return is calculated through alpha plus beta times the return on the market. After finding the expected return, subtract the value from the given value of the actual return for each day. This is how to find excess returns. To find the average excess return, take the average of all the insurance companies returns each day and graph them from -30 to +30. The results of the cumulative AER indicate that the returns actually begin decreasing before the announcement date. The results of the AER vs. Time are depicted in figure 2 and figure 3. (Henderson)

Figure 1

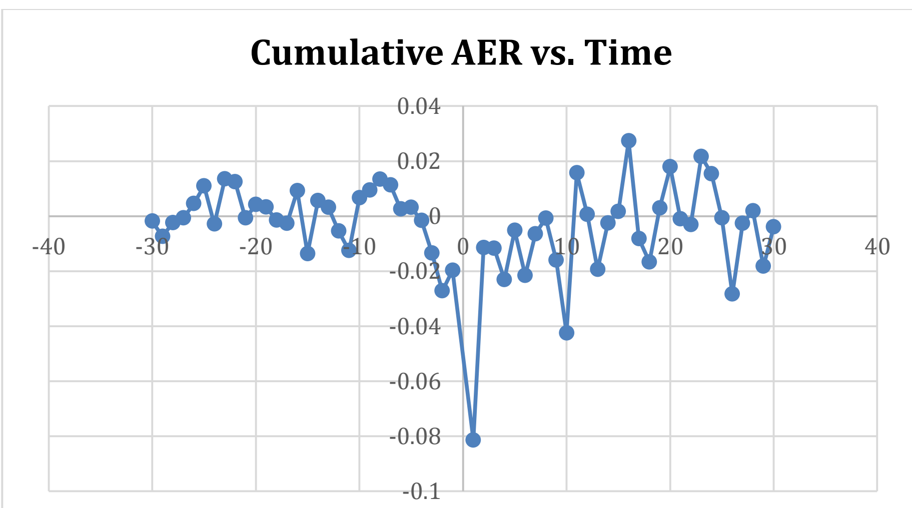
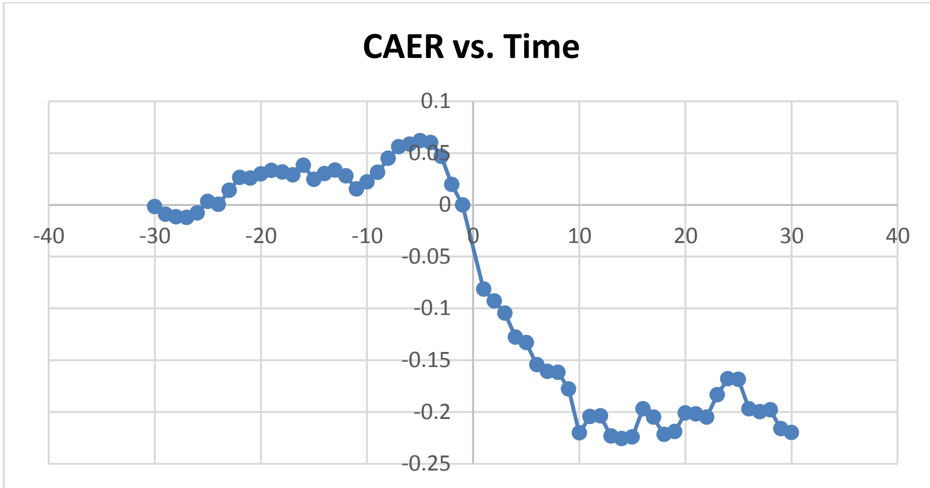


Figure 2



SIGNIFICANCE TEST

The regression analysis indicated that the AER's are significant, because the p-value was less than the .05 threshold using a two tailed test. In keeping with our original hypothesis, we can conclude that b1 cannot equal zero, therefore rejecting the null hypothesis. Judging from the results of this test, we can soundly conclude that the event in question did indeed produce new information to the market that was significant. (Henderson)

CONCLUSION

Considering the results of the calculated regression, it is apparent that September 11th can be confirmed as a significant event, because the p-value of the AER was less than .05. The event can be deemed significant, because it lead to new information being introduced into the market in the form of costs to insurance and travel companies. Insurance companies had to pay out significant sums of money for life insurance policies to people affected by the event, while air travel dealt with strict, new regulations and policies for the public to follow. Based on the information at hand, there is enough information to conclude that a reasonable explanation for the significant difference in the AER's exists, thus the market responded efficiently to the event in question. When the negative information became public knowledge, the market responded by dropping significantly after the event occurred. However, it should be noted that directly before the event occurred, the graph indicates a slightly decreasing progression, representing that some investors must have been aware of what was about to occur. While there is no way of telling how, the evidence implies that select individuals either guessed or were privy to inside information of the actual occurring event, otherwise this decline in the CAER would not be shown. This conclusion, as disturbing as it is, provides some interesting insight in predicting future events and market occurrences. (Henderson)

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ACCOUNTING INFORMATION TECHNOLOGY AND CROSS CULTURAL DIFFERENCES

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ABSTRACT

Comparing the United States to Bulgaria allows one to see the variety in cultural dimensions in Hofstede's six dimensional analysis. Much of this is due to the highly contrasting histories and cultural backgrounds that define the behaviors of the accepted social norms in each society. Expectations of the role of individuals in society can be better understood when taking a deeper look into the study of these six dimensions. Three dimensions that tie in closely with one another are Individualism, Masculinity and Power distance. The United States was founded on the principle of the self-made individual; someone who traveled thousands of miles away from their home in order to test the slim odds of success as a foreigner in the land of opportunity. Bulgaria, on the other hand, shows a very contrasting history. For about 500 years, Bulgarians were enslaved by the Ottoman Empire, giving up much of their culture. Furthermore, more recent historical events show Bulgaria's years as a socialist society. Therefore, the differentiation of individuals in Bulgaria is much less prominent because of the lack of acceptance that has been displayed before in its culture.More dimensions that relate to each other are Uncertainty avoidance and Long term orientation. By analyzing the results of Hofstede's dimensions one can see that Bulgarians are more likely to prefer to stay in their comfort zone. People prefer security in the future for the expense of self-satisfaction and indulgence. This tradeoff can also be related back to the historical context of each culture.

It is undeniable that culture plays a critical role in international business. The ideals and values which an individual possesses are taught and passed along from the community in which they were raised. Geert Hofstede has taken these ideas and divided cultural identity into six major attributes. When this data is used, it is able to compare and contrast a variety of countries on multiple dimensions. Using this model, the United States of America, Syria, and Russia will be analyzed on these six layers. The largest variance can be seen when observing a citizen's sense of individualism. The United States outranks Syria and Russia combined with a remaining seventeen points to spare. In a collective society such as these two, Hofstede defines individuals "belong[ing] to 'in groups' that take care of them in exchange for unquestioning loyalty." A group centered mindset is historically congruent for Russia as less than fifteen years ago, they publicly adopted its first democratic constitution. The second radical shift in ideology in presented in the dimension of power distance. Again, Russian culture manages to drastically deviate from the typical American belief. That belief is rooted in the fact all men are created equal. Countries which score high on power distance tend to receive lower scores when looking

at the individualism. It acts as the catalyst, allowing complacent citizens to accept the current state of leadership- even to the point of destruction.

China, Japan and India are three countries that are in the same continent but perform in a completely different manner. Their culture intersects many part of the resident's lives as well as business. The impact culture creates in business is immense due to globalization and affects decision making. Some of the ways that make these three countries different are Geert Hofstede's six cultural dimensions, ethics and strategic customer service. These three factors are closely tied together because Hofstede's six dimensions can be used to understand and determine the ethics and strategic customer service of these countries. Ethics is a critical topic and issue in global business. A mistake from an employee or a team can cause an organization a tremendous setback. Japan is a borderline hierarchical country so decisions have to be passes and confirmed by every level of hierarchy in an organization. This is a great way to prevent any fraud or mistakes from happening. Japan is also a collectivistic yet masculine country. They care more about how their designated group see and accept them rather than looking after themselves. They do not want to be a shame to their group or family. Japanese are competitive but as a group, not individually. They seem to be loyal to their designated groups, as well as have high drive for excellence and perfection. They would follow ethical code so they would not be a shame to their group. Their pride would not allow them to cheat their way out but to actually work at excelling at their interest. Japan has one of the most long term oriented societies governed by virtues and practical good examples. They focus on providing for their stakeholders and community on the long run rather than their shareholders. Japanese have very high restraint, confined by the social norms. They would not risk destroying their relationship with the community and losing face by making unethical decisions. Japan is absolutely pessimist to uncertainty, taking a very strategic lead to everything, including customer service. Hence, Japanese are clearly a very predictable sample due to its culture. This makes the customer service strategy simple basing it off the precedence cases. India has moderately high acceptance of unequal power divided within the country. Their higher ups have all of the decision making power and the employees are expected to do what they are told to do, nothing more or less. This gives the decisions makers a lot of autonomy and power, which tends to end up as selfish choices. In India, success and material gains are the visual display of masculinity. The people are prone to do anything to gain success and money to display their masculinity. India adapts to uncertainty very well and at times come up with creative or contemporary ideas to ""bypass the system,"". This could well mean unethical ideas to benefit off. Societies that have a high score on pragmatism typically forgive a lack of punctuality, a changing game-plan based on changing reality and a general comfort with discovering the fated path as one goes along rather than playing to an exact plan. In India, there are no greatly effective strategy because they tend to discourse from the exact plan. Their game-plan is always changing based on the changing reality and they are very comfortable with it. Indians are also a restrained culture. Many do not believe in luxury and leisure time, instead believe that indulgent themselves is a wrong doing. According to this description, they most likely adopted low cost strategy, since they are happy with mediocre and cheap items.

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THE IMPACT OF AGE DIFFERENCES AND RACE ON THE SOCIAL SECURITY EARLY RETIREMENT DECISION FOR MARRIED COUPLES: AN EXTENSION WITH GENDER ROLE REVERSALS

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Stuart Michelson, Stetson University

ABSTRACT

The purpose of this study is to examine the impact of age differences on the social security early and delayed retirement decision for married couples. This paper extends the analysis of Docking, Fortin and Michelson's 2015 study which assumed the working husband (male) was older than the non-working wife (female). In this current study we reverse the husband and wife employment role and ages. We now assume a working wife (female) who is older than her non-working husband (male).We analyze the nine married couple combinations for the following races: Whites (W), Hispanics (H) and Blacks (B). We develop an Excel model to compute the breakeven internal rate of return (BE IRR) for each of 9 race combinations. Three claiming scenarios are considered: receiving benefits early (e.g., at age 62 versus 66), the maximum realistic delay period (e.g., at age 62 versus 70), and delaying benefits past full retirement age (e.g., age 66 versus 70). Within these 3 claiming scenarios we examine couples by race combination who retire at the same age and at different ages, and with age differences of 0, 4, 7 and 10 years. We compare the results of the two studies.The primary substantive conclusions from this study depend on the age comparisons that are being made. For couples who retire at the same age or at different ages, the greater the age difference the greater the incentive to retire early as the hurdle rate is lower to overcome. This is true irrespective who is older and the breadwinner (earning spouse).

Women almost always have higher BE IRRs than men. The implication is that in marriages where the wife is the breadwinner and the older partner, it is more difficult for the couple to retire early, as compared to marriages where the husband is the breadwinner and the older partner.

Irrespective of who is the breadwinner, Hispanics have higher hurdle rates; while Whites have lower hurdle rates. For a given retirement age comparison/age difference the results can be interpreted as follows: the high (low) breakeven group would prefer to retire later (earlier) since the hurdle rate is more difficult (less difficult) to overcome. Thus, Hispanics have a more difficult time retiring early, while Whites have a less difficult time retiring early.

HURRICANE KATRINA'S EFFECT ON PROPERTY AND CASUALTY INSURANCE COMPANIES' STOCK PRICES

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ABSTRACT

This study tests efficient market theory by examining the effect of Hurricane Katrina on property and casualty insurance companies' stock prices. It reflects that these insurance companies with large or numerous claims in the areas affected by Hurricane Katrina should incur negative stock price returns. This event study evaluated 10 companies who provide property and casualty insurance in the Southeastern region of the United States and examines the effect of Hurricane Katrina on stock price's risk adjusted rate of return before and after August 29, 2005. These results show semi-strong market efficiency, using all public information, reflecting that the market anticipated Hurricane Katrina and the devastation it was going to cause. The statistical tests for significance conducted in this study shows that Hurricane Katrina had a significant impact on the risk adjusted rate of return on the selected property and casualty insurance companies' stock prices over the event study period.

INTRODUCTION

In most cases natural disasters affect the stock market. The real question is how fast does the stock market respond to a disaster? This study examines the market's ability to predict the impact of Hurricane Katrina by analyzing the risk adjusted rate of return of the selected property and casualty insurance company stocks around the time of the event.

The research done tests the effect of Hurricane Katrina on the risk adjusted rate of return for the selected property and casualty insurance company stocks (AllState, Progressive, Berkshire Hathaway, Travelers, Mercury, AIG, Chubb, Hartford, Erie, and American Financial Group) around the time of Hurricane Katrina's event date of August 29, 2005. Hurricane Katrina was one of the biggest Hurricanes to make land fall in the United States with winds from 100-140 miles per hour. Thousands of people in Louisiana, Mississippi, and Alabama lost their homes and Hurricane Katrina caused more than $100 billion in damage to these areas. The probability of such an enormous loss to homes and buildings caused by Hurricane Katrina should be anticipated by property and casualty insurance companies' stock price reaction prior to the event. The purpose of this study is to examine the reaction of the risk adjusted rate of return of the selected property and casualty insurance companies' stocks up to 30 days before and 30 days after the event, which occurred on August 29, 2005. It is suggested from the results that the market is semi-strong efficient, using all public information, with observed stock price reaction up to 25 days prior to the event.

LITERATURE REVIEW

Various research indicates that the stock market increases after a natural disaster. When hurricanes Andrew (1992) category five, Hugo (1989) category four, and Camille (1969) category five occurred, which had monstrous effects both economically and emotionally, the stock market moved up immediately after these storms. The stock market moved up immediately after Hurricane Katrina occurred too, just like the other hurricanes. Big hurricanes and natural disasters reduce near-term output while boosting economic growth over long-term through reconstruction (Barton).

In a 25-year span leading up to 2005 (Hurricane Katrina), property and casualty insurers in Louisiana wrote over 12 billion in insurance premiums. A total of a little over $1 billion was earned in profits, according to the chief actuary at the state insurance department (Jones). However, in just one day August 29, 2005, the day Hurricane Katrina occurred property and casualty insurance carriers lost over $8 billion. According to the Louisiana Insurance Commissioner Hurricane Katrina was the worst insured loss event in the history of insurance anywhere in the world (Jones). It is said that the loss incurred from Hurricane Katrina was bigger than 9/11, earthquake and tsunami in Japan, and Hurricane Andrew. Hurricane Katrina resulted in $41 billion in insured losses in all the states it affected (Louisiana, Mississippi, Alabama, Florida, Georgia, and Tennessee) (Jones).

METHODOLOGY

The study includes 10 insurance companies that provide property and casualty insurance coverage in the areas affected by Hurricane Katrina. These 10 insurance companies, some of the largest in the industry and included on the Top 25 U.S. property/casualty insurers, are considered to be directly affected by a natural disaster in the Southeastern region of the United States and would likely suffer huge losses by a storm of this magnitude. The study tests how quickly the 10 insurance companies' stock prices reacted to the Hurricane Katrina event defined as August 29, 2005. The analysis of the hurricane event included 2,321 observations of the 10 insurance companies' stock prices and the corresponding Standard & Poor 500 Index (S&P 500) up to 180 days before the event date, August 29, 2005, and 30 days after.

To test semi-strong market efficiency, using all public information, with respect to the hurricane event and to examine the effect of the storm on stock return around the announcement date, this study proposes the following null and alternative hypothesis:

H1: The risk adjusted return of the stock price of the sample of insurance companies is not significantly affected by this type of information on the event date.

H1: The risk adjusted return of the stock price of the sample of insurance companies is significantly negatively affected by this type of information on the event date.

H2: The risk adjusted return of the stock price of the sample of insurance companies is not significantly affected by this type of information around the event date as defined by the event date.

H2: The risk adjusted return of the stock price of the sample of insurance companies is significantly negatively affected around the event date as defined by the event period.

This study uses the standard risk adjusted event study methodology from the literature to test the stock market's response to the August 29, 2005 Hurricane Katrina event date. The required historical financial data, the insurance companies' stock price and S&P 500 index during the event study period were obtained from the internet website http://finance.yahoo.com/. The historical stock prices of the insurance companies' and S&P 500, for the event study duration of -180 to +30 days (with day -30 to day +30 defined as the event period and day 0 the hurricane event date or August 29, 2005) were obtained. Then, holding period returns of the companies (R) and the corresponding S&P 500 (R□) for each day in this study period were calculated using the formula:

$$\text{Current daily stock return} = \frac{\text{(current day close price - previous day close price)}}{\text{previous day close price}}$$

$$\text{Current daily index return} = \frac{\text{(S\&P current close – S\&P previous close)}}{\text{S\&P previous close}}$$

A regression analysis was performed using the actual daily return of each company (dependent variable) and the corresponding S&P 500 index daily return (independent variable) over the pre-event period day -180 to -31 (period prior to the event period of day -30 to +30) to obtain the alpha (the intercept) and the beta (standardized coefficient).

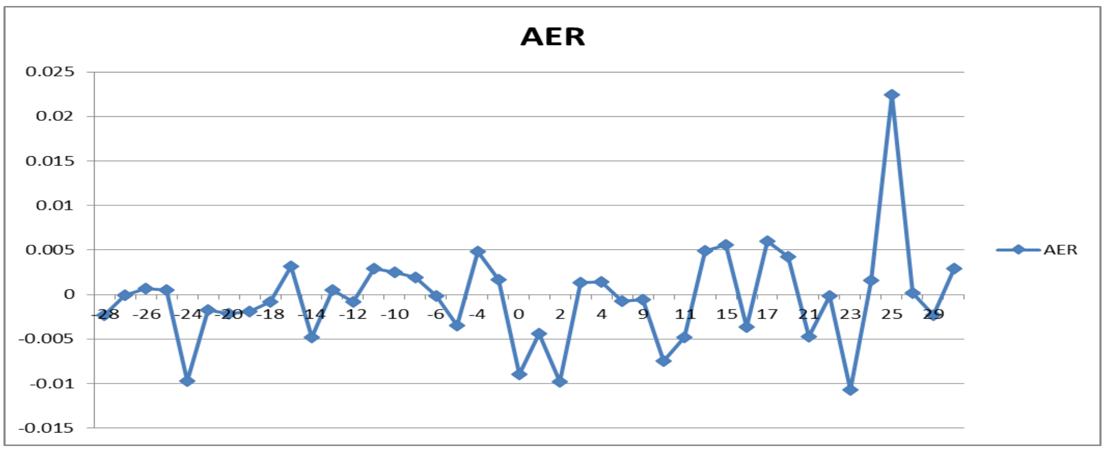
For this study, in order to get the normal expected returns, the risk adjusted method (market model) was used. The expected return for each stock, for each day of the event period from -30 to +30, was calculated as: E(R) = alpha + Beta (R□), where R□ is the return on the market, the S&P 500 index. Then the Excess Return (ER) was calculated as the Actual Return (R) minus the Expected Return E(R). Average Excess Returns (AER) were calculated (for each day from -30 to +30) by averaging the excess returns for all the firms for given day: AER = Sum of Excess Return for given day / n, where n = number of firms is sample, 10. Also, daily cumulative average excess returns or CAERS was calculated by adding the AERS for each day from -30 to +30. The graph of CAER was plotted for the event period day -30 to day +30.

QUANTITATIVE TESTS AND RESULTS

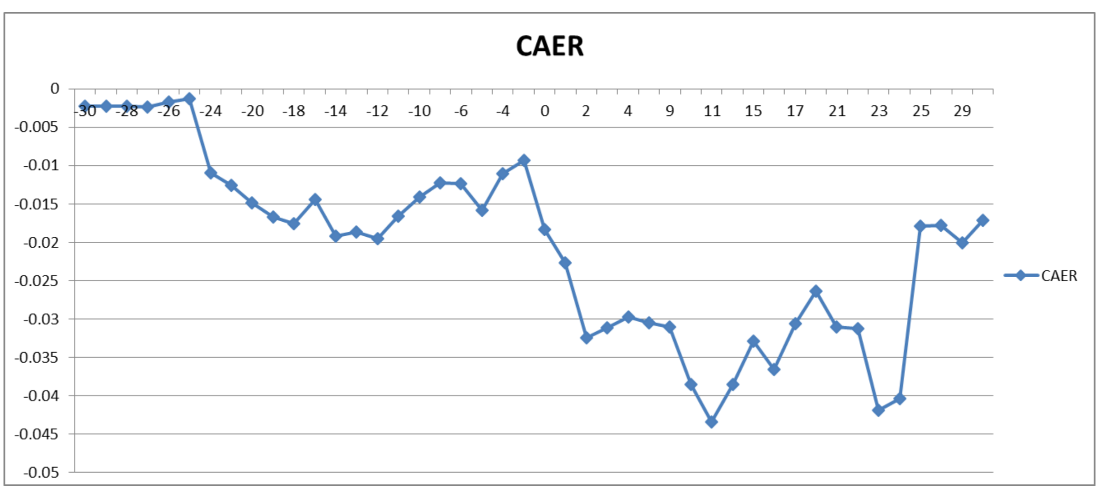
How did the market react to the event of Hurricane Katrina? Was the information surrounding the event significant or not? The average excess daily returns (day -30 to day +30) as shown in Graph 1 would be expected to be significantly different from 0 and therefore significantly different from cumulative average excess returns over the corresponding time period. These two would be expected to be significant over the time period if the information surrounding the event contained new information that was significant on the market price of the firms' stock. Depending on the significance of the risk adjusted rate, would depend on how Hurricane Katrina impacted stock prices. To statistically test for a difference in the risk adjusted daily average excess returns and the cumulative average daily excess returns (for the insurance companies over the time period day -30 to +30), a paired sample t-test was used. The information found during the paired sample t-test showed a statistical difference at the 1% level of significance for the sample of property and casualty insurance companies. Since the findings show a statistical difference at the 1% level, it supports the alternative hypothesis $H1_1$ and $H2_1$ that the risk adjusted return of the stock price of the sample of property and casualty insurance companies is significantly negatively affected by the provided information around and on the event date.

Another purpose of this analysis is to test the efficiency of the market in reacting to the hurricane event. Do we observe weak, semi-strong, or strong form market efficiency in the efficient market hypothesis (Fama)? It needs to be determined whether or not the cumulative average excess return (CAER) is significantly different from zero or if there is a visible graphical or statistical pattern between time and the cumulative average excess return. The daily average excess return and cumulative average excess return tested differently from zero at the 1% level of significance for the t-tests. Both the daily average excess return and cumulative average excess return, Graph 1 and 2, shows a significant negative response 25 days prior to the event date of Hurricane Katrina on August 29, 2005 from the sample of 10 property and casualty insurance companies' risk adjusted rate of return for the stock prices. The evidence from the data and graphs shows that the market anticipated the disaster and had a negative reaction 25 days prior to the event of Hurricane Katrina.

Graph 1
AVERAGE EXCESS RETURNS OVER THE EVENT PERIOD



Graph 2
CUMULATIVE AVERAGE EXCESS RETURNS OVER THE EVENT PERIOD



CONCLUSION

This study examined the effect of Hurricane Katrina on the stock prices' risk adjusted rate of return of 10 property and casualty insurance companies who provide insurance coverage in the areas affected by Hurricane Katrina. The statistical tests for significance conducted in this study shows that Hurricane Katrina had significantly negative on the risk adjusted rate of return on selected property and casualty insurance company stock prices over the study of the event period. The results of the average excess returns over the event period shows a very high increase prior to Hurricane Katrina and then the average excess returns goes down significantly one day prior to Hurricane Katrina and slowly starts to go up again. The results of the cumulative average excess returns over the event period shows an up and down trend until day 0 and then the cumulative average excess returns goes down significantly and then continues on an up and down trend again until day 25. On day 25 until the day Hurricane Katrina occurred the cumulative average excess returns remained on a steady trend. The results show that semi-strong market efficiency is supported. The stock prices reacted so fast to all the public information that no investor is able to earn an above normal return by acting on this type of information.

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THE EFFECTS OF TERRORISM ON AIRLINE COMPANIES' AND INVESTMENTS

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ABSTRACT

The purpose of this study is to examine the effect of the Paris terrorist attacks on airline stocks in order to test the efficient market theory. This event study analyzes 10 firms with a travel interest directly or indirectly with Paris. The study examines the stock price's risk adjusted rate of return before and after the Paris terrorist attacks with the event date of November 13, 2015. The event study suggests semi-strong market efficiency because of the decline on the date of the event, and not the days leading up to the event. While there is a slight decline on the stock price return the day before the Paris attacks, it's highly unlikely that this was due to the attacks considering the lack of public information; the announcement of the attacks did not become public until the night of the attacks.

INTRODUCTION

Terrorist attacks don't only affect our piece of mind and safety, but our global economy as well. How fast does our global economy react to a terrorist attack? Unlike other event studies a terrorist attack is random and not easy to predict. Is it possible that our market reflects the fear of our citizens and how long that fear lasts?

While the Paris terrorist attacks were not the terrorist attacks with the largest death toll, it did have a death toll of 130, with hundreds of others wounded. This attack was one of the most elaborate after the United States terrorist attacks on September 11, 2001. The Paris attacks have an event date of November 13, 2015; although the attacks have one date the attacks actually consisted of six attacks across the city of Paris on one night.

This event study focuses on airlines firms with a direct or indirect interest in Paris. In this study we examine the effects of the November 13, 2015 Paris attacks on the risk adjusted rate of return on stocks of selected airline firms. Terrorist attacks have been known to affect our global economy, and people's willingness to go to heavily populated public places. The results suggest semi-strong market efficiency.

LITERATURE REVIEW

According to Fama et al. (1969) and Fama (1970) a market is efficient when prices fully reflect all available information." Three forms of market efficiency: "weak form", "semi-strong form", and "strong form", which respectively means when information includes past data, when information includes all public information, when information includes all public and private information.

Terrorist attacks tend to have effects on the global market. Many studies have been examined after the events of September 11, 2001. A study conducted by Panagiotis (2010) on the terrorist attacks of September 11, 2011, concludes that the stock exchange in London lost 5.7%, Frankfort lost 8.6%, Pairs lost 7.4% and New York lost 7.12%. In a study conducted by Chen and Siems (2004) we find that the market seems to be recovering at a faster rate than it normally would from a terrorist attack. The evidence also shows that the ability to recover sooner is because of the "staple banking/financial sector that provide adequate liquidity." In 2005 Glaser and Weber also analyzed stock return. Glaser and Weber found that the large decline in shares prices was just for a ten-day period after the event date September 11, 2001. More so, they found that the market had a higher volatility post event date.

Research by Eldor and Melnick (2004) suggests that terrorist attacks on public transportation had an effect on stock markets related to public transportation, but if the terrorist attacks weren't related to public transportation than there was no effect.

METHODOLOGY

This study uses ten companies that fall under airline firms. These airline companies travel to Paris directly or indirectly. The research that was conducted tests how long it takes for the ten firms' stock prices to react to the Paris terrorist attacks on November 13, 2015. While this terrorist attack isn't the largest one with the most casualties, it is one of the most well known terrorist attacks. In order to analysis the market efficiency of the terrorist attack event the inclusion of corresponding S&P stock prices were found on www.finance.yahoo.com. The event study consisted of data from all 10 firms and S&P 500 from 180 days before to 30 days after the event date of November 13, 2015.

In order to test the events effect on the stock market, this study used standard risk adjusted methodology found in the finance literature. The event date of November 13, 2015 will be know as day 0. In order to find holding period return (R) for the firms the formula current daily return= (current day closing price-pervious day closing price)/previous day closing price was used. The same formula was used to find S&P 500 index (R_m). This formula above was used for period of -180 to +30. A regression analysis was preformed on Microsoft excel. The actual daily return of each company was used as the Y (dependent variable) and the S&P 500 index daily return was used as the X (independent variable). The output of the regression analysis was the alpha (the intercept) and the beta (standard coefficient).

To test for semi-strong market efficiency on the Pairs attacks, the following null and alternative hypotheses were used:

$H1_0$: The risk adjusted return of the stock price of the sample of ten airline firms is not significantly affected by this type of information date of event.

$H1_1$: The risk adjusted return of the stock price of the sample of ten airline firms is significantly negatively affected by this type of information on the date of event.

$H2_0$: The risk adjusted return of the stock price of the sample of ten airline firms is not significantly affected by this type of information around the date of event.

$H2_1$: The risk adjusted return of the stock price of the sample of ten airline firms is significantly negatively affected by this type of information around the date of event.

The expected return for each stock for each day of the event period defined as day -30 to day +30 was calculated using the following: E(R)=alpha + beta (R_M). R_m is the S&P 500 index also known as return on market.

1. Then the Excess Return (ER) is calculated by subtracting the expected return E(R) from the actual return (R).

2. The Average Excess Return (AER) was calculated for each day of the event period (-30 to +30) with the following formula: AER = Total Excess Return/ number of firms in sample size
3. Cumulative Average Excess Return (CAER) was calculated by the adding the AER for each day in the event period (-30 to +30)

The charts below show the AER and the CAER plotted against time, respectively the charts are one and two. Both charts were plotted for the event period defined as -30 to +30.

CHART ONE AER VS. TIME

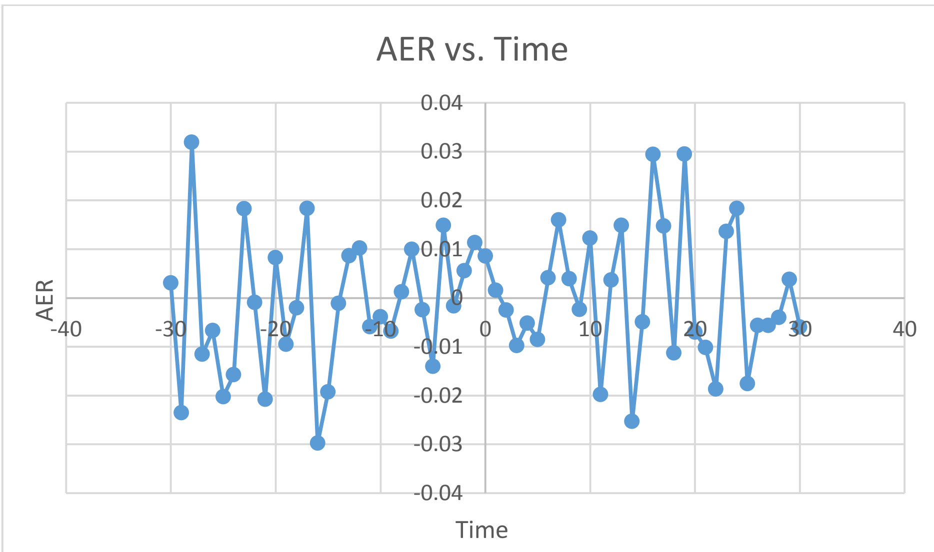
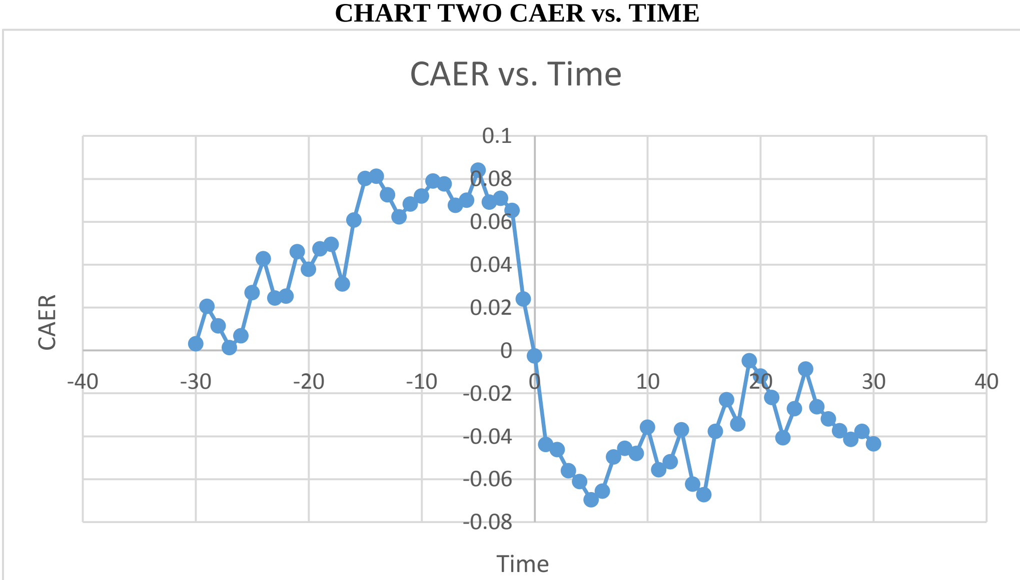


CHART TWO CAER vs. TIME



QUANTITATIVE TESTS AND RESULTS

Did the market react to the terrorist attacks of Pairs? Was the information surrounding the event significant? A ‘priori, one would expect there to be a difference in the Average Excess Daily Returns (AER) of the event period (-30 to +30) to be different than 0 and significantly different than the Cumulative Average Daily Returns (CAER) of the event period (-30 to +30) if the information surrounding the event impounds new, significant information on the market price of the firms’ stock. We support our hypothesis that this type of information did in fact significantly either increase or decrease if a significant risk adjusted difference is observed. A paired sample t-test was used to analyze the difference in the risk adjusted AER and the CAER for the firms over the event period; the results of the paired sample t-test suggest a statistical discernable difference at the 5% level of significance for the sample of airline companies. These results support our alternate hypothesis $H1_1$: The risk adjusted return of the stock price of the sample of ten airline firms is significantly negatively affected by this type of information on the date of event and $H2_1$: The risk adjusted return of the stock price of the sample of ten airline firms is significantly negatively affected by this type of information around the date of event.

Is it possible to isolate and observe the ten companies daily response to the Paris terrorist attacks event period? If so, does the market show weak form, semi-strong form, or strong-form efficiency and what are the implications? It is visible on chart one above that there is a downward pattern after the event date of November 13, 2015 represented on the graph by 0. This is consistent with Glaser and Weber (2005) findings that the market only fell for 10 days. In the analysis of chart one it is visible that the selected firms AER only decrease for about 6-8 days. This finding is consistent with Chen and Siems (2004) because the market seemed to have recovered faster than the market recovered after our September 11 terrorist attacks; like Chen and Siems research shows the market seems to be recovering from terrorist attacks at an increased rate. The CAER vs. Time chart also shows the results and supports the alternative hypothesis $H1_1$: The risk adjusted return of the stock price of the sample of ten airline firms is significantly negatively affected by this type of information on the date of event and $H2_1$: The risk adjusted return of the stock price of the sample of ten airline firms is significantly negatively affected by this type of information around the date of event.

CONCLUSION

The purpose of this event study was to test the effects of the Paris terrorist attacks on stock prices’ risk adjusted rate of return for 10 selected airline companies with direct or indirect travel to Paris. Tests were performed to examine statistical significance of the event study data. Results suggested that the Paris terrorist attacks did have a negative effect on stock prices of the ten selected airline companies. Specifically, the results show that the sample airline stocks drop on the date of event November 13, 2015. The date of event was also the date information became public. Therefore, the results support semi-strong market efficiency. In conclusion the results of this event study supports the alternative hypothesis $H1_1$: The risk adjusted return of the stock price of the sample of ten airline firms is significantly negatively affected by this type of information on the date of event and $H2_1$: The risk adjusted return of the stock price of the sample of ten airline firms is significantly negatively affected by this type of information around the date of event.

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GLOBAL CULTURAL AND ACCOUNTING DIFFERENCE BETWEEN JAPAN AND THE USA

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ABSTRACT

Hofstede's Model is used as a method to decipher the cultural traits that shape a countries decision making skills and general business practices. It is made up of Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation and Indulgence. In order to get an accurate sense of the effect culture has on a countries corporate world, you can analyze two countries that are very different in terms of culture, lifestyle etc. and compare them. When comparing the United States and Japan, power distance is the factor they have most in common. They are borderline hierarchical, however compared to other Asian countries they have a far lower score. Japan's slow decision making process involves every hierarchal layer confirming the decision, making it hierarchical in a sense. However, even though this is the case, this shows that no one employee can make a decision. In Japanese culture, it is believed that everyone is born equal and you can become anything as long as you work for it. This aligns with the mentality of people in the United States ultimately explaining why they are closest in terms of power distance. As for individualism, the two countries differ. Japan is more of a collectivistic society, where as the United States is a very individualistic society. The interesting part of Japan's collectivistic culture is that it is situational. Viewing the country with a Western mindset make it easy to see them as a collectivistic culture, however when compared to other Asian countries they are actually more individualistic.

The cultural dimension approach is the most influential approach to determine the characteristics of groups of people. Hofstede's Six Dimensional examines country differences across multiple dimensions. Hofstede's framework examines the power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, long-term orientation, and indulgence. It is important to understand an implement the dimension approach when doing business in United States and Japan. Companies need to adjust their business approach between countries based on their respective cultures. Hofstede's third dimension is masculinity versus femininity which measures sex role differentiation. Hofstede defines masculinity as behaviors driven by competition, and achievement rewarded by "winner" (Hofstede, 2010).He also defines femininity as behaviors driven by caring for others and quality of life. The main issue is the motivation of people: wanting to be the best, or liking what you do (Hofstede, 2010). The United States scored a 62. It is shown by Americans trying to be the best or winner at everything they do. It is reflective at an early age in school. Kids are taught values as "strive to be the best they

can be;" it is amplified later on in life when adults talk freely about their past and present successes and achievement (Hofstede, 2010). Japan scored a 95, but they do not show an assertive or competitive behavior like the United States. Japan tends to compete between groups, instead of individuals, because of their collective culture (as compared to United States' individualism). Japan tends to have a workaholic business culture. They strive for perfection and excellence while fighting as a winning team against competitors for an extreme amount of hours. Hofstede's sixth dimension is indulgence; it measures the extent to which people control their desires and impulses. Strong control over impulses is described as restraint while weak control is called Indulgence. The United States scored a 68, and Japan has a low score of 42. United States indulgence is categorized by the behavior, "Work hard and play hard" (Hofstede, 2010). On the contrary, Japan is a restrained towards impulses. They do not emphasize leisure; they have the perception that actions are restrained by social norms and indulgence is wrong (Hofstede, 2010). Culture dimensional approach is an excellent framework for companies to integrate their businesses in foreign markets. Countries, like United States and Japan, may have the same level of dimensions of culture. Though, they will ultimately differ in context. Companies providing customer service in the United States need to accommodate to their high indulgence and masculinity. Service providers should stress immediate success of a service while operating within the strict set of rules. Companies operating in Japan need to accommodate to the culture's low indulgence and high masculinity. Service providers should stress consumers that their business will grow as a group over a long period of time with hard work. Service providers need to curtail international business to appropriately meet other countries' culture. Geert Hofstede, Gert Jan Hofstede, Michael Minkov, Cultures and Organizations: Software of the Mind. Revised and Expanded 3rd Edition. New York: McGraw-Hill USA, 2010.

Looking at Hofstede's 6 Dimensional model, the differences between the United States and Japan continue to surface. Japanese culture is fairly collectivist as opposed to the very individualistic societal values that embody the United States. This scale of individualism denotes the types of characteristics that both countries maintain including the likelihood of children moving out of the house at a certain age and even controls the distance traveled from family. In the United States, the majority of the population may consider living in a state away from their parents or family depending on the benefits stacked against the odds. Japanese culture differs in the way that the unity of the family carries more importance and the children in the family grow with the idea of eventually becoming successful enough to take care of their parents. Since culture endures business and differing societal values by country, it is important to realize that these cultural values affect customer service around the world. Due to the collectivist nature of the Japanese, their methods of customer service tend to focus more on the relationship based selling. Providing the customer with the product that adequately meets the needs of the consumer carries the most weight when selling Japanese items. On the other hand, the United States focused on a form of needs based selling. Relationship based selling in the United States shines within the B2B sector due to the lack in variation between the suppliers and distributors that companies tend to use. In B2C sales within the United States, the focus tends to rely on meeting the requirements or needs of the individual buyer. This leads to the fast paced structure of B2C sales in the United States which has adopted many negative connotations and stereotypes of salespeople. In terms of ethics, an important note to remember is the relationship oriented *culture that the Japanese people maintain. Along with this cultural characteristic lies intense value in relationship building an trust. The Japanese make products built to last and promote those products in a way that make the buyer understand the importance of not only the quality of the product but also the relationship they gain by searching for it. In Japanese culture, honor lies at the heart of society and even pervades the business world, leading the people through a very structured and law abiding way of life. The United States places value in meeting the needs of the consumer as well as bettering the company and therefore the rest of the stakeholders. Ethics in the United States vary by organization but normally include a heavy importance on trust building, quality, and reliability in both the product and the company itself.*

Differences in cultural characteristics as categorized by Hofstede's 6D model can be an analyzing point when trying to come up with a customer service strategy. Four of these dimension have a direct impact on how the customers of a certain culture will respond: power distance, individualism vs. collectivism, masculinity vs. femininity and uncertainty avoidance. In this paper, the United States and Japan will be compared due to their relatively distinct culture. The United States and Japan scored fairly polar on three of the dimensions mentioned with a similar score on power distance. The scores are on a 1-100 scale. Customer interaction and reaction can be hypothesized by looking in to the power distance culture of a country. Both the United States and Japan have a moderate power distance score, with the United States being slightly lower at 40 vs 54. A moderate power distance score tells us that while we don't necessarily treat the customer as king, they also aren't our equal. There is a balance between unreasonable customer demand and over-casualness. While interacting with customers from higher power distance culture, our lower power distance can be seen as rude. In the remaining of the four dimensions, the United States and Japan scored the furthest from each other in uncertainty avoidance at 46 vs 92. A higher score on uncertainty avoidance shows fear of the unknown, thus when offering customer service to people in this region, a wide array of information should be available and ready. In the United States, which has lower uncertainty avoidance, ambiguity is allowed. This calls for things like mystery items on the menu of restaurants and less detailed description of products. Individualism vs. collectivism can be used to determine what kind of business relationship do we want with the customer. In highly individualistic countries the task is more important than the relationship. The United States scored a 91 in individualism vs. Japan's 46. Strategically this calls for the United States to provide exceptional products that focuses more the material side while Japan should while still focusing on product quality, also venture out and develop a relationship with the customers. Building this mindset of "we" while in general is good business practice, in lower individualism cultures, this can be detrimental. In the last notable dimension when analyzing customer service, the United States scored 62 in masculinity vs. femininity while Japan scored a 95. A higher score means a more masculine culture and vice versa. Japan is a very masculine country which focused on competition, achievement and success. In customer service terms, this means that preferential treatment may be given in order to post sales. This means more sales, more promotions, and more exciting events. While Japan did score higher than the United States, the United State is still a fairly masculine culture, just less so. In a feminine culture, there is less emphasis on big events and more so on just a pleasant and reliable experience. In a masculine culture, ethics might come in to play on just how competitive a company is willing to be. In *considering how much achievement can be made, companies may choose to cut corners or undercut other in order to be the best. This can come in conflict with the individualism vs. collectivism characteristics. This is interesting to note that both the United States and Japan are on opposite spectrum of the theoretical perfect combination. With Japan being a collective culture while also being masculine can either bring up problems or rather improve their customer service. Instead of cutting corners and undercutting, they may find the way to being the best is rather to just improve quality. So while marketing to these cultures, companies should be aware of each country individual characteristics and modify their sales tactic accordingly.*

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FINANCIAL ACCOUNTING AND CULTURAL DIFFERENCES IN MEXICO, SWITZERLAND, ITALY, FRANCE, AND GERMANY

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ABSTRACT

Mexico and Switzerland are countries located in two different continents. Mexico is located in Latin America, and Switzerland is located in Europe. Both countries have their differences in what drives their culture. Both countries culture differences lies within the 6 different dimensions described in Holfstede's 6D Model. The 6 dimensions are Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation, and Indulgence. According to Hofstede's 6D Model, both countries have a masculine society, indicating that both countries "live in order to work." This means the people are very competitive and highly success oriented. They have a goal of being the best and will deal with conflicts by fighting them out. Both countries score high in indulgence meaning cultures stay optimistic and fulfill their desires to enjoy life and have fun. With a high score in power distance, Mexico is accepting of a hierarchal order. People respect the power from higher management, following rules of management. On the other hand, Switzerland scores low in this category meaning that society believes that inequalities should minimized. Here people think everyone should be treated equally among all rankings. Higher management is in favor of using lower ranking employee's experiences to better enhance organizations. In Switzerland, people are individualistic meaning that they work for to take care of their immediate family and themselves. Mexico is the opposite in this dimension with highs score, society works in a sense as a group. People work and stay loyal in all relationships no matter what relationship they have together. Both countries score high in indulgence meaning that society realizes their desires and when people get what they want it is because they want to enjoy life and have fun. Societies stay optimistic when described as indulgent. Switzerland scores high in both uncertainty avoidance and long term orientation leading society to follow rules and adapt to changes easily to save and invest for the future. Mexico's society is similar to Switzlerand in uncertainty avoidance but differs in long term orientation. Mexico's score in long term orientation was low meaning that society focuses on getting results as quick as possible.

Upon comparing business ethical guidelines involving Italy and the United States, we see similarities and glaring differences. Ethics in the United states and Italy are considered to be of the upmost importance. In the United States ethics is taught at almost every university. The majority of business and management schools also incorporate ethics curriculum into each course they offer. In the US, most corporations have ethics committees and social responsibility programs. The problem is despite efforts to bombard students and executives with ethics courses,

seminars, and training, the success has been dismal. A simple google search of ethics violations and scandals in the US may enlighten you on the numerous lawsuits brought on by consumers and the SEC. In the Italian republic ethics is taught at most universities as well, some Italian universities, such as the University of Bergamo offer a master's degree in ethics of international corporations and human rights. In Italy businesses are governed by the corporate governance code, which is a ten-article document dealing with every aspect of corporations. It seems that Italy is doing a better job than the US in following ethics guidelines in recent history. Although, there is currently a large scandal involving British Telecommunications Italian accounting branch. Overall, both countries display similar mindsets, laws, and educational guidelines, with effectiveness being the major difference. When we look at Hofstede six dimensional models we can distinguish the differences between Italian and American cultures. It's clear that Italians and Americans are very different culturally. They have huge disparities in Indulgence, long term orientation, uncertainty avoidance, and notable differences in individualism and power distance. Americans are very indulgent and show little restraint in having fun, wanting to party, and rewarding themselves. Italians are vastly different, they seldom indulge and most likely view American society as wrong or conflicting with their norms. Americans also think less long term compared to Italians. Americans seek instant gratification, while Italians tend to think more long term. Italians see reaching success as a steady walk, not a sprint. These major differences may help to explain why more American companies violate ethic guidelines than Italian companies. In the both countries customer service has becoming increasingly important. Corporations have implemented a variety of strategies in order to give their customers the ultimate experience involving their products and services. To ensure growth, companies need to acquire and maintain solid customer relationships. Since the internet is such a major part of business, many US corporations have adapted their customer service departments. These departments even include representatives across all forms of social media. They respond to complaints, resolve conflicts, and work to ensure a positive company image. In Italy, the results seem similar, they as well focus on putting the customer first. Both countries utilize operational, analytical, and collaborative processes to ensure quality customer relationships.

In the Hofstede's 6D model comparing Italy, France, and Germany, Italy seems to be the highest in individualism and masculinity; France seems to be the highest in power distance, uncertainty avoidance, and indulgence; and Germany seems to be the highest in long-term orientation. When focusing on Italy, their individualism is a score of 76. This means they are ""me"" centered. This is found more in the Northern larger, more successful cities. Family and friends is definitely a big part of the Italian lifestyle but friend in a work setting can be different than a casual setting. For Italians, the way to happiness is found by self-fulfillment but it is not quite the same in Southern Italy. This individualist type of living is not as common so when traveling from southern Italy to Northern Italy, there is a difference in engagement between the visitors and locals. When reviewing France, their power distance is decently high with a score of 68. This is caused by a few factors. Children are raised to be dependent on their parents. This dependency is then passed onto teachers, superior figures, etc. Along with the centralized government power, the geographical characteristics are also centralized. This can be seen as most roads leading directly to Paris, which is where the government/leaders are found. Studies have shown that many companies in France have one to two levels of company management (in *terms of C-level positions). These CEO's are also known as PDGs which stands for ""President Director General. These individuals are highly educated and known to have attended the big-league schools.Lastly, when looking at Germany, they rate at an exceptional score of 83 for long-term orientation. They are a pragmatic country which means that the citizens believe that truth is dependent on a few variables: the situation at hand, the context of the situation, and the time of the situation. Germany also shows a great ability to save, invest, and reach their desired goal when changing their traditions. They aren't afraid to try new things in order to be successful.*

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ACCOUNTING INFORMATION SYSTEMS AND SUPPLY CHAIN MANAGEMENT WITH CROSS CULTURAL COMPARISONS

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ABSTRACT

Cultural differences of USA and India causes huge impacts on their ideas of business ethics. The United States of America scores 40 on the Power Distance dimension of Hofstede's cultural scale. United States believes in the uniqueness of the people and values the American premise of "liberty and justice for all." Hierarchy is recognized and accepted in American organizations for convenience. Superiors, managers, and all other employees are considered equally important in the decision making process. Managers and employees are expected to share opinions and information to all levels of the organization. Superiors are always available, managers depend on individual employees and teams for their expertise, and communication between all levels of employees are informal, direct and participative. Beside this, employees are expected to be independent and show initiative. Hiring, promotion and decisions are based on one's ability and capability of bringing success to the organization. India has a high Power Distance score of 77. It has a top-down structure in an organization where the employees have to be given clear direction as to what is expected of them by their managers. Mangers rely on the obedience rather than the shared opinions and expertise of their employees. Employees are expected to be told by their superiors of their duties, and opinions are not shared between or from lower to higher levels of the organization, making employees dependent on their boss. In the American society people are self-reliant and independent scoring 91 on the Individualism dimension. They look after themselves and their immediate families only and do not rely too much on others for support. For Americans "I, Me, Myself' comes first before "We and Us". Where India scores 48 on Individualism. Indians have more collective traits as they are expected to be a part of a bigger picture and think of the greater good. They are expected to take everyone's advices such as from family, extended family, neighbors, and work members under consideration before doing anything important in their life or work life. The individualism side of Indians comes from their belief in karma and reincarnation. This philosophy keeps them individually responsible for how they lead their lives, where what you do now, will depend on what will happen to you in future or new life. America and India are both a Masculine society scoring high of 62 and 56 on the scale respectively. Both countries have competition driven individuals who thrive for success. Individuals who are best in their fields are valued more and considered more successful than the ones who are mediocre. America and India scored low

getting 46 and 40 respectively in Uncertainty Avoidance though for different reasons. Indians are highly expected to "adjust" and tend to settle with things and life. America is more open to new ideas and welcome them with the expectation that there can be high chances of failure weather it relates to technology, business practices or food. Americans believe in freedom of expression and are less emotional individuals. Where Indians are more patient and have high tolerance towards unexpected. Although American government is more proactive and preventive after the 9/11 attack, Indian government is less confident on taking big steps towards becoming preventive for such attacks in India. Different religious beliefs creates a big impact on Long Term Orientation dimension. India scores high earning 51 and America scores very low earning 26. India is more pragmatic and carries a go with the flow type of tradition where most individuals believe in "karma" and "reincarnation" making the time nonlinear and not as important as America. Americans in the other hand, are more analytical towards new information and need proof to believe the truth, but also practical and carry a "can-do" mentality. India scores only 26 in the Indulgence dimension as it has a restraint culture.

Customer service between Iraq, and the United States of America are very different. In Iraq, their views are heavily influenced by their strict religious beliefs; therefore, constraining their citizens to function only within cultures like their own. Whereas, the customer service industry is less constrained by strict religious views, and often mentally challenged, requiring them to go beyond a company's expectations. Thus, American's that extend their products outside of US will find better success in other industries than Iraqi companies. However, Iraq will still perform better in their own market than the U.S. due to several factors. One of the factors that may cause American businesses to underperform in the Iraqi industry may be because of the ethical behaviors. Based on the Hofstede's country comparison, Iraq scored high on power distance, and masculinity scales. Iraq's high scores on both segments may suggest that businesses engage in activities such as colluding, corruption, and bribery; therefore, appearing to be globally unethical. However, due to Iraq's inability to conduct business appropriately, their ability to expand globally will be constrained. Another factor that may cause American businesses to fail in the Iraq market, is the lack of individualism and social norms. Iraq scored very low on both scales suggesting that consumers in the Iraq market do not adapt to change. Although American products, or services may be more advantageous to an Iraqi, consumers in the Iraqi market will reject anything that is not made in Iraq.

India and Pakistan vary significantly in terms of individualism. On one hand Pakistan has a very low score of 14. This score indicates that it is a very collectivist society and that there are strong relationships between family members that may even override certain societal rules. With this type of society, each person is liable for each of their family members, and the action of one of the members reflects upon the entire family. Due to the collectivist society, many relations and any sort of management is developed and practiced within the group. Contrasting greatly with Pakistan, India has a score of 48, which suggests that Indians are split evenly between a collectivist nature and a more individualistic nature. The collectivist nature resembles the Pakistanis due to similar culture and traditions. The individualistic nature may be a result of political/ economic development in India, which may force certain individuals to take a more self-centered approach towards their actions. Another reason may be the dominant religion of Hinduism, which enforces the idea that each person's personal actions will determine their next *life. Another factor these two countries vary greatly on is uncertainty avoidance. While Pakistan has a high uncertainty avoidance of 70, India's score is an average of 40. Pakistan's high uncertainty avoidance may be due to their collectivist nature, which maintains rigid codes of conduct and society's intolerance towards things out of the ordinary. The aversion to uncertainty may also be due to the poverty in the nation which prevents citizens from challenging societal norms because they are simply focused on their basic survival needs. India on the other hand has an average uncertainty avoidance level, which indicates that it does not have rigid set of conduct and allows for imperfection. They are more tolerant of new methods and actions. Though the two countries vary in other aspects, they are pretty much identical in terms of long term orientation with average scores of 50 and 51 in Pakistan and India. In Indian culture the concept of Karma plays an important role in showing how your actions will impact your future. Indian society allows their citizens to create links between the past and their current situations. this provides a little more leeway for those without an exact plan. With Pakistan's score of 50 it is difficult to exactly determine whether the society is more or less long term oriented which leads the conclusion to the fact that they may have similarities to the Indian culture.*

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NEXUS IN TEXAS

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ABSTRACT

Through investigation of court cases, articles, and public information put out by Amazon, we describe the evolution of Amazon's sales tax strategy as it has grown as an enterprise.

In 2015,Amazon.com announced the completion of a 1.26 million square foot distribution facility in Schertz, Texas. The warehouse represented a recent chapter in a dispute between Amazon.com and the State of Texas over the state's so-called Amazon Tax, a tax on ever-increasing sales over the internet. Sales tax is levied on the consumer and the collecting corporation remits it to a state.Therefore, avoiding sales tax collection does not save the corporation money, but it does win the customer by being able to offer a selling price without tax.Since the Supreme Court's decision in Quill Corp. v. North Dakota, 504 U.S. 298 (1992), states have been required to demonstrate a company's physical presence or "nexus" in the state in order to impose a state tax on company sales. However, when New York enacted Tax Law § 1101(b)(vi), now referred to as the "Amazon Law," the "nexus" requirement was significantly altered. Under the New York law, online retailers using an in-state party to host an advertisement for which a commission would be paid now ran the risk of creating a "Click-thru Nexus." This change encouraged other states to send their own tax bills to Amazon. Not all states needed an expanded definition of nexus, though, to believe that Amazon owed sales taxes to them. For example, the State of Texas relied on the traditional definition of nexus when it presented Amazon with a $269 million demand letter for back taxes in 2010. Amazon responded by closing a Dallas warehouse and then negotiating for tax abatements for new projects.

Amazon has a history of zealously opposing state taxes. Amazon has fought court battles in New York and Colorado opposing tax bills in those states, but lost in the 2nd and 10th Circuits. In 2013, the company tried to take the battle to the U.S. Supreme Court – only to be denied review.In Texas, Amazon vigorously opposed the Amazon tax. However, Texas State Comptroller Susan Combs persisted, and the two sides reached a settlement agreement.

Amazon is the epitome of an economically relevant online company. At its inception, one of their significant cost strategies was to avoid having the customer pay sales tax. However, as they've grown, they have not been able to maintain that strategy and serve customer quickly. An unsuccessful interim strategy was to pursue solutions through the court system. Their current strategy is to bargain with the states to receive tax abatements and other preferences.

ACCOUNTING AND CULTURAL DIFFERENCES IN MEXICO, SWEDEN, SOUTH KOREA, & THE USA

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ABSTRACT

When assessing a nation and comparing it to another, one must go about choosing the appropriate aspects within each nation to judge as the basis. In many appropriate cases, what can and should be assessed among the nations are topics to be considered universal and/or consistent. In the case of this study, the themes that are to be discussed fall within that category; with said themes being Ethics, Geert Hofstede's six dimensional model of cross cultural values, and strategic customer service. In the case of both Sweden and America, these principles are to be used to assess the distinctions that lie within each nation that may not be immediately apparent. It is through a comparison between the two nations that the defining aspects regarding the aforementioned topics will be made. Ethics can often be described as the long term moral principles that guide an individual or group in their behaviors throughout the course of their lives. Within the scope of a nation, the standard held by said nation is one that can be seen through a currently established pattern set by it's people and the governing bodies that they choose to represent them. As with most aspects in life, the ethics of a nation are prone to change over the span of it's history. This can be especially seen through Sweden. Throughout the years, the Scandinavian nation's regard for ethics has taken to many (and often times, violent) extremes, beginning with a more self-centered approach during it's formative years as a raider-based society before shifting gradually to an extensive monarchy with invasive political control over it's surrounding nations. It wasn't until the middle twentieth century to presently in the twenty first century when the nation's standard of ethics changed from a self-serving one to that set by a selfless standard. As it stands, Sweden is the perhaps the first nation in the world (with Germany being a close runner up) to take the side of socially progressive measures and integrate all the facets of it's society to align with them. Two such examples would be the fact that it has the self-proclaimed ""first official feminist government in the world""(http://www.government.se/government-policy/a-feminist-government/), and is also recognized as the best country for expats and refugees to live in (http://www.kwintessential.co.uk/resources/guide-to-sweden-etiquette-customs-culture-business.html). The basis of ethical standards in Sweden is essentially revolved around what it is that they as a government, people, and society can give to the outside world, and to those groups/demographics of people they deem to be in need of the most assistance, in-group or not. In the United States of America, the ethical standards of the country have experienced many changes as well, despite not having the same bulk span of history. America as a nation began it's inception with it's people breaking away from a larger, more powerful sovereignty in a violent

struggle. After the proper alliances with France were made, the country became a free nation after a decisive military victory, and vowed to stay that way. Despite the tenants of it's constitution putting it's emphasis on a ""freedom and equality for all"" basis, not everybody within the land was free or equal to those wealthy land owners who typically wrote the laws. It took many years of strife that eventually led America to the point it is in now, and with those years, significantly more freedoms were earned for those people who previously lacked them. With the basis of American culture being emphasized on equality and freedom, and the struggle to attain it, the many people who share these values base their views on ethics through the opportunities that one can have to better themselves. Should one be denied the opportunity, and ultimately the freedom to do so, it is considered to be unethical. In regards to both Sweden and the United States, the basis of ethics can be viewed as being one that fully supports ethics.

Hofstede's 6D Model United States United States scores 40 on Power Distance showing that it is not a hierarchical society. Americans has a premise of "liberty and justice for all", which can be seen from support of equal rights in American society and government. In American organizations, hierarchy is for convenience, superiors are accessible and managers depend on employees for their expertise. Both managers and employees are expected to be consulted, information is shared frequently and employees use informal, direct and participative communication. United States scores 91 on Individualism showing that it is one of the most individualist culture in the world. People are expected to look after themselves and their direct families only and should not depend on authorities for support. It is often difficult for Americans to develop deep friendship. Unites States scores 62 on Masculinity showing that it is a Masculinity society. American behavior in school, work and play are based on the value that people should strive to be the best and the winner takes all. Americans tend to show and talk about their success and achievements. Many assessment systems has precise target, and employees can display how well they did on a job. There is a "can-do" mentality which believes that there is always possibility to do things better. Americans live to work to obtain monetary rewards and higher status based on performance. White collar workers will move to better neighborhood after substantial promotion. Americans believe that a certain degree of conflict will bring out the best of people, and there are many polarization and court cases. Unites States scores 46 on Uncertainty Avoidance showing that it has slightly low tendency to avoid uncertainty. The perceived context will impact behavior of Americans. New ideas, innovative products and a willingness to try new or different things are fairly accepted. Americans are tolerant to ideas or opinions from anyone and approve the freedom of expression. Also, not many rules are required and emotions are not expressed often as much as higher-scoring cultures. Fear was created by 9/11, and governments monitor everyone through the NSA and other security organizations. The Unites States scores 26 on Long Term Orientation showing that it is a normative society. Americans tend to analyze new information to see if it is true, but Americans are practical as the "can-do" mentality shows. Many Americans have strong ideas of "good" and "evil", which can be seen from issues of abortion, use of drugs, euthanasia, weapons and the size and rights of the government, states and citizens. The Unites States is one of the "Caucasian" countries, which church goers has increased since the 20th century. Businesses measure their performance on a short-term basis, which drives employees to strive for quick results in work place. Unites States scores 68 on Indulgence showing that is an Indulgent *society. Americans work hard and play hard. Drug addiction is higher than other wealthy countries. Some famous entertainers display immoral behavior. Mexico has a score of 81 on Power Distance, showing that it is a hierarchical society. People accept a hierarchical order in a setting where everyone has a place and no further justification is needed. In an organization, hierarchy is seen as displaying natural inequalities, centralization is popular, subordinates are expected to be told what to do, and the boss is expected to be a benevolent autocrat. Mexico has a score of 30 on Individualism, showing that it is a collectivistic society. Mexicans have a close long-term commitment to the member's group, such as a family, extended family or extended relationship. Loyalty is important, and supersede other societal rules and regulations. Everyone takes responsibility for members of their group. Offense results in shame and loss of face.*

Sweden and South Korea are two incredibly different societies. Their Hofstede dimensional models, ethics, and strategic customer service are polar opposites. Swedish ethics focus on their company's societal impact or corporate social responsibility. Swedish companies value sustainability. Sweden surpassed 58 countries in the RobecoSAM Country Sustainability Ranking, which ranks companies on a wide variety of CSR initiative such as environmental impact and company corruption. In contrast South Korea's business ethics only covers company corruption. Bribery penalties are especially strict in South Korea. Under the anti-corruption law of South Korea there is no minimum monetary restriction for punishment of bribery crime, and criminals can be subjected to a maximum of 5 years prison time. On the other hand the Korean Federation for Environmental Movement or KFEM does not strictly restrict corporations from damaging the environment. Due to lax environmental laws South Korea faces several environmental issue such as pollution, land use, and habitat preservation. Hofstede's six dimensional model modal provides an in-depth view of why Korea and Sweden are so different from each other. South Korea has a 100 percent ranking in long term orientation. Businesses in South Korea highly value long term resilience, this requires their employees to put the company before their own desires. This leads to a group oriented society which is why South Korea scores a very low 18 on Hofstede's individualism scale. In contrast Sweden's society strongly values individualism. Since individuals are focused on their own success before their company's Sweden's long term business orientation is significantly lower at 53 percent. Individual happiness is valued before group success which explains why Sweden has a high indulgence index. Swedish business put employee happiness first which explains why Swedish companies are often closed for weeks at a time during the summer months. In contrast South Korea's group oriented society values restraint with a very low indulgence score of 29. Due to its group oriented society South Korea scores a very low 39 on the masculinity scale. The South Korean society values the good of society as a whole. People are considered equal and no individual in a company is seen as more important than another. Surprisingly Sweden also scored very low on Hofstede's masculinity scale. Although both societies are considered feminine there are very different reasons for their scores. Swedish society blurs the roles of managers and their employees. They believe in a strong work balance lifestyle and an equal opportunity to have a high quality working life. In order to attain this life style Swedes have a low power distance score. They believe managers and employees should be able to converse and debate without status. South Korea on the other hand, is a feminine society because it believes everyone should equally share the work and family burden to raise society as a whole rather than themselves.

Koreans have a slightly high power distance score of 60. Business are set up in a hierarchy. Employees are expected to put work first and never question their superiors' decisions. Business and family relationships are rarely challenged. Because of this, South Korea has a high uncertainty avoidance score. In contrast Sweden scores a low 29 on uncertainty avoidance. Swedes believe that schedules can be change to fit personal needs. People come before the corporation and without restraints employees will be more innovative.

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ARTIFICIAL NEURAL NETWORK MODEL FROM MISO AND MIMO PERSPECTIVES FOR PREDICTION OF US MARKET INDICES

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ABSTRACT

This research paper focuses on designing models using the architecture of ANN techniques specifically Error Back Propagation Network (EBPN) and Radial Basis Function Network (RBFN) from Multi Input Multi Output (MIMO) and Multi Input Single Output (MISO) perspectives. The tests of the models developed in this study were performed using as key variables the next day open and close prices of the DOW30 and NASDAQ100 indices. We used Mean Absolute Percentage Error (MAPE) as measure of predictability. Based on the results, we observed that EBPN outperformed the RBFN. Additionally, MIMO results were also better than MISO for all the predictors.

INTRODUCTION

Researchers continue to explore innovative tools and technique to recognize trends to predict the future to help investors, financial professionals and fund managers. Recently, researchers have been trying to design models using sophisticated tools to make improved predictions so that investors can manage their portfolios with the maximum possible returns for a given level of risk. High volatility in the stock market creates a desire to design and develop models that can decipher non-linear trends to aid investors. Artificial Neural Network (ANN) techniques are attractive because they can capture non-linear trends in stock market data better than traditional techniques. Existing literature reveals that the applications of ANNs are more promising alternatives than time series forecasting (Guresenet al., 2011; Sharma and Rababaah, 2014; Trippi and Turban, 1996). ANN has received the attention of researchers for forecasting market indices because of its trend learning capabilities of non-linear and noisy data and massive interconnectivity and parallel processing power (Principe et al., 1999). Researchers are using supervised and unsupervised ANNs for predicting trends of stock indices.

Investors, particularly those attracted to technical analysis trading, may be interested in different trading parameters. We model predictions of Next-Day-Close and Next-Day-Open on an architectural design of ANN as MISO and MIMO. It was assumed that ANN will map input pattern with its corresponding output pattern in a more associative manner with more predictors. Two designed architectures of ANN were trained using data for two stock indices: DOW30 and NASDAQ100. Simulated results were analyzed using the MAPE performance measure and we found that the performance of predictors is better in the case of MIMO as compared to MISO. Further, EBPN produced more consistent results than RBFN at both training and testing stages and was always higher in the case of testing rather than training.

EXPERIMENTAL SETUP

Data Description: Index data for the DOW30 and the NASDAQ100 were downloaded from the online source Yahoo Finance (http://finance.yahoo.com) from January 1, 2000 to January 31, 2012 to produce a total of 3000 samples.

Performance Measures: The predictive model was verified using Mean Absolute Percentage Error (MAPE). Equation 1 is written based on actual index price Y(t) and predicted index price Y'(t) with T as total number of samples, where a lower value of these measures indicates that the model is more accurate. When results of measures are not consistent, MAPE has been shown to provide relatively more stable values than other measures (Makridakis, 1993).

$$MAPE = \sum_{t=1}^{T} |Y(t) - Y'(t)/Y(t)|/T \qquad (1)$$

ANN Techniques: In the past two decades ANN techniques have attracted researchers for time series data forecasting due to their ability to learn nonlinear patterns. The following two ANN techniques were used in the current research for forecasting stock price index data in USA.

(i) Error Back Propagation Network (EBPN): EBPN (Shivanandam et al., 2011) is probably the most popularly used MLP for financial time series data forecasting in which logistic or tangent hyperbolic functions are used as the activation function in the hidden layer and output layer and performs a training process in a supervised manner using an error back propagation algorithm in two different stages: Forward pass and backward pass. In the forward pass the output is calculated at the hidden layer and these outputs are forwarded to outer layer neurons to produce the final output of the model. The actual index value is compared with predicted index value in order to calculate the error while in the backward pass the error calculated in the forward pass is sent back to previous layer (hidden layer) to adjust the synaptic weights.

(ii) Radial Basis Function Network (RBFN): Radial basis function (RBF) networks (Shivanandam et al., 2011) are feed-forward networks trained using a supervised training algorithm. It has a single hidden layer generally with a special type of activation function known as a basis function. The data pattern determines the most suitable activation function which can be radial basis, polynomial and sigmoid or linear basis function. In RBFN, each unit of hidden layers acts as a locally tuned processor that computes a score for the match between the input vector and its connection weights or centers. In effect, the basis units are highly specialized pattern detectors.

ANN MODEL DEVELOPMENT

An ANN model learns from the relationship of input and output, each input being mapped with output (Bashah et al., 2015). The number of neurons at the input layer and output layer depends upon elements in the input and output vectors respectively, however the number of neurons at the hidden layer may be decided using a trial and error method. Forming a suitable set of input and output patterns based on available input and output data may improve the performance of the model. Performance of ANN may vary by mapping the input pattern with single output and mapping the input pattern with multiple outputs. Keeping this in mind two ANN architectures were designed as Multi Input Single Output (MISO) and Multi Input Multi Output (MIMO). MISO produces one output while MIMO produces two with four inputs and four neurons at the hidden layer. The models form 4X4X1 and 4X4X2 architectures of ANN as MISO and MIMO respectively. One predictor as Next-Day-Close is considered for MISO, two predictors as Next-Day-Close, Next-Day-Open are considered for MIMO, which would be important predictors for investors and fund managers (Sharma et. al., 2013).

SIMULATION WORK AND RESULT ANALYSIS

Simulation work was done using Clementine Data Mining software by creating a stream and feeding stock price index data through MS-Excel files. Data were split between training and testing samples as 80:20 ratio. Predicted output were compared against the expected output in term of MAPE using equation 1 and results are shown in Table 1. Table 1 shows that MAPE at testing stage is always higher than MAPE at training stage for both the ANN architectures (MISO and MIMO) for EBPN as well as for RBFN especially for the DOW30 data set. The same relationship is partially true for the NASDAQ100 data set. It is also observed that the results of EBPN are more consistent than that of RBFN at both training and testing stages and is always less than that of RBFN for both the ANN architectures and for both the indices.

As above MAPE of Next-Day-Close and Next-Day-Open price for MISO and MIMO are 0.831 and 0.826 respectively using EBPN and are 0.879 and 0.890 respectively using RBFN for the DOW30.

Once the EBPN was found to be the more reliable model, we analyzed the predicted MAPE values of EBPN and found that result is improving by increasing the number of predictors. Table 1 clearly reflects the decreasing MAPE of predicted Next-Day-Close in case of MISO and MIMO are 0.831 and 0.826 respectively for DOW30 and 1.256 and 1.140 respectively for NASDAQ100 data at testing stage.

Table 1
A COMPARATIVE RESULTS SHOWING MAPE OF MISO AND MIMO

Dataset	Architecture Type	Predictor	EBPN		RBFN	
			Training	Testing	Training	Testing
DOW30	MISO	Next-Day-Close	0.939	0.831	0.989	0.879
	MIMO	Next-Day-Close	0.937	0.826	0.987	0.890
		Next-Day-Open	0.293	0.229	0.439	0.413
NASDAQ100	MISO	Next-Day-Close	1.801	1.256	1.942	2.048
	MIMO	Next-Day-Close	1.777	1.140	1.926	2.161
		Next-Day-Open	1.118	0.883	1.406	1.199

CONCLUSION

Artificial Neural Network (ANN) is a widely used technique for financial data forecasting especially for technical trading situations. This study has used a three layer feed forward neural network: Radial Basis Function Network (RBFN) and Error Back Propagation Network (EBPN) for forecasting of two US stock indices DOW30 and NASDAQ100 based on the architectural design of ANN. We conclude that the results of the EBPN technique were better than RBFN. The results show that values are predicted better with more output variables, i.e. best for MIMO followed by MISO. An EBPN based MIMO model is the most successful for predicting trends in the US stock market.

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PRIORITIES IN SUSTAINABILTY REPORTING

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ABSTRACT

Sustainability reporting continues to gain global significance. Diverse stakeholders expect that entities formally report information about their comprehensive effect on the environment, employees, the community, and other stakeholders. Accounting professionals' involvement with the selection, determination, and reporting of sustainability related information is expanding and presents significant opportunities for current and future accounting professionals. Accounting professionals' perceptions regarding sustainability reporting may influence the nature and extent of reporting; hence, their perceptions are important.

This study investigates the perceptions of accounting majors regarding broad as well as specific aspects of sustainability reporting by business entities. The study finds that accounting majors tend to support sustainability reporting by public companies, perceive that entities should report information about failures as well as achievements, and that the information should be audited. In response to open-ended queries, accounting majors specified several types of information with high reporting priority for each major sustainability area - environment, labour, society, human rights, and product responsibility. The findings from this study provide important insights into future accounting professionals' perceptions, which may be useful to standard setters, business organizations, educators, and other stakeholders.

INTRODUCTION

Interest in and demand for organizations to minimize their negative impact on the environment, on employees and the regional as well as the global community continues to grow. In addition, formal reporting on the results of organizations' sustainability programs has grown tremendously. Stakeholder theory and legitimacy theory provide some theoretical explanations for the trend toward increased sustainability reporting.

Accounting professionals' involvement in sustainability reporting also is expanding. Thus, their perceptions regarding the need for and value of formal sustainability reporting will tend to influence the extent and quality of sustainability reporting. Accounting majors, who represent the future accounting professionals and many of whom will directly or indirectly become involved with sustainability, will help influence reporting substance and quality. Thus, their perceptions are important and information about their perceptions provides valuable insights useful to academia, standard setters, and other stakeholders.

This study explores accounting students' perceptions of sustainability reporting with respect to broad and specific issues, including the need for reporting specific types of sustainability related information. The results suggest that accounting majors tend to support mandatory reporting of audited sustainability information by public companies. Accounting majors also appear to recognize the importance of reporting information about sustainability related failures as well as achievements. Study participants indicated multiple issues for which companies should provide information with respect to the environment, labour, human rights, society, and product responsibility and ranked them based on priority. The most frequently mentioned and top ranked sustainability issues with respect to the environment related to "harmful emissions," with respect to labor related to "employee benefits," with respect to society related to "community involvement and charitable work," with respect to human rights related to "prevention of discrimination," and with respect to product responsibility related to "product related injuries."

BACKGROUND

Global concerns about increased pollution levels and the availability and preservation of scarce natural resources continue to proliferate. In response to these concerns, companies have implemented diverse sustainability related programs. Global investment in new clean energy rose from $61.86 billion in 2004, to $328.93 billion by the end of 2015 (Bloomberg, 2016). Complementing the trend toward enhance sustainability is the trend to formally report sustainability related information to stakeholders. The prevalence of formal reporting various considerably among nations. The highest incidence of formal reporting tends to be by companies located in countries, such as Denmark, that require some level of reporting. In other countries, such as the U.S., it is largely voluntary.

Prior literature identifies primarily two theories – legitimacy theory and stakeholder theory -- that help explain entities' motivation for sustainability reporting. Dowling and Pfeffer (1975, 122) define organizational legitimacy theory as: "a condition or status which exists when an entity's value system is congruent with the value system of the larger social system of which the entity is a part." Dowling and Pfeffer view a disparity between actual and perceived value systems that are pertinent to the entity as threats to the entity's legitimacy. Thus, companies may be reporting about sustainability to address or prevent an actual or perceived discrepancy between their value system and that of key stakeholders. Research by Cho et al. (2012) and others support this theory.

Stakeholder theory, which is attributed to R. Edward Freeman (1984), also provides support for entities' motivation to report on sustainability. In the context of sustainability reporting, stakeholder theory suggests that entities report on sustainability in response to stakeholder expectations and demand. Furthermore, entities tend to be more likely to meet the expectations of those stakeholders that are perceived as most powerful and important. Some prior research (e.g., Chen and Roberts, 2010) supports this view. Furthermore, a recent analysis of shareholder-initiated proposals shows that in 2016, 41% of shareholder proposals dealt with environmental and social issues (Ernst & Young, 2016).

Commitment of entities' decision makers to sustainability reporting will likely depend on their perceptions that reporting will yield tangible and/or intangible benefits that exceed reporting related costs. These benefits may include enhanced reputation, mitigation of negative stakeholder and regulator perceptions, cost savings, and employee and investor goodwill. Sustainability reporting may also affect a company's cost of capital. A recent study (Dhaliwal et al., 2011) suggests that entities with high cost of capital that voluntarily start reporting about superior social responsibility programs will tend to experience a decrease in their cost of capital.

The usefulness of sustainability reporting to stakeholders strongly dependents on the relevance, faithful representation, and comparability of the information provided. Accounting professionals play an instrumental role in helping companies select sustainability reporting guidelines and for selecting, compiling and reporting the information. A study by Ballou et al. (2012) emphasizes the value of accounting professionals' involvement with corporate sustainability and asserts that additional involvement by accounting staff in sustainability initiatives may benefit companies and their stakeholders. As the importance of sustainability-related projects and the prevalence of formal reporting continue to increase, current and future accounting professionals will encounter enhanced opportunities for adding value to entities' sustainability goals and reporting efforts. Accounting majors represent future accounting professionals; hence their perceptions are important.

METHODOLOGY

The researcher developed a three-section survey instrument that addresses sustainability-related corporate reporting issues. The first section of the instrument addressed the overall benefits of sustainability reporting for investors, the need for mandatory sustainability reporting, the need for external review of sustainability-related information, and the importance of reporting both successes and failures. Brief affirmative statements addressed these issues and study participants were asked to indicate their level of agreement with each statement using a 5-point likers rating scale, with "5" defined as "strongly agree." The second section of the questionnaire was organized into five categories addressing sustainability-related reporting areas. The five categories were (1) environment related information, (2) labour related information, (3) society related information, (4) human rights, and (5) product responsibility. These categories were selected because they represent areas of concern to a broad range of stakeholders and address common reporting themes. In addition, they represent subcategories included by the GRI in their sustainability reporting guidelines. The third section consisted of demographics type questions.

A prior study (James, 2015) focused on students' perceptions regarding specific GRI performance indicators. This study asked participants in an open-ended format to indicate the specific issues for which companies should report information and to rank each item based on perceived priority. Students were encouraged to indicate as many types of information within each sustainability-related issue as they deemed necessary, while considering the constraints of reporting cost.

During the Summer and Fall 2015 and Winter and Spring 2016 academic quarters, 214 students enrolled in eight sections of Intermediate Accounting II completed the survey instrument resulting in 195 usable responses. Participation in the survey was voluntary and students' responses were anonymous.

EMPIRICAL RESULTS

Overall, study participants agreed with the statement that investors benefit from sustainability reporting and that sustainability reporting should be mandatory for public companies. These findings are consistent with those of James (2015) whose study involving a sample from a comparable population also found support for mandatory public company reporting. Thus, results appear to be stable over time. On average, study participants also agreed that publicly available sustainability reports should be audited. With a mean rating of 4.27 on a 5-point scale, the strongest support was for reporting both successes and failures related to sustainability.

Students were asked to indicate what they perceived as the most important sustainability-related information that companies should report with respect to each of the five sustainability categories. Study participants were asked to indicate as many types of information within each sustainability area as they perceived should be reported and to rank their responses based on importance (priority) of reporting. A rank of “1” was defined as the most important information. Responses were analysed for common themes and frequency and related items were combined.

Study participants were asked to indicate and rank the type of environmental related information that should be reported by companies. The three most frequently indicated and highest ranked environmental issue were harmful emissions (listed by 87% of the participants), water usage and contamination (listed by 79% of the participants), and use of scarce resources (listed by 72% of the participants).

Study participants were asked to indicate and rank labour related sustainability issues. Participants most frequently indicated employee benefits as the most important labour related issue for which companies should report information. It was also the most frequently indicated type of information. The second most important labour related issue based on mean rankings relates to compensation and especially fairness of compensation. However, only 47% of the respondents indicated the need for reporting on compensation and fair pay. More frequently mentioned (but slightly lower ranked) was the need to report information on work-related injuries, with 76% of the study participants listing it as an area for which companies should report information.

Study participants were asked to indicate and rank the type of society related information that should be reported. On average, study participants perceived information about organizations’ and employees’ community involvement and charitable work as the most important society related issue for which companies should report information. It was also the most frequently indicated type of information, with 86% of all participants indicating that reporting on this issue was important. The second most important society related issue based on mean rankings relates truthful reporting. However, only 14% of the respondents indicated the need for truthful reporting.

Study participants were asked to indicate and rank the type of information that should be reported with respect to human rights related sustainability. On average, the study participants perceived information about organizations’ rules and records related to the prevention of discrimination as the most important human rights related issue for which companies should report information. It was also the most frequently indicated type of information. The second most frequently mentioned issue dealt with workplace safety reviews. Other frequently indicted types of information related to human rights were work place adequacy and prevention of human trafficking and child labor.

Study participants were asked to indicate and rank the type of information should be reported with respect to product responsibility related sustainability. The most important product responsibility related issue indicated by study participants was product related injuries; the most frequently indicated (but lower ranked) issue was information about product recalls.

DISCUSSION AND CONCLUSION

Overall, accounting majors participating in this study agreed with the statement that investors benefit from sustainability reporting, that reporting should be mandated for public companies, and that the information should be audited. Based on the mean ratings, strongest agreement was for the statement that companies should report sustainability failures in addition to successes. This shows awareness of the importance of reporting both types of results, which may enhance usefulness of the information.

In response to open-ended questions, study participants frequently indicated and ranked harmful emissions as the most important environment related reporting priority, employee benefits as the most important labour related reporting priority, community involvement and charitable work as the most important society related reporting priority, prevention of discrimination as the most important human rights related reporting priority, and product related injuries as the most important product responsibility related priority.

Findings from this study suggest that current accounting majors, who represent the future accounting professionals, perceive specific types of information of high importance with respect to sustainability reporting, which may influence their future involvement and support for sustainability and sustainability reporting.

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