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LEARNING FROM CRISES? THE ROLE OF ORGANIZATIONAL LEARNING IN THE INSURANCE INDUSTRY

Haibo Yao  
Northern Michigan University  
Yiling Deng  
Saint Leo University  
Ning Wang  
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ABSTRACT: We investigate whether an insurer’s performance during the 1980s crisis helps predict its performance during the recent liability crisis. We test two hypotheses, the learning process and the persistent model process. We find that the insurer’s performance in the 1980s liability crisis has strong predictive power for its performance in the current crisis. We also show that the exhibiting persistence of crisis exposure and award appear to be largely concentrated among insurers with loss ratio at the upper level.

Key Words: Learning; Liability Crisis; Loss Ratio; Loss Reserve Error

INTRODUCTION

The key features of liability crisis from late 1984 through 1986 include dramatic increases in commercial liability insurance premiums, reductions in coverage availability and even cancellations of insurance policy or exit of insurance companies from insurance lines. During this period, premiums for general liability increased from about $6.5 billion to approximately $19.5 billion (Lai et al., 1997). Liability crisis continues to be remarkably popular and controversial (e.g., Danzon, Epstein, and Johnson, 2003) till the 2000s. For example, CIAB reported that the third quarter of 2002 was expected to produce at least $10 billion for general liability claims and $40 to $50 billion for total claims in the whole year.

The large influence of the liability crisis stimulates vast researches on the reasons of liability crises (e.g., Priest, 1987; Harrington, 2001) and the impact of tort reforms on liability insurance market (e.g. Born and Viscusi, 2006). However, tort reforms enactments cannot stop the wave of another liability crisis in the early 2000. “This most recent crisis followed an unusually long period of flat or modest premium increases and widespread availability, which in turn followed severe crises of insurance affordability in the 1980s and of affordability and availability in the mid-1970s” (Danzon, Epstein, and Johnson, 2003). The similarity between repeated liability crises of 1980s and the recent liability crisis in the early 2000s
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raises the question of how a liability insurer’s experience in one crisis is related to its experience in the following one. Born and Viscusi (2006) show that different liability insurers have different behavior and performance during and after the 1980s crisis. It is interesting to see whether a liability insurer with poor performance in one crisis is more likely to fail in the next crisis. Is it possible that some insurers have changed their business model and risk culture by learning from the previous crisis? The two national liability crises offer unique environment to investigate not only the determinants of a liability insurer performance in a single crisis but also the relationship of its performances between consecutive crises. Since liability insurance is a long-tailed business, the results of our paper will shed light on some insights and implications for the supervision of different liability insurers to prepare for the future crisis.

In this study, we investigate whether a liability insurer’s past performance in the mid-1980s crisis predicts its performance in the early 2000s liability crisis. This study concentrates on the correlation between liability insurer performances in two consecutive liability crises: either a liability insurer learns and adapts so that it improves its performance in the next crisis or the insurer characteristics are persistent so that it continually performs poorly in the next crisis. To do this, we use a comprehensive and detailed dataset of National Association of Insurance Commissioners (NAIC), in which the unit of observation is each insurance company writing medical malpractice, product liability or general liability coverage in each state by year. The years we study cover a complete cycle of two liability crises, from the year of 1984 to 2005, with the emphasis on mid-1980s (1984, 1985, and 1986) and early 2000s (2000, 2001, and 2002).

We find that the past liability crisis experience for an insurer had a significant influence on its profitability in the following crisis. Insurers that did well (measured by ROA, surplus ratio, loss ratio and loss reserve error etc.) in the 1980s crisis were able to perform well in the 2002 crisis, and insurers that did poorly repeated their poor performance. Our result is consistent with what we call the persistent model hypothesis and inconsistent with the learning hypothesis. Our results hold when we control for characteristics that are commonly used as determinants of insurers’ performance such as ROA, surplus ratio, loss ratio and loss reserve error etc. We also use a novel strategy to differentiate different past performers to those three hypotheses. We show that the exhibiting persistence of crisis exposure and award appear to be largely concentrated at the upper tail: insurers with loss ratio at the upper end of the distribution are influenced the most by their past experience. The lowest quantile regression focusing on relatively stable or “better” performers in the past crisis exhibit no significant influence of their past experience.

The remainder of this paper is organized as follows. Section 2 gives a brief literature review about liability crisis, insurer behavior and related research about the learning process in the general finance area. Section 3 describes our two testable hypotheses together with the null hypotheses for comparison. Section 4 describes our data sample and methodology and provides summary statistics and
some empirical analysis. Section 5 discusses the empirical results and Section 6 concludes.

**Literature review**

The “liability insurance crises” are the most infamous hard markets in the United States, which marked periods of tremendous increase in liability insurance premiums, rapidly declined profits and reductions in coverage availability. These crises particularly occur in the lines of other liability, medical malpractice, product liability and commercial multiple peril liability. Many professional and commercial liability insurance consumers were adversely affected by the crisis, such as daycare and medical doctors.

**Figure 1 Liability insurance premium margins and incurred Losses (in $1,000,000)**

As demonstrated in Figure 1, the United States has experienced three “liability crises” since the 1970s. The first crisis happened in the mid-1970s mainly because of medical malpractice liability. The second liability crisis occurred in the mid-1980s and was far more generous, mainly for general liability. The crisis seemed to peak in the late 1985 and early months of 1986 based on the press accounts. Priest (1987) attributes this crisis to the interpretation of modern tort law. He argues that judicial findings of greater levels of liability in insurance contracts, combined with a decline in the interest rate, led insurers to increase prices and restrict coverage. After several years of relatively stable liability insurance market, the third and most recent crisis started in the late 2001 and continued to the early 2002. The third crisis is characterized by moderate premium growth in the early 2000 and substantial premium growth in 2002. Most researchers attribute the crisis to the spiking reinsurance premiums after 9/11 (e.g., Grace and Leverty, 2008) and the soft insurance market in 1990s (Harrington, 2004). The third crisis has recalled the attention to markets for medical liability, general liability, and product insurance (Harrington, 2004). As in Figure 1, we can easily identify two latest liability crises with loss incurred fluctuation. There is some similarity between the
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crisis of mid-1980s and the recent crisis in the early 2000s. According to Mello, Studdert, and Brennan (2003), the crisis in the mid-1980s was a crisis of insurance affordability with insurers charging premiums that many customers could not afford, and the current crisis in the early 2000s appears to be one of both availability and affordability.

With respect to general liability and medical liability insurance, substantial debate has arisen concerning the causes of liability crisis. Lai et al. (1997) summarize that theories explaining the liability crisis and predicting new crises broadly fall into four categories: the collusion theories; the loss shock theories (e.g., Cummins and Danzon, 1991; Winter, 1988 and 1991); the interest rate theories (e.g., Doherty and Garven, 1995) and the underpricing theories (e.g., Harrington and Danzon, 1991). According to loss shock theories, the firm is assumed to maintain a constant capital structure so that it can supply credible insurance contracts but loss shock reduces the credibility of insurance contracts. The dramatic increase in commercial liability premiums in mid-1980s were needed to compensate insurers for unexpected increases in past losses from the early 1980s but there is no evidence for or against it. Based on underpricing theories, insurance markets experience soft market before fall into hard markets. In a soft market, because insurers take excessive risk and have differential expectations related to future, there are some underpricing issues that contribute to a subsequent crisis (Harrington and Danzon, 1994). The lack of consensus on explaining the reason of crisis makes it hard to predict new crisis, so it is vital to explore the relation of insurer performance between different crises so as to help insurers be better prepared for new crisis.

There is growing literature in finance and strategic management showing that past experiences of executive, investors and organizations affect their subsequent behavior and performance. Hayward (2002) examines how a firm’s acquisition experience helps to learn how to select the right acquisition, and concludes that such experience is a necessary but not sufficient condition for acquirer learning. Aktas, De Bondt, and Roll (2011) report consistent evidence with a learning hypothesis that both rational and hubristic CEOs take on average investor reactions to their previous deals into account and adjust their bidding behavior accordingly. Our paper is closest to the paper of Fahlenbrah, Prilmeier, and Stulz (2012), which investigates whether a bank’s performance during the 1998 crisis can successfully predict the same bank’s performance in the 2008 crisis. They find evidence supporting their business model hypothesis that banks do not appear to alter their business model after experiencing a crisis, implying that banks do not become more cautious regarding their risk culture.

Hypothesis

If every crisis is unique, then an insurer’s past crisis experience does not offer information about its experience in a future crisis. Since the causes of the commercial liability insurance crisis have never been agreed, insurers are more likely not to learn from their past liability crisis experience than industrial firms’
learning from their acquisition experience, nor to banks’ learning from their past crisis. For example, Fahlenbrah, Prilmeier, and Stulz (2012) state that “from the perspective of bank performance, the crisis of 1998 and the financial crisis are the same in the sense that banks that had a near-death experience in 1998 had it again during the financial crisis…” For the reason of market performance, industrial firms tend to take advantage of their past acquisition experience (e.g. Hayward, 2002; Aktas, De Bondt, and Roll, 2011). Liability crisis happens for such reasons as collusion, loss shock and underpricing. Therefore, it is more interesting to check how insurers learn from their past liability crisis experience and whether they will change their behavior accordingly. Following Fahlenbrah, Prilmeier, and Stulz (2012), we have two alternative hypotheses to test:

H1: the learning hypothesis.

If a liability insurer and its top managers perform poorly in the 1980s crisis, it could be that they learn lessons to make different decisions and consequently deal better with the next liability crisis. This hypothesis predicts that a liability insurer may learn to reduce its market share when prices fall below the risk based premium, and it may also reduce the impact of surplus capital on its decision making of underwriting after experiencing the negative outcome of 1980s crisis.

The implication of the learning hypothesis is that an insurer has the motivation to adjust its risk culture, business models and risk appetite to mitigate the jeopardous effect of a new liability crisis after having experienced one crisis. That is to say, an insurer will take the opposite actions to avoid the same bad performance in the future liability crisis, implying a negative relation between its past performance (or behavior) and future ones (or behavior).

H2: the persistent model hypothesis.

Even an insurer and its top managers perform poorly in the 1980s crisis, they still may not change their business model and risk culture, since doing so would make them not profitable in a short run. According to this hypothesis, a liability insurer’s crisis exposure exhibits persistence i.e. its past performance is a good predictor of its experience in a subsequent crisis. This can be explained by the situation in which insurers have fierce competition during soft market and higher investment returns make top managers overconfident to be detrimental to disciplined underwriting.

Therefore, it is hard for such an insurer to avoid facing the same experience during a liability crisis same as the previous one. This hypothesis implies the positive relation between its past performance (or behavior) and its future ones (or behavior).

We then test these two hypotheses empirically against the null hypothesis that every liability crisis is unique so that a liability insurer’s past crisis experience does not offer information about its experience in the future crisis. We use two key variables to measure the performance of an insurer, the liability loss ratio and the liability loss reserve errors.
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Data and Empirical Methodology

Sample description: We use the complete insurance financial data files compiled by NAIC since 1985. These data files include underwriting information and financial information for all U.S property-casualty insurers. We consider commercial segments of the liability insurance market and look at four lines of business that experienced crises: medical malpractice, other liability insurance, product liability and commercial multiple peril liability. For simplicity, we define these four lines as liability insurance lines. We use the data for 1985 when a severe liability crisis happened and attracted attentions from public institutions, and 2002 when liability insurers experienced another crisis. We use information on premium written, premiums earned, losses incurred, loss development, reinsurance activities (assumed and ceded), commissions and brokerage expenses, by lines of business for insurance companies. Other firm data include premiums written in all lines of business, the number of states in which the insurer writes liability coverage, firm type, firm financial statements such as asset size, capacity (surplus) and taxes.

We supplement our data set with information about state tort reforms, state regulation, and insurers’ financial strength ratings. Information of state tort reforms and rate regulation is mainly obtained from American Tort Reform Association and state statutes. Insurers’ financial strength ratings are obtained from A.M. Best Insurance Reports-Property/Casualty. We include firms with the same NAIC code. Furthermore, the insurers we examine should file statements with NAIC and have positive direct and net premiums written in 1985 and 2002, and have complete information for the other variables used. We exclude insurers that were rated D or F and had already been or were about to be placed under regulatory supervision. In 1985, our sample contains 674 firms with more than 8,000 observations (by state and by firm) for those four liability lines. Among them, we require all the sample firms to survive until 2002, and this reduces our sample size to 462 firms with 4,033 firm-state observations. All used variables are winsorized at both upper and lower 1%.

Variable description: In the regression analysis, we try to explain firm performances and firm risk taking behavior across two crises. We define the following proxy variables:

**Firm profitability.** We investigate firm performances by using firm profitability, which is measured by ROA, loss ratio, and surplus ratio. ROA is the rate of return on assets; loss ratio is defined as the ratio of losses incurred to premiums earned, and surplus ratio is defined as capital surplus divided by total asset.

**Loss reserve error.** We investigate firm risk taking behavior by using loss reserve error (LRE) and loss ratio (LR). Loss reserves are collectively the largest liability on a property liability insurer’s balance sheet, thus under reserving will boost its net income and overstates policyholders’ surplus (Grace and Leverty, 2012). The loss reserve is significantly subject to the managerial discretion. Thus reserve error is a good proxy to measure firms’ risk decisions. The common way to calculate loss reserve error is introduced in Kazenski, Feldhaus, and Schneider.
(1992). The error is the difference between losses incurred in year $t$ and future estimation of the same losses in year $t+j$, where $j$ equals to 3 for short tails business and 5 for long tails business. The variable of loss reserve error is obtained from schedule P of NAIC data.

**Firm size.** Larger insurers have more diversified businesses than small ones (Haan and Kakes, 2010) so that total losses of larger ones are more predictable. Thus insurers with larger size are supposed to have smaller loss reserve errors. The size of the insurer is measured by the natural logarithm of total assets.

**Liability Reinsurance.** Reinsurance is documented to be correlated with the accuracy of loss reserves (Grace and Leverty, 2012; Browne, Ju, and Lei, 2012). The greater amount of reinsurance ceded leads to the more accuracy of loss reserve, while the greater amount of reinsurance assumed leads to the less discretion on the loss reserve. We include liability reinsurance ceded and reinsurance assumed as control variables that can influence loss reserve errors. They are measured by the percentage of liability reinsurance premiums ceded or assumed in total premiums written.

**Tax shield.** Insurers may overestimate loss reserve as they try to reduce tax liability (Grace, 1990). Insurers can postpone the taxes until the ultimate claim costs are realized. However, Internal Revenue Service (IRS) would penalize the insurer if IRS detects the insurer manipulates earnings through reserve. To capture the incentive of using loss reserves to obtain tax deduction, we measure the variable of tax shield as net income plus reserve divided by total assets.

**H$\text{f}erfindahl$ index.** Business and Geography Herfindahl indexes are used to measure the degrees to which an insurer is diversified across lines of business and geographic location. Higher Herfindahl index implies lower diversification and higher professional business thus may influence loss ratio and loss reserve errors.

**Stock shares.** We use the proportion of shares in the investment portfolio to measure the risk profile of the insurer’s asset portfolio. The higher proportion of shares increases the probability of income fluctuations (Kramer, 1996), thus increase the probability of greater loss reserve errors if the insurer wants to smooth the income.

**Tort reforms.** Tort reforms affect the functioning of liability insurance markets, such as loss ratio (e.g., Born, Viscusi, and Carleton, 1998). The reform variable included in the regression analysis is a dummy variable to describe whether a state imposed a damage cap on tort cases or not. Since many insurers have business in more than one state, we use the proportion of direct premium written influenced by the damage cap tort reform.

**Insurance price regulation:** There are eight types of rating regulation: state-made rates, prior approval without a deemed provision, prior approval with a deemed provision (rates deemed approved if no regulatory action within a specified period), file-and-use, use-and-file, filing only, flex rating and file-and-use or use-and-file in a competitive market. More stringent regulation may reduce insurers’ incentive to manipulate loss reserve error since increase insurance price is not easy. An indicator variable equals to 1 if the state applies prior approval rate regulation, 0 otherwise. Since many insurers have business in more than one state,
we use the proportion of direct premium written restricted by insurance price regulation.

*A.M. best ratings.* A.M. Best Company provides financial strength rating to help predict the insolvency of individual insurer. We divide A.M. best rating into four categories: higher rating (A, A+ and A++), A-, lower rating (B++ to C-) and no rating.

**Firm type.** Compared with stock insurers, mutual insurers are more likely to underestimate loss reserve because mutual insurers have limited ability to access capital markets and most of their capital comes from retained income. A dummy variable takes a value of one for stock insurer and zero otherwise.

**Empirical Analysis:** Our empirical analysis is performed using data reported by firm, by state and by line. As described in Section 4.1, we pool our sample of four liability insurance lines, given that many insurance companies operate in more than one commercial liability lines. We have two samples: in the first sample, each observation represents a unique firm-state entity and we control non-independence across observations with state fixed effects; while in the second sample, each observation represents a unique firm entity.

If insurers’ past performance is influential in affecting their performance in the recent crisis, this effect will be evident in our interested variables in the year of 1985. If insurers learn lessons from the 1980’s crisis then we expect negative signs of variables in the year of 1985, but if they do not learn from the 1980’s crisis then we expect positive signs. We begin by applying fixed effects model to firm-state level data to obtain estimates of loss ratio and loss reserve errors of 1985 on the loss ratio and loss reserve errors of 2002.

For firm $i$ in state $j$ in the year of 2002, the regression model takes the following form:

$$
\text{Loss ratio}_{2002i} = \alpha + \beta_1 \text{Loss ratio}_{1985i} + \beta_2 \text{Loss reserve errors}_{1985i} + \beta_3 \text{Loss reserve errors}_{2002i} + \beta_4 \text{reinsurance ceded}_{2002i} + \beta_5 \text{reinsurance assumed}_{2002i} + \beta_6 \text{firm type}_{2002i} + \beta_7 \text{log size}_{2002i} + \beta_8 \text{Business Herfindahl}_{2002i} + \beta_9 \text{Geography Herfindahl}_{2002i} + \beta_{10} \text{rating}_{2002i} + \beta_{11} \text{log net premium written}_{2002i} + \beta_{12} \text{tax shield}_{2002i} + \sum \text{state}_{j} \gamma_j + \epsilon_{ij}
$$

(1)

where $\text{state}_{j}$ is a 0-1 dummy variable for state $j (i = 2, ..., 50)$ that enacted tort reforms, and the estimates of $\gamma_j$ capture the presence of any statistically significant state effects.

The impact of the past performance (loss ratio in 1985) and risk taking behavior may vary depending on the nature of the insurer’s loss exposure. Higher severity of the loss experienced in the past is more informative for managers to learn from the past, and to prepare for possible future crisis. The effects of loss measures should be marginally increasing with actual amount loss caused in the past crisis. The loss ratios in 1985 may be particularly influential for firms with loss ratios that are at the high end of the loss distribution. To evaluate the potential differential influence of loss ratio in the past on loss ratio in 2002, we utilize a quantile regression analysis instead of focusing on the average effects of the
covariates of the firm. Equation (2) is the quantile regression counterpart of our linear regression (1):

\[ Quant_{\tau}(\text{loss ratio}|x) = \beta_{\tau}'x \]

where \( \beta_{\tau}' \) is a vector of coefficients for the explanatory variables \( x \) at the \( \tau \)th percentile. More specifically, the estimates will determine the differential effects of the variables \( x \) at the 10th, 25th, 50th, 75th, and 90th percentiles of the log loss ratio distribution. The estimator for our quantile regression model is

\[ \hat{\beta}_{\tau} = \frac{1}{n} \sum_{i=1}^{n} \left[ \tau \rho(LR_i \geq \beta_{\tau}'x_i) + (1 - \tau) \rho(LR_i \geq \beta_{\tau}'x_i) \right] |LR_i - \beta_{\tau}'x_i| \]

where the sample size is \( n \) and \( \rho \) is an indicator function that assumes a value of 1 when the inequality holds; otherwise, it is zero. We use a bootstrapping technique to estimate the asymptotic standard error. To avoid the skewed effects of the covariates of the firms, we explore the potential median effects across the distribution of firm performance. We do the same median regression analysis (50th percentile) use firm level data with the dependent variables extending to ROA, Surplus ratio, loss reserve error and loss ratio.

<table>
<thead>
<tr>
<th>Table 1: Firm-state level descriptive statistics (observation=4,033)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>Liability loss ratio 2002</td>
</tr>
<tr>
<td>Liability loss ratio 1985</td>
</tr>
<tr>
<td>Liability loss reserve error 1985</td>
</tr>
<tr>
<td>Liability loss reserve error 2002</td>
</tr>
<tr>
<td>Liability reinsurance ceded</td>
</tr>
<tr>
<td>Liability reinsurance assumed</td>
</tr>
<tr>
<td>Firm type</td>
</tr>
<tr>
<td>Log asset size</td>
</tr>
<tr>
<td>Tax shield</td>
</tr>
<tr>
<td>Business Herfindahl index</td>
</tr>
<tr>
<td>Geography Herfindahl index</td>
</tr>
<tr>
<td>A.M. Best rating</td>
</tr>
<tr>
<td>Rate regulation</td>
</tr>
<tr>
<td>Damage tort reforms</td>
</tr>
</tbody>
</table>

**Empirical Results**

Table 1 shows statistics for firm-state sample and Table 2 shows statistics for our firm level sample. Loss ratio recognizes the influence of price and quantity in driving premium levels and attempts to serve as a proxy for insurance company profitability (Born, Viscusi and Baker, 2006). In table 1, the high loss ratios experienced among liability insurers in the 1985 and 2002 served as evidence of liability crisis. The loss ratio was 1.86 in 1985 and 1.90 in 2002 in the firm-state sample. More than half of direct premium written are subjected to reinsurance ceded or assumed. Table 2 indicates that about 67% of insurers’ underwriting premiums were affected by damage caps in 2002, and about 24% of underwriting premiums operated in states with strict price regulation. The stock companies are
the dominant ownership structure in the market with 82% of all liability insurers being stock companies. The negative signs of loss reserve errors indicate that on average firms underestimate the loss reserve. The average A.M. Best rating around 1.4 indicates that most firms were rating as A or A-. Table 3 and table 4 show correlation matrix at firm-state level and firm level respectively. The correlation matrix implies there is positive relation between loss ratio and loss reserve errors themselves in two crises but negative relation between loss ratio and loss reserve errors. The more prudent (overestimate loss reserve errors) insurers were in 1985, the less loss ratio of insurers they experienced in 2002.

Table 2: Firm level descriptive statistics (observation=462)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Std</th>
<th>P5</th>
<th>P95</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA 2002</td>
<td>0.003</td>
<td>0.011</td>
<td>0.058</td>
<td>-0.100</td>
<td>0.084</td>
</tr>
<tr>
<td>ROA 1985</td>
<td>0.044</td>
<td>0.046</td>
<td>0.063</td>
<td>-0.038</td>
<td>0.128</td>
</tr>
<tr>
<td>Liability loss ratio 2002</td>
<td>1.792</td>
<td>1.519</td>
<td>7.167</td>
<td>0.081</td>
<td>5.147</td>
</tr>
<tr>
<td>Liability loss ratio 1985</td>
<td>1.864</td>
<td>1.573</td>
<td>6.114</td>
<td>0.109</td>
<td>5.244</td>
</tr>
<tr>
<td>Surplus/Liability 2002</td>
<td>0.923</td>
<td>0.501</td>
<td>2.366</td>
<td>0.203</td>
<td>2.057</td>
</tr>
<tr>
<td>Surplus/Liability 1985</td>
<td>1.011</td>
<td>0.436</td>
<td>5.821</td>
<td>0.187</td>
<td>2.549</td>
</tr>
<tr>
<td>Loss reserve error 2002</td>
<td>-0.005</td>
<td>-0.002</td>
<td>0.010</td>
<td>-0.025</td>
<td>0.007</td>
</tr>
<tr>
<td>Loss reserve error 1985</td>
<td>-0.006</td>
<td>-0.002</td>
<td>0.038</td>
<td>-0.024</td>
<td>0.009</td>
</tr>
<tr>
<td>Liability reinsurance ceded</td>
<td>0.518</td>
<td>0.583</td>
<td>0.530</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Liability reinsurance assumed</td>
<td>0.591</td>
<td>0.581</td>
<td>1.757</td>
<td>0.000</td>
<td>1.794</td>
</tr>
<tr>
<td>Business Herfindahl index</td>
<td>0.271</td>
<td>0.201</td>
<td>0.180</td>
<td>0.110</td>
<td>0.631</td>
</tr>
<tr>
<td>Geography Herfindahl index</td>
<td>0.350</td>
<td>0.313</td>
<td>0.088</td>
<td>0.263</td>
<td>0.500</td>
</tr>
<tr>
<td>Stock share ratio</td>
<td>0.146</td>
<td>0.122</td>
<td>0.144</td>
<td>0.000</td>
<td>0.422</td>
</tr>
<tr>
<td>Tax shield</td>
<td>0.210</td>
<td>0.204</td>
<td>0.120</td>
<td>0.054</td>
<td>0.414</td>
</tr>
<tr>
<td>A.M. Best rating</td>
<td>1.478</td>
<td>1.000</td>
<td>0.747</td>
<td>1.000</td>
<td>3.000</td>
</tr>
<tr>
<td>% Rate regulation</td>
<td>0.242</td>
<td>0.267</td>
<td>0.175</td>
<td>0.000</td>
<td>0.500</td>
</tr>
<tr>
<td>% Damage tort reforms</td>
<td>0.672</td>
<td>0.153</td>
<td>0.160</td>
<td>0.000</td>
<td>0.500</td>
</tr>
<tr>
<td>Firm type</td>
<td>0.725</td>
<td>1.000</td>
<td>0.447</td>
<td>0.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 3 Firm-state level correlation matrix for main variables (observation=4033)

<table>
<thead>
<tr>
<th></th>
<th>LR 2002</th>
<th>LR 1985</th>
<th>LRE 1985</th>
<th>LRE 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss ratio 2002</td>
<td>1.000</td>
<td>0.036</td>
<td>-0.076</td>
<td>-0.007</td>
</tr>
<tr>
<td>Loss ratio 1985</td>
<td>---</td>
<td>0.021</td>
<td>&lt;.001</td>
<td>0.665</td>
</tr>
<tr>
<td>Loss reserve errors 1985</td>
<td>0.036</td>
<td>1.000</td>
<td>0.020</td>
<td>-0.027</td>
</tr>
<tr>
<td>Loss reserve errors 2002</td>
<td>0.021</td>
<td>---</td>
<td>0.207</td>
<td>0.080</td>
</tr>
<tr>
<td>A.M. Best rating</td>
<td>1.478</td>
<td>1.000</td>
<td>0.747</td>
<td>1.000</td>
</tr>
<tr>
<td>% Rate regulation</td>
<td>0.242</td>
<td>0.267</td>
<td>0.175</td>
<td>0.000</td>
</tr>
<tr>
<td>% Damage tort reforms</td>
<td>0.672</td>
<td>0.153</td>
<td>0.160</td>
<td>0.000</td>
</tr>
<tr>
<td>Firm type</td>
<td>0.725</td>
<td>1.000</td>
<td>0.447</td>
<td>0.000</td>
</tr>
</tbody>
</table>

We now test those three hypotheses discussed in the previous section. Results of estimating Equations (1) - (3) using firm-state data are reported in Table 5. The learning hypothesis predicts that the loss ratio of the recent crisis is negatively
related to the loss ratio of 1985, while the persistent model hypothesis implies a positive relation and the null hypothesis implies no relation. The persistent hypothesis also implies that the loss ratio of the recent crisis is positively related to the loss reserve errors of 1985. The value of loss ratio and loss reserve errors in 1985 is strongly related to the insurer’s reported loss experience in 2002 for most sets of results. For the first fixed effects model, the liability loss ratio in 1985 has a significant positive effect on the loss ratio in 2002. The liability loss reserve errors in 1985 have a significant negative effect on the loss ratio in 2002. The effect appears both economically and statistically significant. For example, a one standard deviation higher loss ratio during the crisis of 1985 is associated with 5.7% (0.03×1.9) higher loss ratio during the recent liability crisis. A one standard deviation higher of %loss reserve errors (underestimating loss reserve) is associated with 7.12% (-0.069×-1.033) higher loss ratio in the recent crisis. This indicates that on average liability insurer loss ratios during the liability crisis of 1980s help predict firm performance during the recent liability in the 2000s.

Table 4 Firm level correlation matrix for main variables (observation=462)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA 2002</td>
<td>1.000</td>
<td>0.069</td>
<td>0.277</td>
<td>-0.009</td>
<td>-0.041</td>
<td>-0.058</td>
<td>0.100</td>
<td>0.020</td>
</tr>
<tr>
<td>ROA 1985</td>
<td>0.040</td>
<td>---</td>
<td>&lt;.001</td>
<td>0.844</td>
<td>0.378</td>
<td>0.217</td>
<td>0.032</td>
<td>0.672</td>
</tr>
<tr>
<td>Surplus</td>
<td>0.277</td>
<td>0.066</td>
<td>1.000</td>
<td>0.140</td>
<td>-0.027</td>
<td>-0.027</td>
<td>0.200</td>
<td>0.036</td>
</tr>
<tr>
<td>2002</td>
<td>&lt;.0001</td>
<td>0.155</td>
<td>---</td>
<td>0.003</td>
<td>0.567</td>
<td>0.571</td>
<td>&lt;.0001</td>
<td>0.446</td>
</tr>
<tr>
<td>Surplus</td>
<td>-0.009</td>
<td>-0.043</td>
<td>0.140</td>
<td>1.000</td>
<td>0.000</td>
<td>0.004</td>
<td>0.059</td>
<td>0.005</td>
</tr>
<tr>
<td>1985</td>
<td>0.844</td>
<td>0.353</td>
<td>0.003</td>
<td>---</td>
<td>0.994</td>
<td>0.932</td>
<td>0.206</td>
<td>0.918</td>
</tr>
<tr>
<td>LR 2002</td>
<td>0.378</td>
<td>1.000</td>
<td>0.567</td>
<td>0.994</td>
<td>---</td>
<td>0.234</td>
<td>0.169</td>
<td>0.388</td>
</tr>
<tr>
<td>LR 1985</td>
<td>0.217</td>
<td>&lt;.0001</td>
<td>0.571</td>
<td>0.932</td>
<td>0.234</td>
<td>---</td>
<td>0.186</td>
<td>0.934</td>
</tr>
<tr>
<td>LRE 2002</td>
<td>0.100</td>
<td>-0.018</td>
<td>0.200</td>
<td>0.059</td>
<td>-0.064</td>
<td>-0.062</td>
<td>1.000</td>
<td>0.082</td>
</tr>
<tr>
<td>LRE 1985</td>
<td>0.032</td>
<td>0.701</td>
<td>&lt;.0001</td>
<td>0.206</td>
<td>0.169</td>
<td>0.186</td>
<td>---</td>
<td>0.079</td>
</tr>
</tbody>
</table>

We examine the effects of the liability loss ratio in 1985 on different segments of the performance distribution and report the results in Table 5. We find evidence supporting the marginal increasing impact of the amount of the liability loss ratio all through different quantiles. Insurers with loss ratio at the upper end of the distribution are influenced the most of the past experience, with loss ratio in 1985 having significant positive effects on losses at 25th percentile and above in 2002. Loss reserve errors in 1985 have a significant negative effect in all the quantile regressions. The significant negative effect of loss reserve errors implies that insurers are awarded for their consistent low risk appetite. The magnitudes of the effects of loss ratio and loss reserve errors in 1985 are greatest at the 90th percentile. The exhibiting persistence of crisis exposure and award appear to be largely concentrated at the upper tail. The lowest quantile regression exhibits no
significant influence of past experience, suggesting that insurer’s past crisis experience does not offer much information about its experience in the future crisis. For control variables, we find that weak financial strength firms, smaller insurers with less diversified business, stock firms and insurers under prior approved rate regulation suffered contemporaneous larger loss ratio. However, damage caps tort reform and reinsurance seem not to have significant influence on the loss ratio.

Using firm level data, Table 6 examines whether past performance of insurers and their risk taking behavior help predict insurers performance and risk taking behavior during the 2000s liability crisis. Table 6 also shows strong support for the persistent model hypothesis. All the interested variables, ROA, surplus ratio, loss ratio and loss reserve error, are all consistent with insurers that did well in 1985

<table>
<thead>
<tr>
<th>Table 5: Regressions models of firms-state liability insurance data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quanti turbulence Regression, Dependent variable=GL Loss ratio 2002</td>
</tr>
<tr>
<td>Variables                          10         25        50         75         90        GLS</td>
</tr>
<tr>
<td>------------------------------------</td>
</tr>
<tr>
<td>Liability LR                       0.002      0.009**  0.016***  0.018**  0.215***  0.030*</td>
</tr>
<tr>
<td>1985                               (0.003)    (0.003)   (0.005)   (0.010)   (0.035)   (0.014)</td>
</tr>
<tr>
<td>Liability % LRE                    -0.031     -0.121**  -0.383*** -0.987*** -2.255*** -1.033***</td>
</tr>
<tr>
<td>1985                               (0.050)    (0.061)   (0.081)   (0.171)   (0.506)   (0.244)</td>
</tr>
<tr>
<td>Liability LRE                      -0.002     0.005     0.014     -0.025    -0.115    -0.031</td>
</tr>
<tr>
<td>2002                               (0.008)    (0.011)   (0.014)   (0.029)   (0.103)   (0.043)</td>
</tr>
<tr>
<td>Liability                          0.026     0.044**  0.019     0.108     0.278     0.216**</td>
</tr>
<tr>
<td>reinsurance ceded                  (0.018)    (0.022)   (0.036)   (0.084)   (0.265)   (0.106)</td>
</tr>
<tr>
<td>Liability                          0.001     0.004     -0.004    -0.102** -0.309*** -0.173***</td>
</tr>
<tr>
<td>reinsurance assumed                (0.005)    (0.007)   (0.011)   (0.029)   (0.105)   (0.034)</td>
</tr>
<tr>
<td>Firm type                          0.019     0.049**  0.118***  0.295***  0.947***  0.370***</td>
</tr>
<tr>
<td>Log asset size                     0.046***  0.065*** 0.276***  0.674***  1.508***  0.689***</td>
</tr>
<tr>
<td>(0.016)                            (0.020)   (0.029)   (0.065)   (0.217)   (0.085)</td>
</tr>
<tr>
<td>Tax shield                         0.092     -0.062    0.255     0.888**  3.707***  1.357***</td>
</tr>
<tr>
<td>(0.083)                            (0.110)   (0.158)   (0.367)   (1.236)   (0.472)</td>
</tr>
<tr>
<td>Log net premium                   -0.032**  -0.038** -0.221*** -0.562*** -1.259*** -0.526***</td>
</tr>
<tr>
<td>written                            (0.015)    (0.019)   (0.025)   (0.056)   (0.177)   (0.076)</td>
</tr>
<tr>
<td>Business                           0.075**  -0.062    0.116     0.544***  1.670***  0.990***</td>
</tr>
<tr>
<td>Herfindahl index                   (0.045)    (0.056)   (0.081)   (0.179)   (0.573)   (0.240)</td>
</tr>
<tr>
<td>Geography                          -0.184    -0.015    0.260     -0.005   0.875     -0.713</td>
</tr>
<tr>
<td>Herfindahl index                   (0.161)    (0.207)   (0.291)   (0.659)   (1.873)   (0.881)</td>
</tr>
<tr>
<td>A.M. Best rating                   0.028**  0.032**  0.091***  0.348***  0.944***  0.444***</td>
</tr>
<tr>
<td>(0.012)                            (0.015)   (0.022)   (0.053)   (0.179)   (0.067)</td>
</tr>
<tr>
<td>Rate regulation                    0.026**  0.016     0.042**  0.107**  0.132     0.146**</td>
</tr>
<tr>
<td>(0.012)                            (0.016)   (0.023)   (0.053)   (0.176)   (0.068)</td>
</tr>
<tr>
<td>Damage tort reforms                -0.013    -0.019    -0.048** -0.061    -0.003    -0.162**</td>
</tr>
<tr>
<td>(0.012)                            (0.016)   (0.023)   (0.054)   (0.178)   (0.069)</td>
</tr>
<tr>
<td>Constant                           -0.202** -0.367*** -1.206*** -2.835*** -7.753*** -4.086***</td>
</tr>
<tr>
<td>(0.122)                            (0.153)   (0.221)   (0.530)   (1.760)   (0.656)</td>
</tr>
<tr>
<td>State fixed effects                No        No       No        No        No        Yes</td>
</tr>
<tr>
<td>Observations                       4033      4033      4033      4033      4033      4033</td>
</tr>
<tr>
<td>Peudo R²                           0.010     0.010     0.018     0.036     0.064     0.067</td>
</tr>
</tbody>
</table>

Note: Bootstrapped standard errors in parentheses for quantile regressions and robust standard errors for fixed effects model. *, **, and *** denote significance at 10%, 5%, and 1% levels, respectively.
again did well in 2002 and insurers having done poorly in 1985 again did poorly in 2002. Insurers have persistent risk taking behavior with respect to underestimating loss reserve. Specifically, the marginal effect of loss ratio is 6.7% and the marginal effect of ROA is 3.8%, controlling for the similar variables in Table 5. The results in all four columns suggest past experience have a significant impact on the profitability of insurance company operations in the recent crisis.

**Table 6: Median regressions of firms with liability lines**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA 1985</td>
<td>0.076**</td>
<td>0.060***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GL LR 1985</td>
<td></td>
<td></td>
<td></td>
<td>0.012***</td>
</tr>
<tr>
<td>Surplus/Liability</td>
<td>0.018***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LR 1985</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GL reinsurance ceded</td>
<td>0.011</td>
<td>-0.060</td>
<td>-0.009</td>
<td>-0.003***</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.053)</td>
<td>(0.051)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>GL reinsurance assumed</td>
<td>-0.004</td>
<td>0.044***</td>
<td>-0.007</td>
<td>-0.001**</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.015)</td>
<td>(0.015)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Business Herfindahl index</td>
<td>0.071***</td>
<td>-0.207</td>
<td>0.264**</td>
<td>0.011***</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.111)</td>
<td>(0.102)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Geography Herfindahl index</td>
<td>0.021</td>
<td>-0.494**</td>
<td>0.386*</td>
<td>-0.008*</td>
</tr>
<tr>
<td></td>
<td>(0.033)</td>
<td>(0.235)</td>
<td>(0.216)</td>
<td>(0.004)</td>
</tr>
<tr>
<td>Stock share ratio</td>
<td>-0.015</td>
<td>-0.507***</td>
<td>0.862***</td>
<td>0.005**</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.127)</td>
<td>(0.119)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Loss reserve error</td>
<td>0.220</td>
<td>-3.219*</td>
<td>4.653***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.266)</td>
<td>(1.880)</td>
<td>(1.767)</td>
<td></td>
</tr>
<tr>
<td>Tax shield</td>
<td>-0.010</td>
<td>-0.334**</td>
<td>-0.947***</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.021)</td>
<td>(0.151)</td>
<td>(0.138)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Log asset size</td>
<td>-0.003*</td>
<td>0.045***</td>
<td>-0.086***</td>
<td>-0.002***</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.012)</td>
<td>(0.012)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>A.M. Best rating</td>
<td>-0.002</td>
<td>0.031</td>
<td>-0.069***</td>
<td>-0.001***</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
<td>(0.028)</td>
<td>(0.026)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>%Rate regulation</td>
<td>-0.005</td>
<td>-0.061</td>
<td>-0.031</td>
<td>-0.004*</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.109)</td>
<td>(0.101)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>% Damage tort reforms</td>
<td>0.028*</td>
<td>-0.172</td>
<td>0.030</td>
<td>0.006***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
<td>(0.120)</td>
<td>(0.110)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Firm type</td>
<td>0.022***</td>
<td>0.066</td>
<td>-0.047</td>
<td>-0.003***</td>
</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.042)</td>
<td>(0.039)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.033</td>
<td>-0.113</td>
<td>2.314***</td>
<td>0.038***</td>
</tr>
<tr>
<td></td>
<td>(0.041)</td>
<td>(0.294)</td>
<td>(0.278)</td>
<td>(0.005)</td>
</tr>
<tr>
<td>Pseudo R²</td>
<td>0.09</td>
<td>0.09</td>
<td>0.11</td>
<td>0.14</td>
</tr>
<tr>
<td>Observations</td>
<td>462</td>
<td>462</td>
<td>462</td>
<td>462</td>
</tr>
</tbody>
</table>

Note: Bootstrapped standard errors in parentheses for median regressions. *, **, and *** denote significance at 10%, 5%, and 1% levels, respectively.
Conclusion

We find that the past liability crisis experience of an insurer has significant influence on the profitability of its operation in the following crisis. Insurers did well in the 1980s crisis again did well in the 2002 crisis, and those having done poorly repeated their poor performance. Our key result is that a one standard deviation higher loss ratio during the crisis of 1985 is associated with 5.7% higher loss ratio during the recent liability crisis. A one standard deviation higher loss reserve error is associated with 7.12% higher loss ratio in the recent crisis. Our result is consistent with what we call the persistent model hypothesis but not the learning hypothesis. In general, we find evidence that insurers negatively affected in a crisis do not appear to alter the business model or become more conservative regarding their underwriting behavior thereafter. Consequently, the performance in one crisis has strong predictive power for the performance in the following crisis which occurs almost two decades later.

Another innovative study is that we examine different segments of the performance distribution by dividing insurers having experienced the past liability crisis into different quantiles. We show that the exhibiting persistence of crisis exposure and award appear to be largely concentrated at the upper tail: insurers with loss ratio at the upper end of the distribution are influenced the most by their past experience. The lowest quantile regression exhibits no significant influence of the past experience, which suggests that insurer’s past crisis experience does not offer much information about its experience in a future crisis if the loss ratio were not that bad.

Our evidence supports that there is a strong persistence of crisis exposure for crises almost twenty years apart. We find that an insurer’s performance in one crisis is an important predictor of its inherent riskiness and exposure in the following crisis. We also show that insurers less influenced by the past crisis experience will be less likely to use their past knowledge.

References


IMPLICATIONS OF THE UNIQUE CHARACTERISTICS OF SOCIAL CAUSES

Charlene Pleger Bebko
Indiana University of Pennsylvania

ABSTRACT: Many social cause campaigns fail, and the reason may be attributable to the differentiating characteristics of social cause ideas that make them distinctly different from products or services. These differences impact the traditional marketing practices used by those seeking to influence behaviors in target audiences. This is a conceptual paper that develops propositions regarding the impact of the differentiation characteristics of social cause ideas on traditional marketing strategies.

Four characteristics of social causes as marketable offerings are discussed. These characteristics include (1) differences in consumer needs for the social cause, (2) the value of the outcome and the impact of benefits that accrue to society and costs that accrue to the consumer, (3) the intangibility components of generality, abstractness, and mental impalpability, and (4) the impact of self-production. By identifying and understanding the true nature of the differences between social cause ideas, products, and services, more successful marketing campaigns for social change can be developed. This paper identifies four differences, expanding on two previously discussed in the literature, as well as introducing two others which have not been discussed in the marketing literature.

Key Words: Social Cause Marketing, Characteristics, Self-Production, Intangibility

INTRODUCTION

A large number of social change campaigns fail, either absolutely or relatively. According to Kotler, “many social change campaigns accomplish little (1989, p.5).” The reason, according to Kotler, is that they have either targeted the wrong audience, failed to develop a motivating message, or did not give the audience a way in which to respond to the message constructively. In the 21st century, the field of social cause marketing is still battling with the factors that are limiting the field, identified as ‘millstones’ (McAuley, 2014). But marketers overwhelmingly are focused on behavioral changes in the social cause target audience (Helmig, B. and Thaler, J.,2010). Could the solution to this dilemma lie deeper in the very characteristics of that which is being exchanged? A limited understanding of the differences between products, services and social causes may be responsible for the limited success of many social change campaigns.

As the conceptualization of marketing of services evolved, service marketers also struggled with this same phenomenon. The effectiveness of using marketing techniques for services improved once the characteristics of services were defined.
and understood. Marketing is a form of exchange, and the what being exchanged makes a significant difference in the planning and process of that exchange. Marketing of products requires that a consumer buy a ready-made, tangible item which will to satisfy a need. Marketing services requires that a consumer becomes part of an orchestrated buyer-seller interaction to satisfy a need. But, social marketing campaigns develop a social ‘idea’ which is to act as the catalyst for change in the individual. Seymour Fine stated that “ideas arise out of problem situations,” and that “ideas are to problems what products are to needs and desires. Each is capable of resolving or satisfying some situation (1981, p.22).” Because social causes are intangible offerings that require behavior to change, it is difficult to formulate product concepts which are meaningful and simple to communicate to the target audience (Bloom and Novelli, 1981). Social marketers are in agreement that the bottom line for social marketing is behavior change in the target audience (Andreason, 1994, 2002).

In one of the earliest manuscripts addressing the application of marketing strategies to social change, several differences between products and social ideas were discussed by the author (Rothschild, 1979). One difference which was sighted was the fact that the personal benefits that one would gain from the adoption of a social cause could be weak. This was attributed to the possibility that there may be a much lower level of involvement associated with a social cause than with a product. First, the benefits from adopting a behavior encouraged by a social cause, have no reinforcing for possible long term behavior changes. Second, the benefits of a social cause mainly accrue to society rather than to the target audience. A third difference could be that there may not even be a latent demand for the social cause. Last, the cost of adoption by the consumer is usually not monetary, but it may be perceived as a greater expenditure than the benefit is worth. Time, effort, and/ or emotional costs all can be more limiting than monetary costs. In a later treatise on social cause marketing, Rothschild listed five differences of social issue behaviors from commercial behaviors: self-interest, exchange, competition, free choice and externalities. While the concept of self-interest is a development of the idea of personal benefits in his earlier work, the latter four are previously unmentioned differences. Rothschild states that most consumers act out of self-interest in a social marketing world of ‘other’ interest, most social marketers ignore the exchange process and its importance to marketing and don’t fully consider the fact that alternatives (competition) exists for all choices and that this free choice by consumers may create costs (externalities) for society (Rothschild, 1994). While this work does look insightfully at the use of marketing, education, and law to change behavior in target groups, it does not fully develop all of the differences between social cause marketing and profit oriented marketing.

The differences between products, services and social causes have not been adequately addressed in the marketing literature. Fine developed a typology of goods, services and concepts as an integrative framework for understanding marketing exchanges (Fine, 1981). His classification scheme was based on two
dimensions---the profit making nature (either profit or non-profit) of the transaction and the degree of tangibility (either a tangible product, a service, and idea or an issue/cause). Unfortunately, this classification system does not develop mutually exclusive categories, thereby providing little additional insight into the differences between products, services and social causes. This paper will discuss the characteristic differences between products, services and social causes which will affect the way in which the latter are marketed. While we classically talk about the consumer orientation and satisfaction of needs in marketing, little attention is given to the possible differences in what is being satisfied in these exchanges. The first part of this paper will look at the similarities and differences in the way in which need products, services and social causes satisfy needs. This paper will also discuss the perceived benefits and costs of the social cause exchange for the consumer. While intangibility is accepted as the major difference between products and services, this paper will look at its implications for social causes. Last, the process of procurement and production will be considered as another source of differences between products, services and social causes which has a significant impact on how consumers and providers complete the exchange process.

THE INHERENT DIFFERENCES: PRODUCTS, SERVICES, AND SOCIAL CAUSES

While marketing may be the vehicle to take a well-developed social cause to the target audience, an understanding of the differences between ideas and products and services for the consumer must be identified before that social cause idea can be designed and ready for the marketplace. Which characteristics of social cause ideas, then, make the very nature of the consumer’s buying and consuming process so different from that of products and services? There may be four distinctive differences between products, services and social causes that make the perceived and actual exchange process so different for the consumer: 1. The level of the consumers’ needs that the offering seeks to satisfy, 2. the subsequent benefit and costs of satisfaction (Rothschild 1979, 1999), 3. intangibility of the idea, and (Andreason, 2002) and, 4. the procurement or production of the offering. While two of these characteristics have been mentioned by others in previous research, this paper attempts to expand on their meaning and impact, as well as add some equally important differences for consideration.

Consumers’ Needs and Wants: When we seek to understand the processes of behavior change in people, we must first understand change in the context of needs and motivation which drive an individual to some action. For a marketer of a new product, the task becomes one of understanding why the consumer chooses one brand over another. The consumers’ need for a detergent remains stable. Social cause marketing, however, is more complex. According to Andreason and Kotler (2003), it is “difficult to change people’s behavior with respect to issues that are important to them,” --- marketing efforts work best where “people do not have large vested interests (p.330).” Motivation theory states that all needs are inherent to humankind and these needs, or deficits, are the motivators of our behavior. We
learn which behaviors will be successful in satisfying our needs over time, and when physiological deficits disturb our state of rest, we try those same behaviors (Deci and Ryan, 2000). Our needs may be universal, but the behaviors we learn to satisfy these needs are influenced by a person's culture, family and learning. A well-known theory of human behavior was proposed by Abraham Maslow in his work on motivation (Maslow, 1970). Maslow proposed that behavior is motivated by deficits in the ordered classification of needs: physiological, safety, belongingness, esteem and self-actualization. Initially, our lower level needs take over an individual’s attention, and our behavior seeks to satisfy those needs first. Once they are satisfied and no urgency exists in satisfying them any further, the next level of needs motivate us. Studies show that many people are actively working to satisfy their lower order needs (Kahle, Beatty and Homer, 1986). It is most likely that we are not completely aware of the needs that are driving our behavior. What they know is that goods and services over time have satiated that need, either partially or wholly.

Values are the beliefs that people hold about what they need (Lai, 1995). One’s learning helps acquire and modify these values. Personal experiences, social interactions, our culture….all are at work in the process (Clawson and Vinson, 1978). And there are two kinds of values, according to Rokeach…terminal values and instrumental values (Rokeach, 1973). These values differ between cultures as well as economic status. A terminal value represents the need our behavior is directed at satisfying. An instrumental value is our belief of how we should go about satisfying a need. (Rokeach 1968, 1969). As an example of the way in which our true needs may be superficially satisfied, let’s look at the need for belongingness as envisioned by Maslow. Maslow described this as a need for friendship, intimacy, affection and love, from work group, family, friends, and romantic relationships. It is the need for inclusion, acceptance, and love in human interaction. A consumer will often look to satisfying a need, or terminal value, with a tangible possession. The underlying need for belongingness can be satisfied by something tangible that has come to represent belongingness in the consumer’s mind, thereby superficially satisfying that need (Seely 1992). In the marketplace, consumers are presented with a variety of goods and services directed at satisfying their wants, but not necessarily their needs. Deci and Ryan proposed that if a person’s basic needs are met, the likelihood of integrating cultural demands and values with their self-concept is greater (Deci and Ryan, 2000). So that consumers will buy what they have to offer, one of the marketers strategies is to activate those needs. The mental representations which the consumer has of their own needs will direct the consumer towards satisfying those needs. That is, the consumer’s terminal values will give meaning to the instrumental values a consumer uses to satisfy those needs. A person’s instrumental as well as terminal values will determine whether or not a commodity in the marketplace can satisfy their needs in agreement with their values. This is illustrated in figure 1.

Social cause marketing attempts to influence a target audience to accept, reject,
modify, or abandon a behavior (Kotler, 1989). The ‘thing’ that is being offered by a social cause exchange is an idea. This idea is intended to influence the consumer to change behaviors, the ‘bottom line’ in social cause marketing (Andreason, 1994).

The social cause marketer is usually not offering the consumers a product or service to satisfy their needs. What does the social marketer offer their audiences? Social causes offer noneconomic satisfiers which are substitutes for economic ones (Seeley, 1992). One basic difference between marketing a product or service and marketing a social cause idea, then, lies in the manner in which the exchange is able to satisfy the consumers’ inherent needs. Most goods and services that are on the market don’t require major lifestyle changes for the consumer to buy and use them. They are not unique enough to warrant a change in the consumers’ terminal values. This idea was explained by Rothschild when he stated that most consumer decisions are selective nature, only requiring a person to choose a brand, but most social causes require a change in behavior, and are considered a primary demand (Rothschild, 1999).

The means by which consumers reach and satisfy their goals are the products and services they buy. These products and services are the instrumental value used to reach their goals (terminal values). This is illustrated by looking at the consumers’ need for safety, Maslow’s second level set of human needs. If a consumer feels unsafe in his/her environment, then the need for safety becomes the motivating element for that person. The terminal value, or the need the consumer’s behavior
is directed at satisfying, might be an environment where he/she does not need to be fearful. The instrumental value for one consumer, or the way in which these needs will preferably be operationalized, might be to purchase a rifle. For another consumer with the same terminal values, this need for safety may be satisfied by building a fortress around his/her yard, and for another consumer, owning a large, well-trained watch dog. The profit oriented marketer will be able to present the consumer with many options which could satisfy this instrumental value for safety. Behavior change is necessary, but only at the level of changing a belief and corresponding attitude about which ‘means’ of satisfying the behavior is best. Behavior and belief changes, then, are at the instrumental level, for most profit oriented marketers of goods and services. On the other hand, the social cause ideas that a non-profit organization offers to a consumer are most likely to require a change in ‘terminal values.’ If people overeat, the message to lose weight by cutting down on eating would have to be strong enough to convince them that the way in which they are currently satisfying their need for food is not the ideal. While part of the campaign to have people lose weight may be to switch them from eating potato chips to carrots (and instrumental change) the majority of the campaign must be aimed at changing their entire eating lifestyle, or the way in which they seek to satisfy their need for sustenance. Perhaps the goal would be to convince the consumer that hunger may not be the need that is driving them to eat. Marketers of products, services and social cause ideas seek to satisfy consumer needs, but at different levels.

PROPOSITION 1: The changes in attitudes and beliefs which are necessary for behavior changes for most social causes will require changes in the consumer’s terminal values.

PROPOSITION 2: Terminal values are much more complex than instrumental values and rooted in cultural, societal, family traditions and beliefs.

PROPOSITION 3: The more vested the consumer’s interests in those terminal values, the more difficult the behavioral change.

<table>
<thead>
<tr>
<th>Instrumental Value Replacement</th>
<th>Instrumental Value Replacement</th>
<th>Terminal Value Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangible Product</td>
<td>Service</td>
<td>Social Cause Idea</td>
</tr>
</tbody>
</table>

**Benefits and Costs of Adoption**

At the heart of the marketing concept is the creation of an exchange that will satisfy customer needs and wants through the delivery of value. Creating customer value is seen as a necessary condition for successful marketing for profit oriented and non-profits organizations. From the viewpoint of the consumer, value is obtained from an exchange when their perception of perceived benefits is greater than the perception of perceived costs (Day, 1990). We derive benefits from possession and consumption. An economic good is able to satisfy a motivating need, and thus
provide benefits to the consumer. “A product has benefit to customers to the degree that they can perceive, appreciate and then use that product as anticipated consumption activities to achieve personal values (Lai 1995; p. 384).” But there are also non-economic exchanges which can satisfy a consumer’s needs and thus, also be of value. In fact, non-economic means of satisfying needs allow individuals to reach levels of aspiration and satisfaction at lower levels of monetary income (Seeley, 1992). However, the costs involved in a non-economic exchange can quite obviously amount to more than the monetary cost which is paid to the merchant for a product or service. Besides monetary costs, a consumer has time costs, risks, energy, emotional and social costs that are taken into consideration in evaluating the value of the exchange. Because the cost of adoption of a social cause idea is usually not monetary, it may be perceived as a greater expenditure. If there is little or no perceived benefit, the behavior is less likely to occur (Rothschild, 1999). Social cause marketers may have less control over consumer costs because they involve costs beyond monetary costs, time, energy and emotion, and these costs can be more limiting than monetary costs (Bloom and Novelli, 1981; Rothschild, 1979).

Another issue involving consumer needs and wants which separates products and services from social cause ideas, is that of the personal versus societal need satisfaction and the associated value of such an exchange to the individual consumer/adopter. Personal self-interest is said to explain most human interaction or have some role in it (Mansbridge, 1990; Rothschild, 1999). A question that should be asked in differentiating economic goods from non-economic ideas, is ‘who receives the benefit of the adopted idea, and who pays the costs?’ Holbrook stated that value is self-oriented when the benefits accrue to the adopter, and other-oriented when we look beyond ourselves to others, “where something is valued for their sake, for how they react to it, or for the effect it has on them (1996, p.139).” In fact, an understanding of the self-interest of the target is a necessary component of a successful behavior management program (Andreason, 1999). In some instances the idea that is being exchanged is felt to be in the best interest of the individual consumer with whom the exchange is being made. A campaign to stop smoking, lose weight, or exercise will certainly have a great benefit for the individual consumer who adopts the message. The change in terminal values that is required to be successful in any of these behavior change endeavors has the potential for satisfying the individual consumer/adopter of the social cause idea. In these examples the physiological need for survival would be satisfied through the adoption of better living habits. This change in terminal values that is required by the consumer/adopter of the social cause idea may not have a direct need satisfying effect for that individual and the value to the consumer may not be evident, Table 2.

As Rothschild stated, there may not even be a latent demand for the social cause idea which the individual consumer is being asked to adopt (1979). An example of this is a social cause campaign to spay or neuter a pet to control pet overpopulation. In
many instances, the pet owner who is allowing his/her pet to roam and reproduce doesn’t see the need to stop the problem. The impact of the consequences is not felt ‘at home.’ This is illustrated with other social cause campaigns in tables 3 and 4. When the consequences of the problem are not felt by those that are being asked to change their behavior, the social marketer must understand and activate those needs in order to motivate that individual. If these needs that make us altruistic are high

TABLE 2
Benefits And Costs Of Acquiring Products, Services Or Social Cause Ideas
Who Reaps The Rewards, Who Pays The Costs?

<table>
<thead>
<tr>
<th>Accrued Benefits Of Adoption As Seen By The Consumer</th>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Personal Benefits</td>
</tr>
<tr>
<td>Societal Benefits</td>
</tr>
<tr>
<td>Personal Costs</td>
</tr>
<tr>
<td>Societal Costs</td>
</tr>
</tbody>
</table>

order needs, and most individuals lower level needs have a higher priority for them, this may be a formidable task (Kahle, Beatty, and Homer, 1986; Yalch and Brunel, 1996). When the benefits to adoption accrue to society, the benefits to the audience may be conceptually vague, and thus the value of the adoption may appear vague. It is easier to say what I will gain from an action then what others will gain. On the other hand, because the costs accrue to the adopter, this image will be more concrete. Social marketers end up having to offer vague individual benefits because these real benefits appear to accrue to society rather than the individual. On the other hand, the costs appear only too real because the adopter is the one who is paying.

PROPOSITION 4: In social cause marketing, it may be difficult to demonstrate value to the consumer, because the non-monetary costs will be difficult to overcome.
PROPOSITION 5: When the benefits of the social cause are seen as benefits to society rather than to the individual consumer, motivating behavior change will be more difficult.

Intangibility: The characteristic of intangibility must be considered as an
important characteristic differentiating products, services and social cause ideas. With a product, the satisfaction of consumer needs and wants takes place with a tangible object. With a service the satisfaction takes place with an intangible object that may have a tangible product or tangible service delivery process component. But a social cause idea is an intangible most likely with no tangible component. Physical intangibility and the problems associated with it, is well documented in services marketing (Levitt, 1981; Lovelock, 1991; Mittal, 1999). A consumer’s ability to evaluate a service, as well as a providers’ ability to produce and market a service, differs primarily on the characteristics associated with intangibility…its variability, perishability and inseparability (Bebko, 2000; Lovelock, 1991; Rushton and Carson, 1989). The issue of intangibility, then, is a significant, and possibly the single most important difference between the production and consumption of services and products (Lovelock, 1991; Zeithaml and Bitner, 1996).

**TABLE 3**
Consumer Benefits Of Accepting The ‘Idea’ From The Social Cause Organization

<table>
<thead>
<tr>
<th>Personal Benefits With Possible Societal Impact</th>
<th>Personal And Societal Benefits Both Evident</th>
<th>Societal Benefits With Possible Personal Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Loss</td>
<td>Carpooling</td>
<td>Rainforest Protection</td>
</tr>
<tr>
<td>Smoking Cessation</td>
<td>Water Conservation</td>
<td>Caring For Homeless</td>
</tr>
</tbody>
</table>

**TABLE 4**
Consumer Costs Of Accepting The ‘Idea’ From The Social Cause Organization

<table>
<thead>
<tr>
<th>Personal Costs With Abstract Societal Impact</th>
<th>Personal And Societal Costs Both Evident</th>
<th>Societal Costs With Abstract Personal Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Loss</td>
<td>Recycling</td>
<td>Rainforest Protection</td>
</tr>
<tr>
<td>Smoking Cessation</td>
<td>Global Warming</td>
<td>Caring For Homeless</td>
</tr>
</tbody>
</table>

What exactly is intangibility and what role does this characteristic play in the differences between marketing products, services and social cause ideas? Mittal (1999) identified five characteristics of intangibility after an extensive review of the literature. Of the five characteristics, only the characteristic of ‘incorporeal existence’ is said to be intrinsic to intangibility. Incorporeal existence defines the essence of intangibility, or the fact that something is not made of anything that does not occupy physical space. The opposite of incorporeal existence, then, would by physical tangibility. The second characteristic of intangibility is ‘abstractness.’ When something is unable to be represented by a tangible object,
when it is difficult to envision or understand, it is considered abstract. The opposite of abstract is concrete. ‘Generality’ is a third characteristic of intangibility. It refers to the fact that some things do not lend themselves to precise details in description. The opposite of general would be specific. The fourth property of intangibility is ‘nonsearchability.’ Because of the inseparability of production and consumption, it is not possible to evaluate services before they are performed and consumed. Last is the characteristic of ‘mental impalpability.’ It refers to the consumers’ inability to grasp the concept. “What causes impalpability is the absence of prior exposure, familiarity, or knowledge needed for interpretation (Mittal, p 101).”

Mittal’s five characteristics address a significant set of differences between products and services, and social cause ideas. Identifying the intangibility of the social cause idea with the consumers’ terminal values that are targeted for change would certainly cause more problems for a marketer than targeting a change in instrumental values with an intangible service. Of the five characteristics of intangibility, the characteristics of abstractness, generality, and impalpability are those that may be the key significant intangibility characteristics of social cause ideas. Most marketing managers have spent years developing ways in which to ‘tangibilize’ services. Very few services cannot be represented by a tangible object (abstractness). The umbrella for Traveler’s insurance, hair style simulation programs for hair salons, and videos that demonstrate a service are all means of ‘tangibilizing’ a service. Because of this tangibilization, services have become more and more able to develop promotions that are describe the service and process in detail prior to production and consumption. There are very few services that are completely impalpable where the consumer ‘just doesn’t get it,’ or doesn’t understand the potential outcome of the service. However, abstractness, generality and impalpability have probably not been a concern in many services marketing strategies. These three characteristics do exist and are a concern in the social cause idea.

PROPOSITION 6: The more abstract (unable to be represented by a physical object) the social cause idea, the more difficult it will be for the consumer to understand the extent of that which is being offered.

PROPOSITION 7: The more general (without precise details) the social cause idea, the less likely the consumer will act on that social cause idea.

PROPOSITION 8: The more impalpable the social cause idea, the more likely the consumer will disregard the message as unfamiliar and unable to interpret.

Beyond the ‘Co-production’ of Services is the ‘Self-production’ of Social Causes: If the social marketer has been able to convince the audience that a behavior change is in their best interest, the next step may be the most formidable. It is difficult to convince those who have satisfied their needs in the past with a tangible item that what is required to satisfy that same need is something they themselves must produce. A product or service is able to satisfy consumer demand
directly. Food satisfies hunger, a dentist satisfies the need for healthy teeth. But a social cause idea in itself does not satisfy a consumer’s need directly. It is the consumer’s own action or behavior which is triggered by the social cause idea that has the propensity to satisfy consumers’ needs by either improving personal welfare or that of society. Convincing the audience that the benefits of adoption of the behavior change outweigh the costs of producing that change may take more than creative arguments and appeals. Products and services are manufactured and produced by businesses which intend on exchanging their commodities with customers seeking to satisfy needs and wants. While products are manufactured by the producer, and services can be produced in cooperation with the consumer, social cause ideas are turned into final production outcomes only through the efforts of the consumer. A tangible product is produced without any consumer interaction. Instructions for the use of the tangible product may be given to the consumer if necessary. An intangible service is produced either with or without consumer interaction, with the service provider bearing responsibility for the production of that service, in what has been commonly referred to as ‘co-production (Wikstrom, 1996).’ Instructions for co-production may be given to the consumer at the time of the service, with guidance being given by the provider. ‘Please keep your head up and back straight while I cut your hair,’ or ‘This injection will hurt less if you relax the muscle in your arm.’ A social cause idea, however, is an intangible that needs to be produced with the instructions of the social change agent. The social change agent needs to be present or somehow active in the exchange in order to give step by step instructions to see that the social cause idea is being correctly converted into a behavior change. Most social cause marketing exchanges are of a continuing duration. Continuous transactions require the marketer to continue to influence or reinforce the desired behavior (Andreason, 2002). “Social (cause) marketing has neglected the exchange and transaction. This transference of value from one to another assumes costs for the provider, with the potential to add value for the consumer (Rothschild, 1999).” Figure 2 illustrates the possible company-customer transaction relationships. In the classic ‘sequential process,’ production of the tangible item occurs before the consumer makes the purchase. The process evolves from the development of an idea, concept testing, analysis for potential profitability, test marketing and released for commercialization. The actual exchange of the product with the consumer takes place after distribution. The implication is that the physical item itself has utility for the consumer.

The ‘interactive process’ shows that production of the service and consumption of the service occurs simultaneously. The service generates utility only after the consumer and service provider interact. The service characteristic of inseparability becomes the focus of the production process. While there may be a general idea of how the service process will evolve, the specifics are finalized only during the interaction between provider and consumer. The service provider is present to instruct, guide and otherwise oversee the production of the service with the consumer.
The last relationship shows the social cause marketing process as a multi-stage process. The idea is developed and then marketed to the target audience. The consumers become the producers of the desired behavior only when they decide to accept the belief and attitude change, and are motivated to produce that behavior change in themselves. The multi-stage process illustrates both the continuous and interactive nature of the transaction. Once the information has transferred to the consumer, the development of the finished product, the behavior change, needs to be facilitated by the marketer.
PROPOSITION 9: Marketing of social cause ideas requires a continuous interchange between social cause agent and consumer until the final behavior change is produced and maintained.

PROPOSITION 10: If the marketer attempts to have the consumer change behavior without continued supervision, guidance and support from the marketer, the likelihood that it will be accomplished will decrease.

CONCLUSIONS
There appear to be potential barriers present in the very nature of the social cause offering, as well as the exchange and act of consumption. This paper looked at the nature of social cause ideas and the characteristics that make this exchange unique. A full understanding of these characteristics may clarify the uniqueness of social cause ideas and thereby provide marketers with opportunities to employ techniques designed to optimize this exchange. The very nature of the development and production of behavior change in the target audience, the bottom line in social cause marketing, makes it stand apart from both services and products as a marketable offering. In no other instance do marketers attempt to make an exchange where the end ‘product’ is produced by the target audience with no assistance from the provider. The marketing and production process of a social cause idea into behavior change illustrates the need for facilitation by the marketer in, what should be, continuous and interactive transaction. The social change agent needs to be present or somehow active in the exchange and production process. When behavior change is advocated, the marketer must supply the audience with descriptions and explanations of the techniques and methods to change behavior. In addition, support needs to be available for the audience as part of this continuous and interactive transaction. It should be obvious that social cause advertising only delivers a message which could potentially motivate the audience but, marketing is necessary to deliver the actual behavior change.

In order to satisfy a need, the consumer must be convinced that they must themselves produce the behavior change. This behavior change is an intangible that needs to be produced by or with the instructions of the social change agent. While various aspects of intangibility have been discussed and analyzed within the domain of services marketing, the elaboration of this intangibility to include the characteristics of generality, abstractness and mental impalpability adds to the ever complex issue of its meaning to social cause ideas as product offerings. How can marketers make the required behavior change concrete, specific and mentally palpable for the consumer? How can marketers give the consumer the information they need so that they understand what, when, where, why and how? The audience will need to not only be able to envision the outcome, but to understand the process they must undergo in order to change their behavior. The audience needs a deeper understanding and connection to the reality of the process and outcome of behavior change. The details of the process and outcome need to be made specific and be
part of a continuous and interactive marketing effort. Giving the audience more
knowledge along with familiarity through exposure to the process and outcome of
change will increase the mental palpability of this intangible product offering.
The development of this intangible social cause idea presupposes a need that is
present in the target audience. Marketers need to come to a better understanding
of the level of the needs that motivate the adoption of social causes. Some
behavior change only requires a change in instrumental values, while other change
requires a far greater task ---- a change in terminal values. But if consumers are
not even aware of their own true needs, is it a social marketers place to inform and
persuade them .....or simply work with the obvious?

Which people, then, are motivated by self-actualization and self-esteem, if the
largest percentage of people is actively trying to satisfy lower level needs? Does
current social marketing practice make the assumption that most people are
operating on physiological, safety and love/belongingness motivations? If the
needs that make our audiences altruistic are higher order needs, and most are
motivated by those needs that are of the lower order, does this affect their
willingness to change their behavior
for the benefit of society? Personal self-interest is said to explain most human
interaction or have some role in almost in it. When the benefits to adoption accrue
to society, the benefits may be conceptually vague to the target audience, and thus
the value of the adoption to the consumer may appear vague. The marketers’ task
may be to discover and motivate needs much deeper in the audience that relates to
self-interest rather than societal interest for some social marketing objectives.
These are just some of the questions that marketers must look at in developing
social marketing strategies for change. Marketing social cause ideas appears to
have some distinctly different characteristics from products and services that need
to be taken into consideration. Further research into these differences should yield
information that will lead to stronger and more successful social cause marketing
campaigns.

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Bebko


SIGNALING WITH STOCK ISSUES AND REPURCHASES: A TEST OF SEMI-STRONG FORM MARKET EFFICIENCY

Alana M. Mackey
Frank W. Bacon
Longwood University

ABSTRACT

Past studies on market efficiency suggest that stock repurchase announcements send a positive signal about the firm’s future to investors, thereby significantly increasing the firm’s stock price. Studies done on equity issue announcements suggest that they have the opposite effect and send a negative signal about the firm’s future to investors. According to semi-strong form efficient market hypothesis, it is not possible to consistently outperform the market - appropriately adjusted for risk- by using public information such as stock repurchase and issue announcements. This type of information should be reflected in the firms’ stock prices sufficiently fast to disallow any investors from earning an abnormal return. This study has resulted in mixed conclusions regarding the hypotheses selected. The tests conclude that the market is semi-strong form efficient with respect to both sample, stock repurchase announcements and equity issue announcements.

Key Words: Market Efficiency, Equity Issues, Stock Repurchases

INTRODUCTION

When a company publicly announces a stock repurchase or equity issuance, how does the market react? The Efficient Market Hypothesis (EMH), initially proposed by the University of Chicago's Eugene Fama in the 1960's, states the notion that financial markets are informationally efficient. In other words, security prices in financial markets accurately reflect all relevant and available information. Therefore, in an efficient market, no investor has access to any special information that he can use to make an above normal profit. In effect, if the markets are efficient, an investor can’t beat the market. By testing the semi-strong market efficiency theory, this study will examine the effects of stock repurchase and equity issue announcements on the market price of stock (Fama, 1970).

The purpose of this research is to test semi-strong form market efficiency by examining how fast the risk adjusted rate of return of stock reacts to firms’ stock repurchase and stock issue announcements. This study tests the level of market efficiency to see if acting on the public information imbedded in stock repurchase or issue announcements produces an unusual return, or if the investor must act illegally on inside information to “beat” the market. Specifically, is it possible to
earn an abnormal return on a publicly traded stock when a firm releases stock repurchase and equity issue announcements?

LITERATURE REVIEW

When companies believe their stock price is not representative of their company’s intrinsic value, i.e. it is overvalued or undervalued, they will take corrective action. Most managers do so either by engaging in equity issuance or stock repurchases. Both issuing and repurchasing stock can be seen as signals to the market. According to agency theory, the firm is viewed by outside stockholders as a black box that contains all the information about the firm’s future prospects. Stockholders are referred to as the principal who hires an agent or the firm’s management to operate the firm in the best interests of the principal or stockholders. The agency problem arises because the two parties have different interests and asymmetric information (the agent having more information). As such, the principal cannot verify that the agent is acting in its (the principal's) best interests. The dilemma exists because sometimes the agent is motivated to act in his own best interests rather than those of the principal. However, because of the imbalance of information with the agent or management in control of all information about the firm or black box a potential conflict of interest arises (“Principal-Agent Problem”; Asquith & Mullins, 1986; “Agency Theory”).

Will the agent or management use this information to make decisions that benefit the agent and not the principal stockholders as human nature would suggest? Because of this potential distrust between the stockholders and management, stockholders look for signals that come from inside the black box. Stock repurchases and issues are financing decisions that represent such signals coming from the firm or black box. Rational investors buy low and sell high. Therefore, when the firm is repurchasing or buying its stock investors conclude that the firm, which monitors all of the information about the firm’s future cash flows, believes its stock is underpriced. Therefore, investors see the repurchase decision as a positive signal about the firm’s future prospects and follow management’s lead likewise buying the firm’s stock and pushing the price up. Using the identical logic, a firm’s stock issue decisions are viewed as a negative signal. Since the firm’s management is selling shares, it must believe the firm’s stock is over-priced, so outside investors follow suit and sell their shares which pushes stock price lower (“Principal-Agent Problem”; Asquith & Mullins, 1986; “Agency Theory”).

Usually companies who believe their stock to be undervalued will participate in stock repurchases. A stock repurchase is defined as the reacquisition by a company of its own outstanding shares of stock. When a company repurchases its own shares, it reduces the number of shares held by the public, thus increasing the per-share value of all outstanding shares, therefore raising the stock price. The shareholders who maintain ownership of their shares during a share repurchase will experience the benefits of the transaction while those who sell lose value. Often time during a repurchase, the company will make a tender offer to shareholders. In a tender offer, a firm offers to purchase its stock at a specified price, usually at a premium to the market price. By paying higher than the market
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price for their own stock, a company’s executives are conveying their trust in the company’s value. This also shows that the company has confidence in its future. Stock repurchases act as a positive signal to the market. In the late 20th and early 21st centuries, there was a sharp rise in the volume of share repurchases in the United States. The concept of large share repurchases later expanded to Europe, and is now a common practice around the world (“Share Repurchase”).

Issuing Equity is essentially the mirror to repurchasing stocks. A company typically issues equity when they believe their stock to be overvalued or when they are trying to raise funds to finance investment projects. By issuing equity, the company is increasing its number of shares outstanding, therefore depressing their stock price. The size of the price reduction is directly proportional to the size of the equity offering. Some view this price reduction as the decline of existing shareholders’ value. Issuing stock is seen as a negative signal by the market. The decision to sell stock suggests that the management does not foresee continued superior performance (Asquith & Mullins, 1986).

There have been numerous studies conducted on the signaling of share repurchases and equity issuance. This study proposes to thoroughly review the finance literature on market efficiency tests with specific emphasis on stock repurchase and equity issue announcements. With a large availability of data, this study will examine a sample of stock repurchase and equity issue announcements. The study will use all relevant data to speculate whether or not investors can use such signaling to turn an above normal profit while testing the level of market efficiency (Asquith & Mullins, 1986; Bacon & Kinsler, 2008).

There are three different forms of market efficiency: strong form efficiency, semi-strong form efficiency, and weak form efficiency. Strong form efficiency is the highest level of efficiency. It states that all available information is accurately reflected in the market prices of securities. This includes both public and private information. If a market is strong form efficient, then even those investors with insider information do not have the ability to take advantage of said information and make abnormal profits. Weak form market efficiency states that the current stock prices are reflective of all past information. This allows for the assumption that the trader cannot use analysis of past stock prices to accurately forecast future stock prices, as this information will already be reflected in the current market price. In between these two forms is semi-strong form market efficiency. Semi-strong form efficiency states that the current stock prices reflect all publicly available information including past information. The semi-strong form encompasses the weak form. Neither fundamental nor technical analysis can be used to gain an advantage in a semi-strong market. The only possible way an investor would be able to benefit would be to engage in the illegal act of insider trading (Brunnermier; Fama, 1970, 1997; Ross & Westerfield & Jeffrey, 2005; Bacon & Labbs, 2013; Bacon & Greis, 2008; Bacon & Kinsler, 2008).

In reality most studies suggest that markets are not strong form efficient, as there is some lag time between the time that information is made available and the time that the market price reflects the true price of the security. In highly efficient markets, such as the foreign exchange market, this lag time can be even
less than a minute. Nonetheless, savvy investors may capitalize on such occurrences and turn a profit. This leads us to believe the market is not strong form efficient. If it were, no one would seek extraordinary profits, which is the underlying force that keeps the wheels of the market turning. There are several factors that can influence the level of market efficiency. These factors include: the number of participants, the availability of information, and the costs that are associated with trading. The more participants i.e. investors and traders, the more efficient the market will be. As more information becomes available, market efficiency increases. For a market to be efficient trading costs should be kept low. As information technology advances, markets around the world are gaining efficiency. Market efficiency is defined as the amount of time it takes for the stock market to react to announced public information. (Brunnermier; Fama, 1970, 1997; Ross & Westerfield & Jeffrey, 2005; Bacon & Labbs, 2013; Bacon & Greis, 2008; Bacon & Kinsler, 2008).

Stock repurchases and issuances are non-routine transfers of cash between the firm and the stockholder. According to the efficient market hypothesis, stock repurchase and issuance announcements should be reflected in prices immediately and investors should not expect to earn a return higher than the normal rate of return as measured by the Standard and Poor’s 500 Index. Stock prices will adjust before an investor has time to trade, even with awareness of information (Ross, 2005).

Is the market semi-strong efficient with respect to stock repurchase and issue announcements? To answer this question, this study will analyze stock prices before and after samples of stock repurchase and issue announcements to determine if this type of information enables investors to earn an above normal risk adjusted return. Is it possible for investors to “beat” the market relying solely on this type of public information? In order to test the semi-strong efficient market hypothesis, this research will analyze how public stock repurchase and issue announcements affect stock return up to 30 days before and after the announcement (Brunnermier; Fama, 1970, 1997; Ross & Westerfield & Jeffrey, 2005; Bacon & Labbs, 2013; Bacon & Greis, 2008; Bacon & Kinsler, 2008).

**METHODOLOGY**

The study randomly selects two samples of firms, one sample consisting of firms announcing regular stock repurchases and the other sample consisting of firms announcing equity issuance. Announcement samples were selected from various sources such as finance.yahoo.com. The study tests how quickly the selected firms’ stock price risk adjusted returns react to stock repurchase and equity issuance announcements. This study uses the standard risk adjusted event study methodology from the finance literature to test the stock market’s response to the stock repurchase and equity issuance announcements for the two samples of firms. The historical stock prices of the selected firms and S&P 500 Index, for the event study duration of -180 to +30 days were obtained from finance.yahoo.com. Day -30 to day +30 is identified as the event period. Day -180 to day -30 is identified as the pre-event period. The announcement date of the stock repurchases
and equity issuance for each of the two samples is day 0 of the event period. (Bacon & Labbs, 2013; Bacon & Greis, 2013; Bacon & Kinsler, 2008).

In order to test semi-strong form market efficiency with respect to public announcements of stock repurchases and equity issuance, this study proposes four hypotheses. The first two hypotheses, H1 and H2, align with the tests for the stock repurchases sample. The second set of hypotheses, H3 and H4, are proposed for the equity issues sample. The hypotheses are as follows:

H1: The risk adjusted return of the stock price of the sample of firms announcing stock repurchases is not significantly affected by this type of information on the announcement date.

H1: The risk adjusted return of the stock price of the sample of firms announcing stock repurchases is significantly positively affected by this type of information on the announcement date.

H2: The risk adjusted return of the stock price of the sample of firms announcing stock repurchases is not significantly affected by this type of information around the announcement date as defined by the event period.

H2: The risk adjusted return of the stock price of the sample of firms announcing stock repurchases is significantly positively affected by this type of information around the announcement date as defined by the event period.

H3: The risk adjusted return of the stock price of the sample of firms announcing an equity issuance is not significantly affected by this type of information on the announcement date.

H3: The risk adjusted return of the stock price of the sample of firms announcing an equity issuance is significantly negatively affected by this type of information on the announcement date.

H4: The risk adjusted return of the stock price of the sample of firms announcing an equity issuance is not significantly affected by this type of information around the announcement date as defined by the event period.

H4: The risk adjusted return of the stock price of the sample of firms announcing an equity issuance is significantly negatively affected by this type of information around the announcement date as defined by the event period.

The next step is to calculate the daily stock return of each company in both samples and the S&P 500 index. The formula used for the daily stock return is: (current day close price – previous day close price) / previous day close price. The formula for the daily index return is: (S&P current close price - S&P previous close price) / S&P previous close price. Then, 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 day –31 (period prior to the event period of day –30 to day +30) to obtain the alpha (the intercept) and the beta (standardized coefficient) (Bacon & Labbs, 2013; Bacon & Greis, 2013; Bacon & Kinsler, 2008).

In this study the expected return, or E(R), for each stock, per each day of the event period from day -30 to day +30, is calculated as: E(R) = alpha + Beta (R_m), where R_m is the daily return on the market i.e. the S&P 500 index. Excess return (ER) is calculated: Actual Return (R) – Expected Return E(R). Average
Excess Returns (AER) will be calculated for each day (-30 to +30) by averaging the excess returns for each of the sample firms for the given day in the event period. The formula is: \( \text{AER} = \frac{\text{Sum of Excess Returns for a given day}}{n} \), where ‘n’ equals the number of firms in the sample. Cumulative AER of each stock in the sample is calculated as well for each day during the event period. A graph of AER and Cumulative AER, plotted for the event period, accompanies the data and research (Bacon & Labbs, 2013; Bacon & Greis, 2013; Bacon & Kinsler, 2008).

**QUANTITATIVE TESTS AND RESULTS**

Did the sample of firms’ stock prices react to the stock repurchase and equity issuance announcements? Was the information surrounding the event significant? One would expect the average excess daily returns (Day -30 to Day +30) to be significantly different from day 0 and therefore significantly different from cumulative average excess returns over the corresponding time period if the information surrounding the event impounds new, significant information on the market price of the firms' stock. If a significant risk adjusted difference is observed, then we would conclude that this type of information did in fact significantly impact stock price as hypothesized. To statistically test for a significant difference in the risk adjusted daily average excess returns and the cumulative average excess daily returns for the firms over the event period (day -30 to day +30), we conducted paired sample t-tests on the sample data for equity issue announcements and for stock repurchase announcements.

For the equity issues sample we found a significant difference at the 1% alpha level between the actual average daily returns and the risk adjusted expected average daily returns on the announcement date with a low p-value of 0.00979. These results suggest we reject the null hypothesis, “\( H_0 \): The risk adjusted return of the stock price of the sample of firms announcing an equity issuance is not significantly affected by this type of information on the announcement date,” in favor of the alternative hypothesis, “\( H_1 \): The risk adjusted return of the stock price of the sample of firms announcing an equity issuance is significantly negatively affected by this type of information on the announcement date.” We can further see the negative impact of the information on the announcement date by looking at Chart 1 below. Chart 1 shows consistent returns up to the day before the announcement (day -1) and then a significant drop in the cumulative average excess returns from the announcement date (day 0) to the following day (day 1).

For our second set of hypotheses regarding the equity issues sample we again found a significant difference at the 1% alpha level between the actual average daily returns and the risk adjusted expected average daily returns over the event period with an extremely low p-value of 2.195E-33. These results suggest we reject the null hypothesis, “\( H_0 \): The risk adjusted return of the stock price of the sample of firms announcing an equity issuance is not significantly affected by this type of information around the announcement date as defined by the event period.” After rejecting the null hypothesis, we must decide whether or not the data favors the alternative hypothesis. To determine this, we look at the data presented below in Chart 1. Chart 1 shows a fairly steady upward trend in cumulative average
excess returns in the days leading up to the announcement date (day -30 to day 0). Due to the positive trend in the data in Chart 1 we cannot support the alternative hypothesis, “H4: The risk adjusted return of the stock price of the sample of firms announcing an equity issuance is significantly negatively affected by this type of information around the announcement date as defined by the event period.” Chart 1 shows results that are less conclusive with modern finance literature and more conclusive with the historical finance literature, which provides evidence that equity issue announcements may actually send a positive signal rather than a negative one to the market. Although we cannot favor the alternative hypothesis, the findings from both the paired sample t-test and the CAER graph for the Equity Issue data support the significance of the information around the event.

If the market was not efficient, we would see a reaction or change in the stock prices’ cumulative average excess returns preceding the announcement date. Instead, we see a significant and immediate drop from the announcement date (day 0) to day 1. With the stock market’s quick response to the event, as seen in the t-test results and graphically, in chart 1, there was not enough time for investors to earn abnormal returns. After testing the hypotheses with the paired sample t-test and through graphical analysis, we can conclude that the market is semi-strong form efficient with respect to equity issue announcements. In other words, the market accurately reflects all publicly available information.

Chart 1: CUMULATIVE AVERAGE EXCESS RETURNS OVER EVENT PERIOD FOR EQUITY ISSUE ANNOUNCEMENTS

[Chart 1 shows a positive trend between CAER and time in the days leading up to the announcement date (day -30 to day 0). There is a significant decrease in cumulative average excess return on the day immediately following the equity issue announcement. This is expected after an announcement as the market over reacts to the news (seen in days 1 through 3) then corrects (seen in days 4 through]
day 11). After the correction, the stock price re-stabilizes in the days following the event reaction (day 11 through day 30) and returns to its normal trend.

For the stock repurchase sample we did not find significant difference at the 1% or 5% alpha level between the actual average daily returns and the risk adjusted expected average daily returns on the announcement date. The data yielded a p-value of 0.0685. These results suggest we fail to reject the null hypothesis, “H10: The risk adjusted return of the stock price of the sample of firms announcing stock repurchases is not significantly affected by this type of information on the announcement date.” By looking at Chart 2 we can see there is not a significant difference in cumulative average excess return immediately after the release of information on the announcement date (day -1 to day 0) nor in the day immediately following the announcement (day 0 to day 1). The data in this sample do not support any evidence that the stock prices were significantly affected by the repurchase announcements on the announcement date.

For our second set of hypotheses regarding the stock repurchase sample we found a significant difference at the 2% alpha level between the actual average daily returns and the risk adjusted expected average daily returns over the event period. This t-test yielded a low p-value of 0.015278. These results suggest we reject the null hypothesis, “H20: The risk adjusted return of the stock price of the sample of firms announcing stock repurchases is not significantly affected by this type of information around the announcement date as defined by the event period.”

After rejecting the null hypothesis, we must decide whether or not the data favors the alternative hypothesis, “H21: The risk adjusted return of the stock price of the sample of firms announcing stock repurchases is significantly positively affected by this type of information around the announcement date as defined by the event period.” To determine if the alternative is favored we look at the data presented below in Chart 2. Chart 2 shows a steady upward trend in cumulative average excess returns in days -30 to day -17 leading up to the announcement date. This positive trend is consistent with the alternative hypothesis. This increase in returns shows that the market was able to predict the stock repurchase announcements and respectively adjust the stock prices prior to the announcement date. The movement in the market is in concurrence with semi strong form market efficiency as the market reacted and adjusted sufficiently fast to the public information. An occurrence such as what is seen in days -30 to -17 suggests possible leakage of insider information. However, the stock prices significantly decreased after day -17 showing a price correction in the days preceding the announcement (from days -13 to day -1). The prices then increased slightly on the announcement date as is initially expected with a stock repurchase due to the decrease in number of shares outstanding. Following the announcement (day 0) the graph shows a steady downward trend in stock price. This could be due to several different factors. One favored explanation for such an occurrence is if firms repurchase a portion of stock that is too small this could present a greater risk by increasing the firms’ debt which could outweigh the increases in earnings per share. Conversely, if the firm repurchases an amount too large the firm’s equity may be greatly decreased, which could also lead to a temporary decrease in stock price.
Another possibility is that stock repurchase announcements gathered in the sample were announced but never completed.

**Chart 2: CUMULATIVE AVERAGE EXCESS RETURN OVER EVENT PERIOD FOR STOCK REPO ANNOUNCEMENTS**

[Chart 2 shows an increase in stock price from days -30 to -17 and then a sudden drop in returns from day-16 to -13 and a price correction from days -12 to day -1. Following the announcement date (day 0) the graph shows a steady decline in cumulative average excess returns.]

**CONCLUSION**

This study tested the effect of stock repurchase announcements and stock issue announcements on the stock price’s risk adjusted rate of return for a sample of 80 firms (40 equity issue announcements and 40 stock repurchase announcements). These stocks were traded either on the NYSE or the NASDAQ. Paired Sample T-tests were conducted on both samples to test for significant changes in returns around the announcement dates and on the announcement dates for the respective samples.

Both charts yield somewhat inconclusive or mixed results, as such, it is important to point out that there are possible limitations to this study. These limitations might offer explanations as to why these results are inconsistent with the current finance literature. The first limitation, and perhaps most important, is the small sample size. According to the Advanced Financial Network website, there are approximately 1.46 billion shares traded daily on the world’s leading stock exchange, the New York Stock Exchange. These 1.46 billion shares come from over 2,800 different companies, so by using two samples of just 40 firms each we have limited the study to depict results from only a small portion of the market.
To get a more accurate understanding of the overall market reaction to signals (such as those examined in this study), we would need a larger pool of firms in each of our samples.

Another important limitation to consider is the duration of the study. All announcements in this study fall between November of 2014 and June of 2015. To further understand the market reactions one must examine the economy during this period for any irregularities or uncertainties threatening the market. In 2015 there were several major changes which could have affected the United States economy as well as the global market. Two of the most notable occurrences during the late 2014 through 2015 timeframe are the national and international security threats posed by the rise of the Islamic state, ISIS, and the reduction in the price of oil (Chafuen, 2015). To be able to determine the true impact of the mentioned limitations on our study would require further extensive research that expands outside of the main emphasis of this study. Nonetheless these factors are important to consider while interpreting the results of the study.

The results for the equity issue sample shown in Chart 1 reject both null hypotheses associated with the two tests for the equity issue announcements ($H_{30}$ and $H_{40}$). Results show significant changes in cumulative average excess returns both on and around the announcement date for this sample. Results favor the first alternative, $H_{31}$, yielding a significant negative effect on the announcement date. However, in interpreting the alternative to the second set of hypothesis tests for this sample ($H_{41}$), we found results to be more conclusive with the original finance literature on the signals sent by equity issue announcements. Here we saw a positive trend in the cumulative average excess returns around the announcement date, whereas the alternative ($H_{41}$) hypothesized that the data would yield a negative trend around the announcement date. These results presented a positive signal from the equity issue announcements shown in Chart 1 rather than the hypothesized negative signal.

The results to the $t$-test for the stock repurchase announcements shown in Chart 2 fail to reject the first null hypothesis ($H_{10}$) providing no evidence of significant change in returns on the announcement date. However, results lead to the rejection of the second null hypothesis for this sample ($H_{20}$), meaning these data do not support the hypothesis, “The risk adjusted return of the stock price of the sample of firms announcing stock repurchases is not significantly affected by this type of information around the announcement date as defined by the event period.” After examining Chart 2 one can see the significant changes in cumulative average excess returns around the announcement date. These changes do not favor the alternative hypothesis as the data is trending negatively rather than positively.

Both samples show mixed results. The equity issue sample yielded results more conclusive with the original finance literature rather than the more current literature discussed in the literature review. The stock repurchase sample had an opposite reaction than hypothesized in the methodology yielding inconclusive results. After analysis of the CAER graphs and the paired sample $t$-tests, we conclude that these samples are in concurrence with the semi strong form market efficiency hypothesis. As mentioned above the study is confined to possible
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limitations and is subject to further research for a better understanding of the market reaction to stock repurchase and equity issue announcements.

REFERENCES

MANDATED OR SPONTANEOUS BOARD DIVERSITY? DOES IT MATTER?

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ABSTRACT

The expanding role of women and ethnic minorities in the governance of publicly traded companies has given rise to research into the contribution of board diversity to firm performance. While it stands to common sense that diverse viewpoints and opinions should lead to better governance, evidence of this notion has proved to be elusive. Two theories offered to explain the apparent ambiguous relationship between minority membership and performance are based on a potential interaction between diversity and other governance characteristics. One (Post and Byron 2015) predicts that otherwise bad governance characteristics will neutralize the advantages diversity, the other (Adams and Ferreira, 2009) predicts that otherwise good governance characteristics will lead to over monitoring and poor performance. The observational implications of these theories are the opposite of each other and this gives rise to a potential test of their validity. This study examines ethnic minority and female participation on the boards of the S&P 1500 largest companies. The results do not support either of the two theories. Moreover, we add to the general ambiguity of the literature by finding a significant and robust negative relationship between female board membership and firm operational performance and a significantly positive relationship between ethnic minority board membership and firm operational performance.

Key Words: Corporate Governance, Board Diversity, Corporate Performance, Chow Test

INTRODUCTION

In Western countries publicly traded corporations are conscientiously increasing the number of women serving on their boards. For many countries this change has been brought about by force of law. For example, in Italy, the boards of publicly traded companies must comprise at least 33% women. In France the portion is at least 20% of the board, with that minimum rising to 40% in 2017 [RiskMetrics,
2012, p.44]. As a result, in France women now represent over 26 percent of public company directors, as compared to 12.3 percent in 2010. In Iceland, companies with more than 50 employees are required to have at least 40 percent of each gender on the board. But even as far back as April 2013 the percentage of women directors was 48.9% in that country. [Katz and McIntosh, 2013]. Norway has the most stringent requirement, a minimum of 40%. Most recently, in March of 2015 the German parliament voted to require a minimum of 30% women directors for large companies.

Britain and the U.S., both ruled by common law as opposed to civil law, are less likely to enact such regulations. Indeed, in the United States female participation rates have grown from only 9% of all board seats in 2007 to only 19% in 2014 (Catalyst, 2008, 2015). In Great Britain, however the “30% Club” has used persuasion to double the average number of women on boards since 2010 to 23% (New York Times March 6, 2015). Following Great Britain’s lead, 42 large U.S. companies have formed a U.S. branch of the 30% Club with a goal of eventually reaching the 30% level of women directors.

Several corporate governance experts believe that the different views and perspectives brought about by a more diverse board may lead to greater corporate success for all its stakeholders. TIAA-CREF’s Policy on Statement on Corporate Governance states that the board should be composed of qualified individuals and should reflect diversity of experience, gender, race, and age [TIAA-CREF]. The California Public Employees’ Retirement System (CalPERS), the nation’s largest public pension fund, recommends that boards consider the mix of director characteristics, experiences, diverse perspectives and skill when nominating individuals to the board [CalPERS]. Barclays Bank issued an ETN (Exchange-Traded Note) last year called the Women in Leadership (WIL) ETN, composed of companies that have a female CEO or a minimum of 25% female directors on the board.

These changes give rise to the question, does the presence of women on the board of directors enhance firm performance? The results of previous studies are mixed at best. While some have found evidence to support the notion that firm performance is enhanced when women become directors (e.g. Noland, Moran, and Kotschwar, 2016, Dezso and Ross, 2012, Nguyen and Faff, 2012, Lee, 2011, Singh, Vinnicombe and Johnson, 2001.), others find evidence of the opposite (e.g. Adams and Ferreira 2009, Ahern and Dittmar, 2012. Matsa and Miller 2013), and still others obtained mixed results from their studies (e.g. Post and Byron 2014).
Schmidt and Urban (2015) argue that when quotas are imposed on firms in the civil law countries the increase in female participation degrades firm performance. But when recruitment of women is voluntary such as in the common law countries firm performance improves because women must go through a more rigorous screening than men (“the glass ceiling effect”). This latter ensures that the few women who do join the board have superior skills. Adams and Ferreira (2009) find evidence that women are better prepared, bring more energy, serve on critical committees, and stimulate their male colleagues to better service. On boards with otherwise poor governance characteristics they enhance firm performance. But on boards with otherwise good governance characteristics will degrade firm performance. This latter is from the cost of “over monitoring.” That is, if firms are already well governed, an increase in board participation adds an unnecessary cost. Post and Byron make the opposite argument. Appealing to “Upper Echelon Theory” they claim that females come with cognitive frames that differ from their male counterparts. In poorly governed firms, the dissonance is reconciled and the advantage of diversity is wasted. Quoting Hambrick (2007), they claim that for well governed firms diversity will precipitate “. . . mutual and collective interaction . . . (with) shared information, resources, and decisions.” Therefore we would expect to see enhanced firm performance in well governed firms and no effect in poorly governed firms. Both studies find empirical support for their assertions.

These arguments have been raised as they apply to gender diversity. But they can also be applied to ethnic diversity. A study of both ethnic diversity and gender diversity in the United States, a country free of any quotas, provides an opportunity to uncover empirical evidence to support or reject one or both of these opposing theories. In this study we examine the S&P 1500 companies to see if either ethnic diversity or gender diversity affects firm performance.

DATA AND METHODOLOGY

The hypothesis of this study is that the effect ethnic and gender diversity on firm behavior depends on other quality characteristics of the board. Firms with otherwise good governance characteristics will either perform better (Post and Byron, 2015) or worse (Adams and Ferreira, 2009) if their boards are diverse. There are many ways of testing this pair of hypotheses. Among them are least square regressions with an interactive term, or regressions with a dummy variable. But the least stringent test is a Chow test because it provides the lowest bar for rejecting a hypothesis. If the null of a Chow test cannot be rejected then the null of more stringent tests cannot be rejected either.
Hermalin and Weisbach (1998) point out that boards tend to be chosen endogenously. So as a first step we check for that possibility. Next, using an industry fixed effect model we then perform a Chow test for our entire sample of publicly traded companies, and sub samples of large cap stocks, mid cap stocks, and small cap stocks.

Our dependent variable is the return on average assets for the year 2010 or the two digit industry average return on average assets. We also use Tobin’s Q and industry average Tobin’s Q in our investigation but those results are not reported in detail here. In both cases we winorize the data at ± 3 \( \sigma \). In studies not reported here we use raw data with similar results.

Our independent variables are the portion of females on the board and the portion of ethnic minorities on the board. In studies not reported here we also used gross numbers instead of proportions with results almost identical to the reported results.

Our control variables are,

1. **Board Size**: Large boards may be vulnerable to both “free ridership” among board members whose contribution is less observable and to control by the CEO if he is also chairman of the board. Indeed Eisenberg et. al. (1998) find that board size and firm performance are negatively related. Hermalin and Weisbach (1998) however, model a firm where good firm performance gives the CEO bargaining power who then uses it to bargain for large boards. Their model predicts a positive relationship between board size and firm performance. Indeed, Yermack (1996) finds results that contradict those of Eisenberg et. al. (1998). Coles et. al. (2008) find that board size is positively correlated to firm size when firms are highly diversified or have high debt ratios. In this paper we offer no hypothesis about board size but apply a two-tailed test for its significance.

2. **CEO = Chair**: We include a dummy to determine whether the CEO and the chairman of the board are separate. When a CEO is also chair, the monitoring functioning of the board is obviously impaired and for that reason we would expect firms with separate CEO and chair to outperform firms where the two positions are held by one individual. However, consistent with Hermalin and Weisbach (1998), high performing CEOs may be able to bargain with the board to obtain the chair position so that it is possible we would see firms where the CEO plays both roles outperform firms that do not. For that reason we believe a two-tailed test is appropriate for this variable.
3. Portion of Independent Directors: In the wake of the Enron scandal the Sarbanes Oxley Act, the SEC, the NYSE, NASDAQ all have created rules and guidelines for the number, portion, and responsibilities of independent board members. Hermalin and Weisbach (1991, 2002), and Dahya and McConnell (2002) find that boards with more independent members are more likely to replace CEOs whose performance is weak. But consistent with their empirical research, Hermalin and Weisbach (1998) use their bargaining model to predict that good performing CEOs will be able to bargain for less independent boards. Indeed, Baker and Gompers (2003) Boone et al (2007) and Ryan and Wiggins (2004) find evidence consistent with the bargaining model. For that reason we believe a two-tailed test is appropriate for this variable.

4. Total Assets: Finally, consistent with convention we also include total assets as a control variable on the assumption that larger firms enjoy economies of scale and greater market share.

The data set is the intersection of the firms that that are in the Board Practices/Board Pay 2012 available from RiskMetrics (2012), and all of the S&P 1,500 firms for which useful data is available in the Compustat data base. This results in 437 S&P 500 large cap firms, 328 Mid-cap firms, and 517 small cap firms, with a total of 13,411 director seats. RiskMetrics (2012) collected the following data as of June 30, 2011: 1) board size, 2) average percentage of women on their corporate boards of directors, 3) number of independent board members, 4) minority membership, and 5) whether the CEO is also chair of the board.

In 2011, 74% of S&P 1,500 boards include at least one woman: 90% at S&P 500 companies, but only 55% of small-cap firms. [RiskMetrics, 2012]. As expected, the large cap companies tend to have larger boards with an average of 11 members compared to nine over all. For this reason they are more likely to have more women on their boards. Indeed the larger companies have an average of 16% female board membership as opposed to 13% and 10% for the midcap and small cap companies respectively.

RESULTS

Return on Assets is the dependent variable of our tests. We are testing for evidence that return on assets is affected by female and ethnic minority board membership. But it is possible that the flow of causality runs the other way (Hermalin and Weisbach, 1998). That is, we may find a higher level of female/minority
membership in either high or low ROA industries. For example, while the Household and Personal Consumer Products sector has an average female board membership of 24% and an average industry ROA of 9.28%, the Information Technology sector has a female board membership of 7% and an industry average ROA of 14.69%.

Table 1
Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board Size</td>
<td>1428</td>
<td>1</td>
<td>30</td>
<td>9.39</td>
<td>2.474</td>
</tr>
<tr>
<td>Number of Females</td>
<td>1452</td>
<td>0</td>
<td>6</td>
<td>1.25</td>
<td>1.027</td>
</tr>
<tr>
<td>% Female</td>
<td>1439</td>
<td>0</td>
<td>50</td>
<td>12.81</td>
<td>10.11</td>
</tr>
<tr>
<td>Number Minority</td>
<td>1452</td>
<td>0</td>
<td>10</td>
<td>0.81</td>
<td>1.066</td>
</tr>
<tr>
<td>% Minority</td>
<td>1439</td>
<td>0</td>
<td>50</td>
<td>7.95</td>
<td>9.94</td>
</tr>
<tr>
<td>ROAA10 (%)</td>
<td>1399</td>
<td>-74</td>
<td>44</td>
<td>6.00</td>
<td>8</td>
</tr>
<tr>
<td>Total Assets (1,000,000)</td>
<td>1401</td>
<td>0.04</td>
<td>2266</td>
<td>21.11</td>
<td>117.2124</td>
</tr>
<tr>
<td>Separate Chair</td>
<td>1452</td>
<td>0</td>
<td>1</td>
<td>0.46</td>
<td>0.499</td>
</tr>
</tbody>
</table>

We test the hypothesis that there is industry bias in the recruitment of female and ethnic board members by regressing industry average return on average assets on our diversity and control variables. If the coefficients on the diversity variables are significant we assume that board composition is a function of the industry the firm operates in.

In Table 2 industry average return on average assets is the dependent variable instead of firm-specific return on average assets. The table shows that low ROA industries tend to hire more females, high ROA industries tend to hire more ethnic minorities, board sizes tend to be smaller for high ROA industries, and high ROA industries are more likely to separate the chair function from the CEO function.
While endogeneity is clearly indicated it is also significant that the relationship of ethnic minorities and females to firm performance is of opposite sign. It appears that the concept of diversity may not mean apply in the same way to ethnic minorities and women.

<table>
<thead>
<tr>
<th>Dependent:</th>
<th>All</th>
<th>Large Cap</th>
<th>Mid Cap</th>
<th>Small Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>33.116*</td>
<td>14.173*</td>
<td>19.976*</td>
<td>32.369*</td>
</tr>
<tr>
<td>%FEM</td>
<td>-2.411* (2.550)</td>
<td>2.197* (1.295)</td>
<td>-3.775* (2.231)</td>
<td>-5.252* (3.850)</td>
</tr>
<tr>
<td>%MIN</td>
<td>5.800* (6.106)</td>
<td>2.872* (1.963)</td>
<td>3.037* (2.231)</td>
<td>8.538* (5.267)</td>
</tr>
<tr>
<td>BSIZE</td>
<td>-4.090* (10.742)</td>
<td>-0.355* (5.855)</td>
<td>-0.280* (3.349)</td>
<td>-0.212* (2.917)</td>
</tr>
<tr>
<td>Bind</td>
<td>1.672** (1.933)</td>
<td>-0.645 (0.417)</td>
<td>3.433* (2.228)</td>
<td>0.670 (0.525)</td>
</tr>
<tr>
<td>SEPCh</td>
<td>0.618* (3.400)</td>
<td>0.892* (2.860)</td>
<td>0.785* (2.435)</td>
<td>0.219 (0.795)</td>
</tr>
<tr>
<td>Assets</td>
<td>-0.003* (3.789)</td>
<td>-0.003* (4.382)</td>
<td>-0.219* (7.658)</td>
<td>-0.616* (8.791)</td>
</tr>
</tbody>
</table>

*significant at the 1% level, ** significant at the 5% level, t ratios in parenthesis. The dependent variable is the Industry Average (4 digit GICS) ROA for the entire sample, large cap stocks, mid cap stocks and small cap stocks. Low ROA industries tend to hire more females, high ROA industries tend to hire more ethnic minorities, board sizes tend to be smaller for high RAO industries, and high ROA industries are more likely to separate the chair function from the CEO function.
To mitigate this endogeneity effect and focus on the impact of female and ethnic minority board membership we adopt an industry fixed effects model at the two-digit industry level. The Chow test requires three regressions, one on the entire sample, and one each on two sub-samples. If there is a significant reduction in the sum of the squared errors from the two sub-samples then the null of no difference is rejected in favor of the alternative that there is a difference.

Table 3
Fixed Effects

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
<th>Large Cap</th>
<th>Mid Cap</th>
<th>Small Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unpartitioned Regression Results</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.102</td>
<td>0.048</td>
<td>-0.585</td>
<td>-1.591</td>
</tr>
<tr>
<td></td>
<td>(1.111)</td>
<td>(0.414)</td>
<td>(2.931)</td>
<td>(3.417)</td>
</tr>
<tr>
<td>%Female</td>
<td>-0.619*</td>
<td>-0.833*</td>
<td>-1.39*</td>
<td>-0.709***</td>
</tr>
<tr>
<td></td>
<td>(2.621)</td>
<td>(2.128)</td>
<td>(3.346)</td>
<td>(1.750)</td>
</tr>
<tr>
<td>%Minority</td>
<td>0.764*</td>
<td>0.123</td>
<td>1.114*</td>
<td>0.462</td>
</tr>
<tr>
<td></td>
<td>(3.200)</td>
<td>(0.361)</td>
<td>(2.551)</td>
<td>(0.963)</td>
</tr>
<tr>
<td>Assets</td>
<td>-0.076</td>
<td>-0.121**</td>
<td>-3.944*</td>
<td>-8.066*</td>
</tr>
<tr>
<td></td>
<td>(1.171)</td>
<td>(1.833)</td>
<td>(4.299)</td>
<td>(3.153)</td>
</tr>
</tbody>
</table>

|                |             |           |         |           |
| **Chow Test Results** |             |           |         |           |
| F Chow          | 0.000       | 0.000     | 0.000   | 0.000     |
| n (total)       | 1368        | 464       | 362     | 543       |
| n (worse)       | 709         | 337       | 179     | 192       |
| n (better)      | 659         | 125       | 183     | 351       |

*significant at the 1% level, *** significant at the 10% level, t ratios in parenthesis. The dependent variable is firm ROA. “n” is the number of observations in the unpartitioned sub sample, the partition with the absence of good governance characteristics and the partition with the good governance characteristics. This two-digit GICS fixed effect regression shows a robust negative relationship between operational performance and female board participation and a weaker but opposite relationship between operational performance and ethnic minority participation. The Chow test partitioning the sample by board quality provides no evidence that board quality affects either female or minority contribution to governance.
We partition our samples and sub-samples. The “well governed” part is any firm where the CEO is not also the chair of the board or at least there is a lead director. In addition, a well-governed board size cannot be any greater than 9 members. In another test that is not reported here we created a “well governed” sub sample based on whether the board is classified board or not. The results were similar to those reported in Table 3.

The regression results of the unpartitioned sample and the three sub samples are reported in Table 3. The relationship between female participation on boards and operating performance is negative even in a fixed effects model. It is likely that the fixed effects model is not able to control for significant endogeneity such as an apriori motivation to seek female participation when operating performance is unacceptable, or a cosmetic motive of weak-performing companies.

The Chow test is capable of detecting differences in female contribution suggested by both Adams and Ferreira (2009) and Post and Byron (2015). If good governance characteristics either diminish or enhance diverse boards then we will be able to reject the null hypotheses of no difference between two sub samples. The lower half of Table 3 shows that the null cannot be rejected and so we can find no evidence to support either of the two opposing theories.

**SUMMARY AND CONCLUSIONS**

This study used a sample of 1368 firms to address the puzzle posed by prior research that the relationship between board diversity and firm performance is ambiguous. Two possible explanations for this ambiguity have been posed by Adams and Ferreira (2009) and Post and Byron (2015). The former suggests that in the presence of otherwise good governance female participation may cause costly “over monitoring.” The latter suggests in the presence of otherwise bad governance the advantage of diversity is negotiated away in consensus building that displaces hard investigation. We can find no evidence that governance characteristics have an effect on the contribution of minority board members to firm performance.

The diversity arguments of Adams and Ferreira (2009) and Post and Byron (2015) should apply to both women and ethnic minorities. The Chow test does fail to find support in either case. But more significantly, the fact that ethnic minority membership has a positive relationship to operating performance while female membership has a negative one raises questions about the very notion of what diversity is and how it contributes to (or diminishes) operational performance.
Our study finds a statistically significant negative relationship between female board participation and firm operating performance. This relationship is robust to many model specifications that are not reported here. It carries beyond operating performance as measured by ROA and is manifest in financial performance as measured by Tobin’s Q.

Interest in putting more women on the board of directors has increased in its intensity only very recently. In the United States there are still few women occupying board seats and therefore the data are thin. Ten years from now a study such as this may reach very different conclusions. But for now the interesting question is, what kinds of firms seek female board membership and why?

REFERENCES


Bosworth and Lee


A LONGITUDINAL ANALYSIS OF UNDERGRADUATE STUDENTS' INTERNET SECURITY PERCEPTIONS AND PURCHASING BEHAVIOR

Carl J. Case
Darwin L. King
St. Bonaventure University

ABSTRACT

Cyber attacks are increasing in type and cost. This study was undertaken to expand upon previous studies and determine from a longitudinal perspective if students' perceptions and purchasing behavior increase the likelihood of being a victim. Findings suggest that although nearly three-quarter of students purchase online and that the total dollars spent has nearly doubled during the past five years, undergraduate perceptions regarding the safety of purchasing online, using online auctions, and using credit cards has remained static with more than one-half of students indicating that these activities are safe. Of concern, however, is that the percentage of students and amount of dollar fraud per student are increasing. Results imply that educators may need to explore additional techniques in educating students about the evolving dangers inherent in online activity.

Key Words: Cyber attacks, Internet security, purchase behavior, Internet Crime Complaint Center

INTRODUCTION

The scope, type, and liability of cyber attacks are startling. From a business perspective, the 2014 Cost of Cyber Crime study found that cyber attacks cost the average U.S. company $12.7 million, an increase of 9% from 2013 (Ponemon, 2015). In particular, the Ponemon Institute found in a survey of more than 375 information technology (IT) and IT security practitioners in U.S. organizations that the total annual cost of phishing for the average organization is more than $3.7 million (CyberheistNews, 2015). In addition, the FBI’s Internet Crime Complaint Center (IC3) found that there has been a 270% spike in victims and cash losses caused by a scam in which cyber criminals spoof emails from executives at a victim organization in a bid to execute unauthorized international wire transfers (IC3,
According to the FBI, 1,198 firms in the U.S. lost a total of $179 million between October 2013 and December 2014 in these business e-mail compromise (BEC) scams, also known as “CEO fraud.” Between October 2013 and August 2015, nearly $750 million in such scams was stolen from more than 7,000 victim companies in the U.S. Two of these victim in 2015, for example, were Ubiquiti Networks Inc. of San Jose, CA and Scoular Company of Omaha, NE who lost $46.7 million and $17.2 million, respectively (Krebs, 2015).

Individuals have also been victims. During the first eight months of 2015, the National Counterintelligence and Security Center estimated that there were over 500 spear-phishing breaches (Sjouwerman, 2015). Spear-phishing has affected 47% of adults in the U.S. in the last three years. The U.S. Office of Personnel Management breach, for example, exposed the data of over 22 million individuals. The potential result is identity theft. In 2012, alone, approximately 16.6 million individuals were victims of identity theft (Shadel, 2014). Losses were estimated to be $21 billion (Javelin Strategy and Research, 2013). In response to these scammers, cheats, and criminals, AARP even created a Fraud Watch Network, a network that had nearly 500,000 U.S. members by the end of 2014 (Love, 2015).

Because individuals shop online, there may be additional exposure to crime. Even lesser known websites such as Pinterest have turned into learning and shopping hubs. Pinterest had 79 million unique visitors in February 2015, a 47% increase from 2014, had more than 50 billion pins, and had two-thirds of its content created by brands (Ortutay, 2015). Interestingly, however, although the Center for the Digital Future at the University of Southern California (USC) found that 68% of adult Internet users shop online, only 48% of respondents worried about privacy when shopping online (Ortutay, 2011).

As a result of this crime wave, corporate legal risks are becoming evident. Target and Visa, for instance, reached a settlement in which Target would pay up to $67 million to Visa card issuers for a security breach in 2013 that left 40 million customer credit card numbers compromised (Arstechnica.com, 2015). In addition, the U.S. Court of Appeals reinstated a liability case against Neiman Marcus for the potential damage to consumers from a data breach of 350,000 customers, 9,000 of which were used for fraud (Nash, 2015). Moreover, in August 2015, the third U.S. Federal circuit court ruled that the Federal Trade Commission (FTC) has the power to take action against organizations that employ poor IT security practices (CyberheistNews, 2015). The ruling was part of a lawsuit between the FTC and hotel chain Wyndham that was hacked three times in 2008 and 2009, exposing
credit card data for more than 619,000 customers and causing $10.6 million in loss due to the fraud.

Given that cyber crime and its resultant legal risk continue to be an organizational challenge, this study was undertaken to better understand perception and behavior from a consumer perspective. The focus of this research is the undergraduate business student population, in other words, consumers and the next generation of business employees and management.

This study examines several questions. Are students active consumers? Do students believe that purchasing online and paying bills online are safe? Do students make purchases using online auctions? Moreover, because online shopping may lead to spyware, are students concerned about spyware? And, are student victims of online fraud? Finally, what are the trends, if any, in student perceptions and behavior? Results are important in determining if student behavior and perceptions need to be modified.

**PREVIOUS RESEARCH**

Researchers have examined both security perceptions and purchasing behavior. In terms of security, studies have examined awareness and behavior with respect to home computers. Relative to purchasing, the authors' conducted two exploratory research studies to better understand student behavior and to establish a baseline for future research. In addition, other research has examined intention and risk of using online group buying websites, coupon purchase behavior, and trust in web-mobile shopping.

In regards to security research, SETA (Security, Education, Training, and Awareness) program awareness has been found to significantly influence the security culture and employee awareness of organizational security policies (Chen, Ramamurthy, and Wen, 2015). Moreover, the awareness of security monitoring impacts security culture. Thus, well designed SETA programs can change employee perceptions, attitudes, and beliefs on information security and make them act on protecting information security even at the cost of extra effort and workload. Research has also found that increases in education and preventative behaviors have increased the level of security incidents in home computer usage (White, 2015). Results suggest that better recognition of incidents, more risk taking because of more confidence in prevention, and greater exposure due to greater interactions are the reasons for this counter-intuitive behavior.
Relevant to the purchasing research, the authors conducted an exploratory study in 2002. Result indicate that nearly one-half of students made purchases via the Internet, 38% of the respondents utilized a credit card to make these purchases, and 11% of students purchased via an online auction (Case and King, 2003). In addition, category and mode of purchase varied by gender. In particular, although more females made purchases, males purchased more than twice as many items.

A more in depth study utilizing a purchasing log data collection instrument was subsequently conducted by the authors to further examine behavior (King and Case, 2005). Results indicated that students purchase articles of clothing most often when shopping online, followed by concert/sporting event tickets. The most common bills paid online by the students were phone and credit card related. Only 6% of the students indicated that purchasing on the Internet was completely secure. Likewise, only 5% believed that online auctions were totally safe. The majority of students perceived, however, that paying bills online was secure with 13% indicating that this task was completely secure. Overall, students indicated that shopping on the Internet was relatively safe because 55% rated it either a 4 or 5 on the five-point security scale. For those who did not shop on the Internet during the study month, the most common reason (25%) related to the perceived lack of security. Many indicated that they were apprehensive of putting their credit card numbers online. The second most common reason for not making Internet purchases (24%) was simply a lack of money.

Recent studies have examined online group buying sites, coupons, and web-mobile shopping. In terms of online group buying, research has indicated that perceived usefulness, perceived ease of use, and perceived risk all have a significant relationship with consumer attitude, which subsequently has a significant effect on intention to use online group buying sites (Lim and Ting, 2014). Moreover, research has indicated that Internet advertising and electronic word of mouth have a positive effect on consumers’ perceived value and perceived risk of using online group buying sites (Lim, 2015). These in turn have a significant influence on their intentions to shop at these sites. Relative to coupons, another study examined the main factors that affect purchasing of coupons on daily deals websites. Findings suggested that authentic pictures of the deal are the most important factor (Gafni, Geri, and Aziz, 2014). A negative correlation between perceived trust in suppliers and trust in the intermediary indicated that an intermediary's good reputation is valuable and may enable deals with unknown suppliers. Moreover, offers located among the first 10 deals received the highest exposure and when the offer was displayed higher, significantly more coupons were purchased. In terms of web-mobile shopping, research results indicated that
trust in web shopping services and perceived integration between web and mobile shopping services positively affect trust in mobile shopping services (Yang, Chen, and Wei, 2015). The results also demonstrate that the trust transfer process positively affects behaviors toward mobile shopping extension by enhancing perceived benefit and by reducing perceived risk of mobile shopping services. Thus, by building and maintaining a high level of consumer trust in web shopping services, retailers can leverage their existing web-based consumer trust to produce similar favorable evaluations of their mobile shopping services.

RESEARCH DESIGN

This study employs a survey research design. The research was conducted at a private, northeastern U.S. university. A Student Security and Purchasing Behavior instrument was developed by the authors and administered to undergraduate students enrolled in a School of Business course. The courses included a variety of subjects such as Business Information Systems, Introduction to Financial Accounting, Introduction to Managerial Accounting, Management and Organization Behavior, and Business Policy. A convenience sample of class sections and faculty members was selected. The surveys were collected each semester during a five-consecutive year or 9 semester period (from Spring 2011 until Spring 2015).

The survey instrument was utilized to collect student demographic data such as gender and academic class. In addition, the survey examined student Internet behavior and attitudes regarding online security and online purchasing. Students were asked to estimate online activity per month and rate the safety of various online activities using a 5-point Likert-type scale. Results were summarized by academic year and correlations were calculated to determine potential relationships.

All surveys were anonymous and completed in an academic classroom. The response rate was 100 percent. Students were also informed that results would have no effect on their course grade.

RESULTS

A sample of 1,591 usable surveys was obtained. Table 1 indicates that, overall, 59% of the respondents were male and 41% were female. These percentages were fairly consistent across study years with the male percentage ranging from 54% to 63% during the five-year study.
TABLE 1

Gender Response Rate By Academic Year

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>59%</td>
<td>61%</td>
<td>58%</td>
<td>63%</td>
<td>54%</td>
<td>59%</td>
</tr>
<tr>
<td>Female</td>
<td>41%</td>
<td>39%</td>
<td>42%</td>
<td>37%</td>
<td>47%</td>
<td>41%</td>
</tr>
<tr>
<td>Count</td>
<td>331</td>
<td>377</td>
<td>384</td>
<td>322</td>
<td>177</td>
<td>1591</td>
</tr>
</tbody>
</table>

The response rate by academic class was relatively equally distributed with a slightly higher percentage of sophomores participating each year. In addition, academic class was relatively consistent across years. Table 2 illustrates that juniors, for example, ranged from 18% to 27% during the study period. Overall, 17% of respondents were freshmen, 36% were sophomores, 21% were juniors, and 26% were seniors.

TABLE 2

Academic Class Response Rate By Academic Year

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>18%</td>
<td>21%</td>
<td>12%</td>
<td>12%</td>
<td>25%</td>
<td>17%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>50%</td>
<td>34%</td>
<td>32%</td>
<td>32%</td>
<td>31%</td>
<td>36%</td>
</tr>
<tr>
<td>Junior</td>
<td>18%</td>
<td>18%</td>
<td>27%</td>
<td>21%</td>
<td>18%</td>
<td>21%</td>
</tr>
<tr>
<td>Senior</td>
<td>15%</td>
<td>28%</td>
<td>30%</td>
<td>32%</td>
<td>26%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Responses were first examined with regard to activity level per year. Table 3 shows that the percentage of students purchasing online has increased from 60% in 2011 to 71% in 2015. For those students purchasing online, the monthly online spending has increased from $57 to $108 per student. In terms of auction purchases, only one item per month on average was purchased per student for each of the five years. Credit cards, as an online payment mechanism, have increased
in usage from 2.9 items per month in 2011 to 4.8 items per month in 2015. In terms of online fraud, while the percent of students defrauded peaked at 9% in 2013, the overall percentage increased from 5% to 8% during the study period. Finally, from 2011 to 2015, the dollar amount of fraud per student that was defrauded was $104, $116, $174, $90, and $238, respectively.

TABLE 3

Purchase and Fraud Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Academic Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Purchase Online</td>
<td>60%</td>
</tr>
<tr>
<td>Online Purchase$/Month</td>
<td>57</td>
</tr>
<tr>
<td>Auction Purchase/Month</td>
<td>.7</td>
</tr>
<tr>
<td>Items Paid By Credit Card</td>
<td>2.9</td>
</tr>
<tr>
<td>Students Defrauded</td>
<td>5%</td>
</tr>
<tr>
<td>Fraud$/Student</td>
<td>104</td>
</tr>
</tbody>
</table>

Each student was next prompted to indicate his/her level of agreement on a 5 point Likert-type scale with regard various online activities. Table 4 depicts that with respect to the safety of purchasing online, in three of the five years, mildly agree was the most common response. In two of the years, neutral had the highest response. When combined, neutral and mildly agree ranged from 73% to 81% during the study period. Overall, strongly and mildly disagree cumulatively ranged from 9% to 13% and strongly and mildly agree cumulatively ranged from 48% to 58%. Analysis also shows that the five categories were relatively consistent across the five years. For example, in 2011, 3% strongly disagree, 8% mildly disagree, 41% are neutral, 36% mildly agree, and 12% strongly agree. In 2015, 2% strongly disagree, 11% mildly disagree, 34% are neutral, 40% mildly agree, and 13% strongly agree. Individual categories, such as strongly disagree and mildly disagree, for example, only ranged from 1% to 3% and 8% to 11%, respectively, during the five-year period.
TABLE 4

Purchasing Online Is Safe

<table>
<thead>
<tr>
<th></th>
<th>Academic Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>3%</td>
</tr>
<tr>
<td>Mildly Disagree</td>
<td>8%</td>
</tr>
<tr>
<td>Neutral</td>
<td>41%</td>
</tr>
<tr>
<td>Mildly Agree</td>
<td>36%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>12%</td>
</tr>
</tbody>
</table>

In terms of the safety of online auctions, Table 5 illustrates that in each study year, neutral was the most common perception. Overall, strongly and mildly disagree cumulatively ranged from 18% to 26% and strongly and mildly agree cumulatively ranged from 34% to 44%. Analysis also shows that the five categories were relatively consistent across the five years. For example, in 2011, 8% strongly disagree, 18% mildly disagree, 41% are neutral, 27% mildly agree, and 11% strongly agree. In 2015, 6% strongly disagree, 19% mildly disagree, 40% are neutral, 27% mildly agree, and 7% strongly agree. Moreover, individual categories were similar by year. For example, the mildly disagree percentage from 2011 to 2015 was 18%, 17%, 16%, 19%, and 19%, respectively.
Table 5 examines the safety of paying bills online. Mildly agree was the most common response. Overall, strongly and mildly disagree cumulatively ranged from 10% to 12% and strongly and mildly agree cumulatively ranged from 53% to 62%. Analysis also shows that the five categories were relatively consistent across the five years. For example, in 2011, 2% strongly disagree, 10% mildly disagree, 33% are neutral, 40% mildly agree, and 14% strongly agree. In 2015, 2% strongly disagree, 9% mildly disagree, 30% are neutral, 47% mildly agree, and 11% strongly agree. Moreover, individual categories were similar by year. For example, the mildly disagree percentage from 2011 to 2015 was 10%, 10%, 7%, 10%, and 9%, respectively.
One negative aspect of online purchasing is the possibility that the user’s computer system may become infected with spyware. As a result, the survey instrument was used to probe the respondent’s perception about the threat of spyware. Table 7 illustrates that although all five categories per year were similar in response rate, neutral was the most common response each year. Overall, strongly and mildly disagree cumulatively ranged from 34% to 41% and strongly and mildly agree cumulatively ranged from 31% to 33%. Analysis also shows that the five categories were relatively consistent across the five years. For example, in 2011, 14% strongly disagree, 26% mildly disagree, 27% are neutral, 20% mildly agree, and 13% strongly agree. In 2015, 16% strongly disagree, 20% mildly disagree, 31% are neutral, 25% mildly agree, and 8% strongly agree. Moreover, individual categories were similar by year. For example, the mildly disagree percentage from 2011 to 2015 was 26%, 23%, 20%, 22%, and 20%, respectively.
Finally, Spearman Rho correlations were calculated to determine potential relationships between safety perceptions and the various purchasing behaviors (Table 8). The perception that purchasing online is safe had a positive correlation, significant at the .01 level, with online purchasing dollars, auction purchases, and online credit card purchasing. In other words, the stronger that students believed the online purchasing was safe, the more likely the students were to spend money, make online purchases, and use a credit card online. The perception that online auction are safe had a positive correlation, significant at the .01 level, with the quantity of auction purchases. The perception that paying bills online is safe had a positive correlation, significant at the .01 level, with online purchasing dollars, auction purchases, and online credit card purchasing. Finally, although the level of concern about spyware had a negative correlation with online purchasing dollars and auction purchases, there were no significant correlations with any practices. Interestingly, the amount of fraud dollars was not significantly correlated with any safety perception.
TABLE 8

Spearman Rho Correlations Between Safety Perceptions and Practices

<table>
<thead>
<tr>
<th>Perception</th>
<th>Online Purchase $</th>
<th>Auction Purchases</th>
<th>Credit Card Online Usage</th>
<th>Fraud $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing online is safe</td>
<td>.095**</td>
<td>.059*</td>
<td>.077**</td>
<td>-.047</td>
</tr>
<tr>
<td>Online auctions are safe</td>
<td>.035</td>
<td>.150**</td>
<td>-.006</td>
<td>-.034</td>
</tr>
<tr>
<td>Paying bills online is safe</td>
<td>.104**</td>
<td>.060*</td>
<td>.084**</td>
<td>.000</td>
</tr>
<tr>
<td>I am concerned about spyware</td>
<td>-.004</td>
<td>-.018</td>
<td>.002</td>
<td>.045</td>
</tr>
</tbody>
</table>

* Correlation is significant at .05 level (2-tailed).
** Correlation is significant at .01 level (2-tailed).

CONCLUSIONS AND FUTURE RESEARCH

Results indicate that undergraduate Internet purchasing behavior has changed during the past five years. In 2011, a little more than half, or 60%, of students indicated purchasing online. By 2015, nearly three-quarter, or 71%, of students purchase online. In addition, the dollar amount of monthly online purchases increased from $57 to $108. The number of items paid via credit card also increased from 2.9 to 4.8 items per month for those making online purchases. Moreover, the percent of students defrauded increased from 5% to 8%, with the dollar losses increasing from $104 to $238 per month. The only activity that was relatively consistent across study years was the number of auction items purchased per month.

When examining perceptions, it is apparent that levels have been static. In 2011, 48% indicated that purchasing online is safe and 11% perceived purchasing as
unsafe. In 2015, a similar percentage of students, 53%, indicated a positive safety and 13% perceived a negative safety. In terms of student perception of online auction safety, there has also been little change. In 2011, 38% indicated auctions are safe and 26% perceived auctions are unsafe. Similarly, in 2015, 34% indicated a positive safety and 25% perceived a negative safety. Relative to the safety of paying bills online, 54% indicated that payment is safe and 12% perceived payment as unsafe. In 2015, a similar percentage of students, 58%, indicated a positive safety and 11% perceived a negative safety. Finally, in 2011, 33% were concerned about spyware and 40% were less concerned. Similarly, in 2015, 33% indicated a mild or strong concern and 36% were less concerned safety. Overall, the majority of students mildly or strongly agreed that purchasing online, online auctions, and paying online are safe. On the other hand, the majority of students were mildly or strongly concerned about spyware.

There are three important implications from the study. One finding is that although only about one-half of students generally perceive that purchasing online is safe, trends suggest that students are either becoming more daring, more cavalier, or more naive about safety. Chart 1 demonstrates that even though the percentage of students perceiving that online purchasing is safe has been stable, the percentage of students that purchase online is increasing and the percentage of those defrauded is on the rise. For example, in 2011, 6 of 10 students purchased online and 5% indicated loss as a result of fraud. By 2015, more than 7 of 10 students purchased online and 8% were defrauded. Although the percentage of students purchasing online is similar to the USC study of one-half million adults, 71% versus 68%, respectively, students are more confident about online safety, only 13% skeptical versus 48%, respectively. It can also be surmised that although the survey instrument was anonymous, the incidence of fraud is likely higher as there may be students that do not want to openly admit to being a victim because of embarrassment. As a result, more aggressive proactive measures should be considered by academicians. One technique would be to include additional online safety education instruction within information systems classes.
A second implication is a result of the trend that fraud losses are rising faster than the increasing amount of student spending. While online purchases increased by 93% from $57 to $108, reported fraud losses increased by 129% from $104 to $238 per month. These trends occurred even though students reported in nearly all of the five study years that they are more concerned rather than less concerned about spyware. Spyware is an important metric given that student Internet purchasing behavior may lead to increased spyware that in turn may result in ID theft. These fraud findings, coupled with the dramatic increase in business crime losses identified by the FBI and Ponemon, signal an alarming trend in crime vulnerability at multiple levels. Even more troubling is that this study found no statistically significant correlation between fraud dollar loss and perceptions regarding online purchasing safety, online auction safety, online bill payment safety, and concerns about spyware. A major challenge for educators and those in business, therefore, is to develop strategies and a culture that can minimize the likelihood of these increasing threats.
A third implication is given that few items are purchased at online auctions, the threats associated with online auctions are likely minimal and not a major concern with respect to undergraduates. This behavior is consistent with the student perceptions about online auction safety. For example, in three of the five study years, only about one-third of respondents indicated that online auctions are safe.

The limitations of this study are primarily a function of the sample, sample distribution, and type of research. The use of additional universities and more equal distribution among academic class and gender would increase the robustness of results. Another limitation relates to the self-reported nature of the survey. Future research is needed to explore if gender and academic class affect behavior and to explore which measures may be implemented in the education process to bring about a positive change in behavior and attitude and ultimately reverse the trend of increasing losses.

REFERENCES


Case and King


THE CORPORATE IMAGE OF THE NEW SHOPPING MALL IN BANGKOK

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Sirion Chaipoopirutana
Assumption University of Thailand

ABSTRACT: This study aims to examine the influential factors of offline brand attributes, perceived congruence, website image, advertising, emotional attachment, and consumer-company identification on corporate image. This research used survey technique to collect the data from 500 respondents who visited the new shopping mall in Bangkok. The sampling procedure used non-probability technique by applying convenience sampling. Multiple Linear Regression and Simple Linear Regression were statistical design. The researchers found emotional attachment was influenced on consumer-company identification. Perceived congruence, website image, advertising, emotional attachment, and brand attributes were influence on corporate image of the new shopping mall in Bangkok.

Key Words: Corporate image, emotional attachment, consumer company identification, website image, brand attributes.

INTRODUCTION

The new shopping mall is rapidly growth in developing countries where people’s life is dynamic and occur phenomenon of emerging world-class shopping malls. The successful mall should offer the extraordinary experience, provide professional decoration and design, invest on high innovative services, and select high brand reputations. The outcomes of a good corporate image were found when the mall create uniqueness characteristics or appearance (Kunkel and Berry, 1968; Marks, 1976). Besides, the previous studies have indicated factors that influence corporate image are brand attributes, perceived congruence, website image, advertising, emotional attachment, and consumer-company identification (Preez and Vyver, 2010; and Kremer and Viot, 2012).

LITERATURE REVIEW

Brand attributes: Offline brand attributes are the analysis of brand appearances (Davies et al., 2004). The analysis of brand attributes are easy to understand when
describes the brand into the generic individual characteristics (Lakoff and Johnson, 1980). There are four sub-variables of offline brand attributes, which are physical aspects, product-related attributes, personal interaction and reliability.

**Physical aspects**: Physical aspects refer to tangibles measurements, which have appearance, facilities and convenience for customers, as defined by Guiry et al. (1992). Also, Dabholkar et al. (1996) defined that physical aspects are presented in store appearance and the convenience of retail that serves to customers.

**Product-related attributes**: Westbrook (1981) defined merchandise is the principle of mall to be careful when offering to customers. In addition, Srinivasan et al. (2002) supported that the available product is importance for customers to find their preferences in one place.

**Personal interaction**: Silva and Alwi (2008) stated that personal interaction is performance of employees and how they interact directly with customers. Besides, Guiry et al. (1992) supported that the personal interaction comprised of employees’ confidence and performed the appropriate manner and helpfulness to customers.

**Reliability**: Dabholkar et al. (1996) suggested reliability was included in the service quality (SERVQUAL) was consisted of two sub-dimensions that are “keeping promises” and “doing it right”. Also, Westbrook (1981) suggested the reliability is affected the trustworthiness of the mall itself.

**Perceived congruence**: Goodman (1980) defined congruence occur when customers compare the current situation and past experience or compare two things or two situations or two kinds of products. Besides, Lwin et al. (2007) supported these comparisons would perform when customers used their mentally descriptive and analytical measurement.

**Website image**: Lim and Dubinsky (2004) indicated website image of the retail sector is another kind of store channel that communicate and express in overall retail images and represents the information of store merchandises, activities, price, discounts, and other services. Also, Childers et al. (2001) stated that website image is able to reflect the store atmosphere.

**Advertising**: Advertising is the strategy and activity that are able to communicate a direct message to customer and promote the company’s products and services through several distribution channels in television, newspapers, websites, social media, and print ads etc. Duncan and Hollander (1977) stated the advertising is the main responsibility of retailers that should create a good image in the customer’s mind.

**Emotional attachment**: Schouten and McAlexander (1995) defined that emotional attachment refers to personal insight feeling when customer has met with the specific situation or experience about brand’s environment, product and service that was unexpected.
**Consumer-company identification:** Consumer-company identification is a deep feeling when they commit to the company or try to be a good representative for that company (Balmer and Greyser, 2006; Bhattacharya and Sen, 2003).

**Corporate image:** Corporate image could be presented as pleasant store image where it is able to create gratification among customers and also create customer loyalty towards the store itself (Barnett et al., 2006). The corporate image is considered both tangible and intangible of the company and customers could recognize overall appearances and characteristics (Marks, 1976).

**RELATED LITERATURE REVIEW**

**Brand attributes with five sub-variables and corporate image**

Brand attributes are defined in terms of physical aspects, product-related attributes, personal interaction and reliability, which were adopted from retail service quality. Those found a significant relationship between the subset of offline brand attributes and corporate brand image. Dabholkar *et al.* (1996) found a significant relationship between physical aspect of retailing in terms of store convenience, store presentation, store atmosphere and overall retail image or corporate image. As Baker *et al.* (1994) implied that offline brand attributes and product-related in term of merchandise quality was directly impacted on the retail image. In addition, Dabholkar *et al.* (1996) studied about personal interaction of offline brand attributes, and the reliability of the store found that were significant influence on corporate image retail, which was supported by McEnally and de Chernatony (1999).

H1: Brand attributes in terms of physical aspect, product-related attributes, personal interaction and reliability are influenced on corporate image.

**Perceived congruence, website image and corporate image**

O’Cass and Grace (2008) found a strong influence of perceived congruence on the corporate image of the store, which was supported by Kwon and Lennon (2009). Wang *et al.* (2009) explored the main factor that could increase the effect on consumer attention was perceived congruence of store image, and website image to enhance the impact of corporate image of the retailers both provided results of influence on corporate image. Meanwhile, Teltzrow *et al.* (2007) stated that the expansion of the retail store image to online or website were focal factors to influence on store image.

H2: Perceived congruence and website image are influenced on corporate image.
Advertising, emotional attachment, consumer-company identification and corporate image

Advertising has a strong influence on brand image (Lindsay, 1990). Also, MacKenzie and Lutz (1989), concluded that there is a strong positive relationship between advertising and corporate image. Besides, Yoo and MacInnis (2005) found that the emotion has influence and impact corporate image in the environmental design; such as tones, color and other related objects. Bhattacharya and Sen (2003) also determined that consumers have emotional attraction toward companies, which have a strong relationship through the corporate image. In addition, Timmermans et al. (1982) claimed that customers had a direct influence on consumer-company identification and corporate image.

H3: Advertising, emotional attachment, and consumer-company identification are influenced on corporate image.

Emotional attachment and consumer-company identification

Dutton et al. (1994) identified that emotional attraction influenced consumer identity, when emotion is the deep feeling of an individual who tries to identify him or herself in order to commit with the company. As Harris and De Chernatony (2001) stated that emotional attachment is a crucial factor of the mall image to increase customer’s positive feeling. Meanwhile, Bhattacharya and Sen (2003) explained that the customers identified themselves as the recognition of social environment or can concluded that the customers linked themselves to be a part of the company identification based on their emotions.

H4: Emotional attachment has a statistical influence on consumer-company identification.
CONCEPTUAL FRAMEWORK

**Figure 1:** Conceptual framework of “The Corporate Image of the New Shopping Mall in Bangkok”

RESEARCH DESIGN

This research has applied the descriptive research, which has a sample size of 500 respondents who visited the new shopping mall located in the epicenter of Bangkok by distributing the questionnaires. Likewise, the sampling procedures have utilized judgment sampling to select the samples as non-probability technique, quota sampling in order to divide them into number of respondents, and convenience sampling for asking respondents who were available to answer the questionnaire (Babbie, 2001; and Cooper and Schindler, 2006). The data analysis comprised of descriptive analysis to evaluate the variables of both the independent and dependent variables, then the results of mean and demographic factors presented in frequency and percentage. Then, the implementation of Multiple Linear Regression and Simple Linear Regression were used to test each hypothesis, which examined the significance level at .05, which would be accepted in the inferential analysis as the criterion of significant level.
DATA COLLECTION

This research had focused on the target population who had visited the new shopping mall in Bangkok including both male and female. The sample size was collected from 500 respondents. The Five-point Likert scale was designed to be the questionnaire, which comprised of four parts with the screening question as the first part. The second part was independent variables, which consisted of questions of brand attributes, perceived congruence, website image, advertising, emotional attachment, and consumer-company identification. The third part was corporate image as the dependent variable. The last part was personal information as demographic factors of this research.

RESEARCH FINDINGS

Based on the descriptive as the general analysis of independent and dependent variables, the researchers collected the data from 500 respondents. The results from descriptive analysis indicated that the highest mean of independent variables was emotional attachments equal to 3.93, which was able to explain that respondents felt “magnificent of the shopping mall design” at 4.01 and the “elegance of luxurious brand names” at 4.01 as both sub-variables of emotional attachment created outstanding, amazing designs for the architecture, interiors and attracted visual merchandise decoration aspects, impressed elegant world-class fashionable, and also provided luxurious brand names that customers were unexpected to perceive in the new shopping mall. Other variables analysis, corporate image had mean score at 3.91, product-related attributes was 3.85, personal interaction was 3.80, website image was 3.77, perceived congruence was 3.76, reliability was 3.73, advertising was 3.59, and consumer-company identification had the lowest mean equal to 3.31. Based on the results of the demographic factors, found that the majority of respondents were females as 61.4% or 307 respondents, and customers who have age between 20 to 30 years old was equal to 47.8% or 239 respondents. Both factors were nearly half of the target population of those who visited the new shopping malls. Moreover, a majority of the respondents were single with 66% or 330 respondents, and had a bachelor’s degree as the education level at 61.2% or 306 respondents, respectively. Likewise, the largest percentage of respondents who went to visit the new shopping mall was for employment at 84.2% or 421 respondents.

The data analysis of this research used Multiple Linear Regression to test hypothesis one, two, and three. Also, Simple Linear Regression tested the last hypothesis. All of the results are shown in Table 1.
Table 1: The summary of hypotheses testing.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Statistical treatment</th>
<th>Significant value</th>
<th>Beta coefficient values</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1</strong>: Brand attributes in terms of physical aspect, product-related attributes, personal interaction and reliability are not influenced on corporate image.</td>
<td>MLR</td>
<td>.000</td>
<td>.413</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Physical aspect</td>
<td>MLR</td>
<td>.000</td>
<td>.166</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Product-related attributes</td>
<td>MLR</td>
<td>.000</td>
<td>.212</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Personal interaction</td>
<td>MLR</td>
<td>.000</td>
<td>.152</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Reliability</td>
<td>MLR</td>
<td>.000</td>
<td>.212</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td><strong>H2</strong>: Perceived congruence and website image are not influenced on corporate image.</td>
<td>MLR</td>
<td>.000</td>
<td>.225</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Perceived congruence</td>
<td>MLR</td>
<td>.000</td>
<td>.581</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Website image</td>
<td>MLR</td>
<td>.000</td>
<td>.581</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td><strong>H3</strong>: Advertising, emotional attachment, and consumer-company identification are not influenced on corporate image.</td>
<td>MLR</td>
<td>.001</td>
<td>.104</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Advertising</td>
<td>MLR</td>
<td>.000</td>
<td>.602</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Emotional attachment</td>
<td>MLR</td>
<td>.000</td>
<td>.134</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td>- Consumer-company identification</td>
<td>MLR</td>
<td>.000</td>
<td>.134</td>
<td>Rejected (H_0)</td>
</tr>
<tr>
<td><strong>H4</strong>: Emotional attachment has no statistical influence on consumer-company identification.</td>
<td>Simple linear regression</td>
<td>.000</td>
<td>.829</td>
<td>Rejected (H_0)</td>
</tr>
</tbody>
</table>

Regarding the results of hypothesis one, it revealed that brand attributes in terms of physical aspects, product-related attributes, personal interaction, and reliability had a significant value equal to .000 (.000<.05) for all variables. Likewise, the beta of unstandardized coefficient values found the highest value was equal to .413 in term of physical aspects, followed by personal interaction at .212, product-related attributes at .166 and reliability at .152, respectively. Brand attributes in terms of physical aspects, product-related attributes, personal interaction, and reliability were influenced on corporate image.

Meanwhile, hypothesis two concentrated on perceived congruence and website image, which had showed a significant value equal to .000 (.000<.05) for both variables. Besides, the beta of unstandardized coefficient values found that
the website image had the highest value at .581. Therefore, the lowest was perceived congruence at .225, respectively. Perceived congruence and website image were influenced on corporate image.

For hypothesis three and four, the researchers found that advertising, emotional attachment, and consumer company identification were influence on corporate image at .001, .000, and .000 with the unstandardized beta coefficient at the .104, .602, and .134, respectively. Also, the emotional attachment, has influence on consumer company identification at the unstandardized beta of emotional attachment.829.

RECOMMENDATIONS

The main purpose of this research is aimed to find the influential inferenced factors on corporate image of the new shopping mall. The results will benefit to the retail businesses, marketers, business owners, and practitioners to be the guidelines in order to improve their businesses. Also, the results will be beneficial to researchers and educators to apply the research model to develop the future studies.

Based on general information; the majority of customers were female, aged between 20-30 years old, single, graduated with a bachelor’s degree, and most of them were employees. They were potential customers of shopping mall. Most of them were young people. Based on the results from this study, the researchers concluded that the majority customers preferred to visit the mall where have uniqueness in decoration and design, space for dynamic creativity, fulfillment of ultimate experiences, the newest movement activities, and space journey to escape busy life. Suggestions will be useful for the project development teams including designers and merchandisers to create an unpredictable designs with the merger of innovation, and offer pleasant natural areas to make customers meet their need in the urban life that they had never seen in the shopping mall before.

Based on the results from hypotheses one, three, and four, the researchers found physical aspects, emotional attachment and consumer-company identification were the major variable influence on corporate image. Based on the physical aspects and emotional attachment, the mall should to create the new event theme and seasonal occasion such as in the period between the end and beginning of the year, which the management team should create the exciting environment of celebration. Also, the designer may create ornamental lighting and storytelling on the façade’s LED screen in the forms of visual interaction, decorate the visual merchandise in the same story accord to the main theme of mall setting, arrange highlighted seasonal products to be more outstanding, and adjust the layout to
Vilaisai and Chaipoopirutan

make customers feel surprised with the new shopping experience. Moreover, the establishing of exhibitions for special occasions will be very interesting for the new shopping mall to create a new design to be consistent with the overall story, such as: the gallery exhibitions from the famous photographers may highlight the lighting, moods and tones’ decoration, and sound environments to build customers’ feelings as belonging a part of those pictures’ representative inside the exhibition event.

Based on customer-company identification and emotional attachment, as the mall designer could create the fantastic design, which make customers feel like living in a magical world, in order to create and encourage customers’ unique emotion attached to the mall environment. Then, the management team and the designer should improve the elegant decoration of the mall to impress and enhance customers’ deep feelings to be positive attitudes and create a pleasant word of mouth to others. Also, the good website quality need to be concerned, especially the graphic designs, colors, pictures, and quality of information including easy to access the website.

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Journal of Business and Behavioral Sciences


SOCIAL MEDIA MARKETING STRATEGIES FOR CAREER ADVANCEMENT: AN ANALYSIS OF LINKEDIN

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ABSTRACT

Social media has changed how to brand yourself, apply for jobs that are professionally satisfying and challenging, and provide career progression. This paper addresses social media marketing strategies relating to career advancement and focuses mainly on LinkedIn. It is mostly a descriptive paper, summarizing the main arguments in favor of social media as a useful tool of job search and career advancement. Recent job seekers are more sophisticated as to who they search for as employers. Social media and analytics now connect job candidates with career opportunities. How employers seek candidates through social media has caused disruption of traditional recruitment practices. The author responded to the hypothesis: Social media has disrupted traditional recruitment strategies by examining how students use these tools to find jobs that advance their careers. This paper introduces two new social media tools, the Job Search Cycle and the Job Search Model. This study was an introductory conceptual survey that may guide future research.

Keywords: Social media, social media recruitment, online resumes, job seekers

INTRODUCTION

Social media disrupts the traditional recruitment process. For those who want to be hired, the traditional job search of reviewing the want ads in the newspaper or getting interviewed on campus in your final year of school has been disrupted through companies like LinkedIn, who provide user generated content which creates a customer relationship management (CRM) tool for users on both sides of the hiring process, eliminating the middleman in many instances. Now the recruitment process is via online databases and the old way is via newspapers.
The audience for this article is intended for students who may not already use social media for career growth and for educators who want to know more about how this trend is changing the hiring practice. It is also for those who want to improve their skills of using social media to help them brand their name and experience. The use of social media goes far beyond the hiring process, but that is the focus here. And that focus should be for companies who are looking to hire college graduates.

This research study looks at how social media helps students with their future job prospects. This exploratory study of how students have searched for jobs traditionally vs how they can search using social media tools is an example of a disruption that is changing how the traditional college graduate finds work that is professionally satisfying and challenging, and provides career advancement.

In the past, students set up interviews and applied for jobs that they saw advertised in job boards, career centers, and newspaper classified sections of the newspaper. Today’s job seekers and recruiters alike are sophisticated as to who they seek as candidates and who is interviewed. In some circumstances, social media helps brand the candidate and the company, connecting the job candidates with positions, thus cutting out the middleman.

In other instances, the job recruiter is critical in the process of finding the right candidate for the position. Firms are willing to pay a fee to recruit the candidate who seems best for the position. Furthermore, how employers seek candidates has caused disruption of traditional recruitment practices. Successful firms are those who remain efficient and data driven. This paper explores 1) How does social media disrupt traditional recruitment practices? and 2) How do employees find jobs to advance their careers?

**LITERATURE REVIEW**

Social media is becoming more important and is changing the corporation. On a global level, destination management organizations found empirical evidence of emerging social media importance, including findings of conflicts between corporate culture and social media culture (Munar, 2012).

The *Harvard Business Review* examined disruption with evidence of social media as a new low cost tool for personal branding, where one needs to be authentic and consistent across all platforms (Dutta, 2010).
The concept of disruption is defined as interrupting the normal course of action or breaking things apart. Disruption by interrupting, and then blending multiple business functions, i.e., using social media for both recruitment and training strategies are considered efficient in *The Social Media Manifesto* (Halla, 2013).

From an employer’s perspective, social media and social networks are being used to find employees. The literature has covered this topic from a professional recruiter’s point of view. (Madia, 2011; Safko, 2012).

Starting small, gauging the responses and including evolving social networks is recommended by experts who want to recruit on social media. Having a plan, resources, content strategy and social media policies make for good practice as a recruiter who is competitive and strategic in their business and will lead in the direction of success (Madia, 2011).

From an employee perspective, the typical student strategy (Levinson, 2011, Herbold & Doumak, 2013; Waldman, 2013; Kim, 2015) has been discussed in the literature from a job seeker’s viewpoint. Gen Y, or those born between 1980 and 2000, have been raised on social media and expect more flexible work environments (Cengage, 2012). Gen Y has a different version of job titles (Cengage, 2012), and lower barriers to entry for starting businesses. Having skills in social media technologies can enable job seekers more mobility, more flexibility and more responsibility, says Dan Schawbel (Cengage, 2012). They need to know more than just Facebook, and there are many choices for them to consider.

The search for a job has lead at least one person to extreme measures. One expert in the social media marketing field, upon completing formal college degree programs without a job used social media tools to get noticed (Izbash, 2013). #HireSergey, a hashtag that represents a real person, was successful at media marketing that incorporated YouTube, Twitter, and other social media networks, but lacked a job. He wrote that when he accepted a job, he would give away $200 to three people selected randomly among those who shared his video resume with the hashtag #HireSergey the most times. In this economy it can be difficult to be noticed by a hiring manager unless you do something creative that will get you attention like Sergey. He gained experience as the founder of New Media Force, a digital and social media marketing company (Izbash, 2013) and used it effectively.

What kind of special advice on social media for military or veteran students would be helpful? Those returning to the job market after being away for long periods of time can get their profiles started while away. While still deployed, connecting with other veterans is a strategy to consider. It has been suggested that military
employees get their start networking on social media even before they get back home, while still deployed (Fisher, 2012). Connecting with other veterans is a place to begin this process. However, it is not just veterans and students who need this kind of social networking assistance. Professionals benefit from the connections (Crompton & Sautter, 2011). LinkedIn, Facebook and Twitter are all useful for leveraging professional connections, some of which may lead to career progression.

Automation, a disruption in the recruitment process changes how accounting management firms such as Deloitte recruit professionals (ReferStar/PR Newswire, 2013). An employee referral system for Deloitte in the UK and Dublin extends talent acquisition efforts via the social media networks of employees, alumni, customers and suppliers, dramatically reducing costs and improving efficiency using software as a service (SAAS). Through social media, this has transformed into more of a global recruitment process due to the ability to search big data quickly using automation.

Time spent with social media for teenagers has grown, and the devices they use multiply. The teenage years are the foundational years where students are native to the social media and mobile media platforms. Between 6-7 hours a week is being spent by teens who use the internet on platforms like Facebook and Twitter. Mobile devices such as phones and tablets are outpacing the traditional desktops as the tool of choice. These teens will become the job seekers in the next few years, so their time spent on social media and mobile devices is worth consideration.

The largest professional networking and job search platforms, with more than 350 million regular users is LinkedIn. Creating an effective profile and learning to use the platform connects job seekers with potential employers. Advanced tools from hiring managers and social media experts can add value to the process, especially about you as you develop your skills and brand yourself. As a candidate, you are building your personal brand, asking for introductions and networking with people you know, or adding endorsements to your profile. Most jobs may already be posted. However, there are unadvertised jobs, too, that are never posted, but available to those who have the right connections and skills. Resumes are no longer enough to become a successful candidate for a position. LinkedIn.com uses the metric that with a completed profile, they candidate is 40 times more likely to be found when companies do searches of the database. Assistance is given by the platform to help businesses get to the star or 100% level, which means a completed profile (LinkedIn.com, 2015). This enables the business to become a more experienced recruiter, and spend more money advertising jobs with LinkedIn.
Recruiters are searching LinkedIn profiles for specific skill sets for job openings they know about and are working to fill. Candidates can change their personal profiles to reflect that they are open to new positions or seeking a new job. Connections (Herbold & Doumak, 2013) pointed to the friends and classmates who work at prospective employers are at the top of many lists, followed by friends and classmates who work in the same type of business as the position requires. This “recruitment grapevine” was termed (Gladen & Beed, 2007) because it resembles a network of fruitful results that was growing organically.

LinkedIn is the only social media platform for job search, that allows its users to be active, engaged and involved and compares to the passive approach of a job board, such as CareerBuilder or Indeed (K. Schmidt, personal communication, March 23, 2015). While a job seeker can post a resume and apply to an open position on a traditional job board, there is a lack of research or insight into a company, team and company dynamics.

LinkedIn allows candidates to research a company before applying for a position. Applicants know who works at the organization, and more importantly, whether or not the job seeker shares any common connections or experiences with the person posting the job.

Many of today's college grads only do the minimum work required and think that is all they need. They create a profile, join a LinkedIn group, then complain about how ineffective the platform is when no one calls them with a job. The job seeker must get involved as an active candidate. Once their profile is updated, it is time to do the research, create a target list, and identify companies and titles that would fit their background and experience. After that, they will need to call those on the list, rather than relying solely on emails, and connect with people in their network that can help facilitate an introduction (K. Schmidt, personal communication, March 23, 2015).

College graduates rarely use the power of their alumni network, so they are missing an important opportunity. It is so easy to conduct a search in LinkedIn.com, focusing on people who are working in the field and position, who also attended the same college. Reaching out to these in the alumni network is a much better use of time, as they are more likely to get a returned call from a fellow alumnus.
Being prepared to work should be clearly explained in your profile. Addressing the skills gap that employers perceive was so important that LinkedIn purchased the training company Lynda.com in 2015 to bridge that gap. Transitioning from school to work means that an applicant needs to appreciate that typical hiring managers see only 50% ready for work, while 87% of college graduates feel prepared for the jobs they seek. (K. Luegers, personal communication, January 5, 2017). The combination of social media, i.e., “Social Klout” can help students with LinkedIn searches. Combining Facebook, Indeed, Google, Craig's List, YouTube, and Twitter will increase your chance of being found by an employer.

What should a candidate’s profile strategy be? Job seekers should treat their profile the way a company treats its website. Everything should be optimized to ensure maximum visibility using comprehensive list of relevant keywords (Schmidt, personal communication, March 23, 2015).

For serious job searchers, consider job tips to help student job seekers (S. Zapcar, personal communication, June 10, 2015), who has been at the top ranking of women on LinkedIn since 2008.

https://www.LinkedIn.com/pulse/20140401012957-460284-5-things-jobseekers-need-to-know-about-LinkedIn?trk=mp-reader-card

Gerald “Solutionman” Haman has been the most connected person on LinkedIn. He is the founding member of more than 60 innovation groups with more than 500,000 members and has a waiting list of people who want to connect to him on LinkedIn (G. Haman, personal communication, July 15, 2015).

**LinkedIn: inspiring gamers’ strategies:** LinkedIn can be motivating. It can also create inspiration in the most unlikely of places. Lessons in getting recruited are inspired by *Game of Thrones* for building connections on LinkedIn (Kim, 2015). With a gaming approach to the challenge of getting found on LinkedIn, the user builds deeper and more relevant connections with other *Game of Thrones* fans who may be able to recommend you for employment or consulting. Kim uses his experiences with the popular *Game of Thrones* series to develop strategies that are practical as well as competitive. For example, the “projects” section is a place to put your visual work, such as a graphic, blog or website. He gave an example of what to add if you were a character in *Game of Thrones* and although this writer does not play the game, it is clear how to play. If you are a player, perhaps you "Slayed Oberyn Martell, AKA The Red Viper, in a trial by combat," or, even, "Conquered the Ironborn during the Siege of Pyke with flaming sword of light." Kim makes the point clear to job seekers what kinds of achievements would be
effective. The best player wins, in the end, correct? *Game of Thrones* is fantasy, and through this article about gaming, Kim provides job seeking advice for gamers.

**The classroom as laboratory for social media:** Professionals and college students both maximize social networking tools (Crompton & Sautter, 2011) for job search and career success by showing them where, how, and why they can benefit from making professional connections online. Special chapters focused on LinkedIn, Facebook, and Twitter detail important information on how to leverage these popular sites.

LinkedIn is taught in the Marketing classroom, where the essential social media skills of personal branding, including self-marketing, networking skills, communication and creativity (McCorkle & McCorkle, 2012). It is also taught dozens of other universities, including National University, where the MBA specialization in Mobile Marketing and Social Media has been offered since 2013 and projects include using LinkedIn. The Integrated Marketing Communications (IMC) capstone at National University for the undergraduate Bachelor of Arts program requires a LinkedIn profile as a graded requirement.

Business and Accounting students are specifically discussed and the length of time that a student participates in social media is different for different majors (Herbold & Doumak, 2013).

Depending on the stage of your job search, you may find different searching strategies work better than others. The early stages of the job searches were often for job or internship searches or pre-interview research about a specific company. In the post-interview follow up or deciding to accept the offer or not, there was less focus on the online social networking (Herbold & Doumak, 2013), perhaps because the candidate had already been reviewed by the employer.

Waldman (2013) writes that LinkedIn may not meet all of your unique needs as it is only one profile, and does not allow you to customize your resume to fit a position. Recruiters and hiring managers will look at your profile and see if your resume is generic or addresses their organization’s concerns. It is visually uniform and profiles do not really differ that much from one person to another. In this instance, perhaps the social media LinkedIn complements what you do on other personal branding platforms or offline.
McCabe

Schmidt (2015) disagrees with this statement and sees LinkedIn with profile creativity. He agrees that the basic layout is uniform, but the content, including videos, documents and PowerPoint presentations can create a very different looking profile for each individual candidate. Therefore, he states, you will be able to create a very personal brand which will help you position your skills and experience.

LinkedIn has an advantage to keep in touch with your connections. It keeps your information up to date, which in most instances, is much better than trying to revise in many places or tell all of your friends your new e-mail address. The author compares it to a Customer Relationship Management (CRM) system that you do not have to update yourself.

**Other online job websites**: The traditional online job posting boards include: monster.com, careerbuilder.com, Indeed.com and Craigslist.com. In searching for other online job websites, here are a few others of interest. Career Flair (www.careerflair.com) will set up to tell your own story to a hiring manager in a narrative (Waldman, 2013). Storyboards, images and video and customization is available for each job opportunity. Vizify.com allows you to link to Facebook, LinkedIn and Twitter, and visualize your resume with charts, graphs, graphics and images. It offers a graphical biography, which shows your work in two or three dimensions.

There are also semantic job board services, such as: workfu.com and jackalopejobs.com. Another way to use social media is to leverage your network through connect.me, a social business card that offers social proof. If you need recommendations, perhaps recommend.me would be useful. It uses a photo and a list of your skills, with a database of recommendations for each of the skills. Designers and other creative types may choose to use zerply.com, which allows you to have a selection of beautiful design options.

To create a visual and text profile using LinkedIn, a student can use resumup.com by importing their profile data and experience. This process provides insights into what next career steps may be good for them to pursue, depending on their goal, as well as what skills they need and who may be able to help. Student resumes with digital media, including software like PowerPoint, Excel and Word documents, may consider the tool bragbookmm.com for making a short video and profile-like resume. Other options include Re.vu, Enthuse.me, and work folio (Waldman, 2013).
METHODS

The research methods considered the typical job searching cycle and how social media altered the recruitment process. Through business databases of peer reviewed content, the author offered a set of suggested social media recruitment strategies and a new model that college students may use to advance their careers. The author gathered expert secondary content, downloaded data for analysis, and created a snapshot of her personal network profile on LinkedIn. The model is a conceptual framework that may inform future research.

The author has been a frequent speaker on Social Media panels and contributor to LinkedIn.com since the early days in 2007, and is active on the platform, with 4000 first connections. One of the author’s owned groups has 2000 members, and is only found in this platform; nothing outside of LinkedIn exists for the California Solar Marketing Group. It has grown organically since 2008, without any investment other than ideas and networking. Based on the ten years of experience in Social Media, and more than twenty years of internet marketing experience, the author has created the following figures (Figures 1 and 2) that illustrate the tactics and the strategies for the job search in a new framework.

The Cycle and Model frameworks were presented in poster format at the National University Spring Research Conference in March 2015, in San Diego, at a workshop, Social Media Recruiting Strategies: Case Study, LinkedIn in Los Angeles in April 2015, to other marketing university professors at the Marketing EDGE Direct/Interactive Marketing Research Summit in Boston, October, 2015 and at the Press Club/NATAS event in February, 2016 in San Diego. Suggestions for improvements and student feedback has been incorporated into the research.

FINDINGS

From the research over the past two years and interviews, two constructs have been created: The Social Media Job Search Cycle and the Social Media Job Search Model (BRGM and PCEI). These designs direct students to a constant cycle of self-promotion, outside recommendations, group participation and measurement of metrics.

Figure 1 is the Social Media Job Search Cycle: (BRGM) in its original form, and then the model (Figure 2), which includes the strategies that should be taken for the tactics. Both of these models are being introduced to the body of literature through this article. The first model is basically a progression through the steps one should take to create their own personal brand in social media. The second
diagram treats each one of these steps with an additional level of activity where they can model best practices.

Figure 1: Social Media Job Search Cycle (BGRM)

Source: McCabe, 2015

Social Media Job Searching Cycle: This was created for teaching about social media to business leaders and college students. It starts with the 1) goals set and then progresses to the 2) biography, 3) recommendations by those deemed valued, and then on to 4) joining groups and participation in the online discussions, followed by 5) measurement of data analytics that are provided for the user. Each of the steps has a purpose, and is necessary for a complete profile to be viewed by a prospective employer or recruiter. The goals themselves do not need to be changed in each cycle, so after the first go around, there may only be four steps, and this is a continuous process of improvement.
The second diagram adds the context and purpose to the activities. For example, in the section on biography, or bio, the purpose is to promote you as a brand. The well-branded candidate would stand out among peers as a top choice to be considered when employers are looking for those qualifications. In the next phase, job seekers need recommendations from those they respect and who will say mostly positive things about job performance. This is not for friends to post their weekend plans or a recap of last month’s parties. This is where prospective employers will learn more about candidates, but it is not enough. This is where you make connections with those people who can recommend you, and consider what you would like them to say when making the request. A best practice is to offer a reciprocal recommendation, also benefitting you, because people will read what you wrote, to get a sample of your writing and writing style.

In the next part of the model, the focus is on joining groups which leads to education. There are thousands of groups available and presently, you can currently join up to 53 of them at one time on LinkedIn. If you do not find a group for a topic of interest, you can create your own group, and get started sharing insights with those who you think may be interested in the subject. Educating others is what happens when you post content or questions in groups that are relevant to that subject. For example, in a Mobile Marketing group, you may ask a question about whether QR codes are valued to the millennial generation, and if so, what should the landing page look like. Those with interests in that topic will respond if the topic is compelling.
The final section on Measure finds relevance and context in how you inspire your audience. What content do you share or comment on? Are your posts meaningful or not? Do you bother to post or just make connections, and what group discussions inspire you to join? Are you inspirational in your group activities? Are you analyzing your data to see if you are relevant and inspiring potential employers?

In October 2014, I downloaded all of the LinkedIn.com data that was on my profile. I examined the contents and analyzed the findings. During that time, the profile views were 233 and 15 of them came from people that the author may know, and 2 from people who work at Epsilon. During the period from September 28-October 4, 2014, there were 19 views and 59 actions. During that time, the author endorsed 39 people, added 19 connections and joined a group. Career changers and employers alike could mine this data.

Personal files are free to download on LinkedIn. That list shows file names, listed in alphabetical order, starting with photographs, an account status history, ad targeting, ads clicked, presentations, comments, connections, email addresses, endorsements, group comments, group likes, group posts, likes, login attempts, recommendations given and received, registration info, search queries, shares, and skills. These files are also available for purchase by firms who want to own your data, so be aware of what is being shared. Security and ethical considerations need to be part of this conversation, before you begin any social media activities. Should you wish to delete your LinkedIn account, the website indicates that it will be removed at your request.

**Concerns and student comments:** This recruitment strategy is not necessarily good for every type of career or position. For example, some students who wish to join certain professions are guided away from social media entirely, as we have found with some government positions with high security clearance or if you are seeking a position in medical school, for example. Some graduate students recently commented to this author that they do not use LinkedIn because they do not feel that it gives them any value and they consider it a waste of their time and energy. They were also concerned that unless they purchased a premium account, they would not be eligible for jobs, or use of certain tools on the platform. There likely are many more examples, and could be studied further.

**SUMMARY AND CONCLUSION**

The research considers the typical job searching cycle and ways in which social media can disrupt the recruitment process. The hypothesis suggests a review of current methods and a revised model for recruitment using social media. Two
visual constructs: The Social Media Job Search Cycle and the Social Media Job Search Model (BRGM and PCEI) were introduced to direct students to a constant cycle of self-promotion, outside recommendations, group participation and measurement of metrics. The first model sets the basics and the second model adds context and purpose to the activities. Through research in business databases of peer reviewed articles and videos, this study reviews the literature and adds a model that college students can consider to use while branding themselves and advancing their careers. I hope to help others understand how social media platforms such as LinkedIn.com can lead to better job opportunities.

Here are some final summary points for creating quality of profiles on LinkedIn:

- If you don’t have a profile, look at examples of successful individuals. If you have a profile, ask for improvements that will enhance it.
- Learn how students can start and grow your own groups using skills from your classes and professionals.
- Starting a group can be a good way to learn about a topic, and it can build your professional and scholarly reputation quickly.
- Learn how students can acquire and give recommendations
- You can build professional recommendations by simply asking people and telling them your intentions clearly. Nothing is more effective than a third party referral, and this is one of the key benefits of LinkedIn.com and other professional social media platforms.

In addition, you can download your own personal data for analysis. All it takes is your e-mail address and a password to get started. Social Media websites makes money by selling ads, job postings, research data, and memberships.

The research was exploratory in nature. The initial research revealed social media recruitment strategies and offered this model to explore for the purposes of future research studies. The “how” questions were answered by examining traditional job searches and in what ways social media offered strategies for obtaining jobs. After considering the new cycle and model, college students looking for jobs have additional recruitment tools and strategies that can be explored further. Traditional methods of recruitment have been disrupted with dramatic changes in process and measured results. College students who wanted to advance in their careers should consider the social media model introduced of (PCEI) promote, connect, educate and inspire others through their cycle of Goal Setting, then (BRGM) biography, recommendations, groups they join, and measurement and analysis of data.

The author presents strategies which will allow for a better understanding of how social media, such as LinkedIn works, and how it benefits students and faculty.
Overall, the goal is to better understand social media strategies and learn how to use tools described in this study to:

- Gain social media skills, interactive skills, and team-working tools
- Improve job prospects
- Reinforce scholarly experiences, and
- Address the skills gap perception

I recommend that students to do the following: 1) start/improve your social media profiles, 2) contribute to groups and start your own group, and 3) acquire and give recommendations. I recommend further research studies on how college students and graduates rate different social media platforms for return on investment of time and energy, i.e., value, regarding career progression. I recommend a quantitative survey of the number hired for entry level jobs, mid-level career jobs, or high level positions, the amount of time spent searching employers, and whether paying for premium memberships was relevant in the job search.

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ECONOMIC ANALYSIS OF PUBLIC SUPPORT FOR TECH STARTUPS: A CASE STUDY OF PITTSBURGH

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ABSTRACT: Technology ventures helped revitalize what once was the site of a declining steel industry. The tech sector now accounts for a third of annual payroll, stemming the outflow of highly educated young people from the Pittsburgh region. This study contributes to the literature by establishing an economic rationale for government intervention to foster business startups in technology industries, documenting the evolution of a network of support services for tech startups outside of Silicon Valley, and compiling indicators of their economic impact in the region. We found that in the early years, the federal and state governments played a critical role by providing grants to research universities and seed funding to entrepreneurs in the technology fields. Universities served as incubators of innovation. State-funded accelerator programs reduced information asymmetry and externality problems that inhibit the birth of new enterprises. Their highly selective application process reduced cost to angel investors and venture capital firms of searching for early-stage startups with high commercial potential. The rigorous and short-term duration of these programs accelerated growth of some startups, but also accelerated failure of others enabling resources to move to higher valued uses. These programs also linked potential tech entrepreneurs to a network of mentors who provide the legal, accounting, marketing, and management skills that they lack. As a critical mass of successful tech ventures were established, new accelerator programs began to obtain funding from private sources and the inflow of capital from angel investors and venture capital firms from various parts of the country increased.

Keywords: Tech startups, public subsidy, accelerators, incubators

INTRODUCTION

Major technological innovations lead to the birth of new products and services. The invention of the semiconductor chip gave rise to personal computers and mobile devices. The invention of the World Wide Web enabled the spread of information over the Internet, and gave rise to various tech startups in information and communications technology. Tech ventures can revitalize a declining industrial region by generating higher paying jobs, stemming the outflow of highly educated young people, and inducing capital inflow from different parts of the country. Such has been the experience of the Pittsburgh region. At the end of 2014,
the technology sector accounted for over a third of its annual payroll with average wage exceeding the state average by 36% (Pittsburgh Technology Council, 2016).

This study contributes to the literature by documenting the evolution of a tech ecosystem outside of Silicon Valley. The objectives of this study are (a) to establish the economic rationale for public subsidy of institutions that can foster and support tech startups, (b) to review and compare the nature of support services received by a sample of seven tech startups founded during the period 2000-2014, (c) to determine if publicly funded support services have declined relative to private funding over time, and (d) to gather evidence of the tech sector’s economic impact on the Pittsburgh region. We start with a review of past studies that documented the rise of Silicon Valley, studies that inform us about the distinction between incubators and accelerators, angel investors and venture capital investors, and empirical studies linking accelerators to capital inflow.

LITERATURE REVIEW

The link between “creative destruction” by innovation and economic growth was first proposed by Schumpeter (1942). As innovative enterprises challenge incumbent businesses, less productive firms exit and more productive firms grow, resulting in increased total productivity of the economy. As innovative startups grow, they create jobs and stimulate demand in other industries. The symbiotic co-existence of large firms and startups was identified by Kushida (2015) as one of the key components of the so-called “Silicon Valley Ecosystem” - the various components of Silicon Valley that fit together and exhibit complementarities. This ecosystem includes top-ranked universities (Stanford, UC Berkeley), the extensive government role in shaping basic science and technological trajectories, a culture of accepting failures, human resources from all over the world, a competitive market for venture capital, legal and accounting firms, highly mobile management talent. The history of Silicon Valley dates back to a university reaching out to industry. Stanford University offered long-term leases in Palo Alto at bargain-basement prices in the early 1950s in the hope of enticing aerospace and electronics companies to the region. This turned out to be a very attractive incentive for the Missile systems division of Lockheed Aircraft, and electronic companies like Hewlett-Packard, Varian, Litton, and Shockley Semiconductor Lab (PBS Documentary 2013). Since then many scholars, journalists, and policy-makers have studied the rise of Silicon Valley and the semiconductor industry, focusing on large-scale regional, economic, technical, and organizational developments that shaped the industry in what used to be the farmlands of Santa Clara Valley (Berlin 2003; Lee 2000).

To this day the support network for tech startups in Silicon Valley include research universities that serve as incubators for new product ideas, angel investors, and venture capitalists. Incubators and accelerators both provide startups with co-working space, shared resources, and mentorship. The differentiators according to (Hacket and Dilts 2004) and Isabelle (2013) are the length of time that support services are provided and whether the supporting institution makes an equity
investment in the business that is later founded. Incubators provide support services for 1–5 years, while accelerators do so only for a very short term (typically, three months). An accelerator program often culminates in a demo day where a cohort of entrepreneurs pitches to investors to compete for funding. In an empirical study of 59 accelerators, Fehder and Hochberg (2014) found that the establishment of an accelerator program significantly increased the amount of seed and early stage financing in the 38 Metropolitan Statistical Areas in which they were founded.

Potential investors in tech companies include angel investors and venture capitalists. An angel investor is an individual (a relative or friend) who provides seed funding and varying amounts of advice to a startup founder at the early stage of developing the product (Feld and Mendelson 2011). Most angels do not manage huge pools of capital and are not interested in helping entrepreneurs in the later stages of marketing the product. Entrepreneurs often turn to venture capitalists who are willing to take large risks. They follow a lengthy diligence process to evaluate those risks before they decide to invest millions of dollars in a firm. They usually require a serious commitment from an entrepreneur to pursue an idea that is highly experimental, and require a seat on the venture’s Board of Directors (Horowitz 2010). Most venture capital firms expect to reap significant rewards within five years through an IPO or the acquisition by another company.

While many studies have been written on the rise of Silicon Valley, to the best of our knowledge, no study has documented the establishment of a tech ecosystem in the Pittsburgh region beginning in the early 1980s. In the following sections we present a theoretical framework for understanding the market failures that inhibit the birth of tech ventures, hence, the rationale for government intervention. This is followed by a discussion of methodology and data sources, analysis of findings, conclusion, and identification of areas for further study.

THEORETICAL FRAMEWORK AND METHODOLOGY

Although innovative firms can be an engine of growth, there are significant reasons why the market system can inhibit tech startups and increase the failure rate among those that do get started. If not corrected through government intervention, these market failures reduce the potential job creation and increase in living standards that are associated with new tech ventures.

Among the biggest obstacles faced by entrepreneurs are perceptions of high risk and limited access to financing arising from uncertainty and what Ackerlof (1970) called information asymmetry. For-profit companies may be unwilling to engage in pure-scientific research because of the considerable amount of investment required for research and development, the uncertainty of commercial value, and the many years it could take before the investment is recouped. Because of this, the U.S. government allocates taxpayer’s money to federal research agencies like the National Science Foundation and the National Institute of Health, who in turn provide research grants to universities. The innovations of tech companies can originate from pure scientific research
generated at universities. Once the knowledge progresses to a point closer to application, potential entrepreneurs may be inhibited by the lack of information on whether the product or business model they want to develop will meet market acceptance, and how long it will take before a critical mass of paying customers is reached. Tech startups, in particular, can benefit from organized support to create partnerships that link the research community to information on the marketing, talent recruitment and retention, supply chain management, accounting and legal aspects of running a successful business.

Asymmetric information between lender and borrower can also inhibit entrepreneurship. Banks typically have little information about the ability and reliability of startup founders and the potential for success of their business models or technology. An entrepreneur with a proven track record or collateral can reduce the adverse selection and moral hazard problems associated with asymmetric information (Mishkin 2014). However, tech startups do not have a track record of profits or cash flow. In addition, they need lenders who are willing to absorb the risk associated with lending on a long-term basis without being secured by tangible assets. The problem is confounded when tech startups are founded by young college or graduate school entrepreneurs with few assets to offer as collateral. Some would-be entrepreneurs simply do not apply for bank loans on the expectation of being rejected. Lack of information on alternatives to bank loans lead some entrepreneurs to use credit card cash advances that carry very high rates of interest. Thus, there is a need to connect tech entrepreneurs with angel investors and venture capital firms who are willing to take the risk. However, these investors face a high cost of search for information on where to find tech startups with high commercial promise.

Externality presents yet another market failure (Pigou 1932). In the absence of intellectual property (IP) protection through patents and trademarks, businesses may not receive the full return from their innovation. If entrepreneurs receive only part of the return for their innovation, it will be harder for them to obtain financing due to lower expected returns. A survey in the United Kingdom (BIS 2013) documented evidence that the smaller the firm size, the lower is awareness of IP protection. Obtaining legal assistance to understand IP laws may be expensive and beyond the financial resources of tech entrepreneurs. Often, tech start-ups in the software industry find it difficult to protect their products to any effective degree via patents or copyrights because of the resources needed to contest infringement. Moreover, software and other tech startups face a high degree of obsolescence because of the speed at which new technology is developed. Lastly, tech startups face a high cost of training and retaining a highly skilled technical team. They are disadvantaged in terms of resources relative to larger corporations that can afford to poach their tech talent. This is a significant problem given the importance of a highly skilled technical team to the success of a firm in the high tech industries.

Because of the abovementioned market failures, we would expect that government intervention to provide a support network is crucial in the early years of the development of a technology sector in a local economy. Over time as
publicly supported institutions help reduce the problems that these market failures create, the role of the private sector in supporting tech ventures will increase in relative importance.

**Data and Methodology:** The authors selected seven tech startups founded in the Pittsburgh region from 2000 to 2014 and compiled data on their history, innovations, and institutions from which they obtained any form of support services. A combination of interviews of their founders and review of their official websites were used. Based on data obtained in this manner, we did further research on the institutions that provided them with support services. We were particularly interested in the scope and nature of support and whether the funding came from the public or the private sector. These institutions include federal, state, and local government agencies, universities, incubators, accelerators, angel investors, venture capital, and trade associations. Secondary sources such as published reports of these institutions and media coverage were also used to determine if the relative importance of publicly funded support services has changed over time and to assess the economic impact. Table 1 presents a summary of data gathered on the seven tech startups. The first case, Vivisimo, Inc., founded in 2000, received support from a university as well as state and federal government agencies in its early years, and on its eight year, from a venture capital firm. The six other startups founded later received support from one or more institutions in the form of free co-working space, mentoring, entrepreneurship education, and organized pitch days that facilitated their access to angel investors and venture capital firms. In the next section, we will provide a detailed description of the nature of support provided by institutions highlighted in Table 1 (column 3) and their sources of funding.

**FINDINGS**

As of July 2015, the tech ecosystem in the Pittsburgh region consists of two formal incubators based in the city’s top two research universities: Carnegie Mellon University (CMU) and the University of Pittsburgh, and four accelerators: Idea Foundry, AlphaLab, AlphaLab Gear, and Thrill Mill.

Just as the rise of the tech ecosystem in Silicon Valley can be traced back to research universities that receive federal or state grants, many of the innovations developed by tech startups in Pittsburgh originated from research done at Carnegie Mellon University (CMU), University of Pittsburgh, and University of Pennsylvania. As Table 1 shows the innovations of the seven tech startups were developed by founders who were either alumni or graduate or undergraduate students working with faculty members. As of 2000, access to angel and venture capital investors was very limited. University-based entrepreneurship education and consulting services were not well known. Tech startups in Pittsburgh were heavily dependent on government funding through the offices, computer, secretarial support, library and database, and other facilities owned by these universities. The first formal incubator (Project Olympus was not
**Table 1: Pittsburgh Startups: Sources of Support and Tech Innovations**

<table>
<thead>
<tr>
<th>Company</th>
<th>Founded</th>
<th>Source of Support</th>
<th>Founder/s</th>
<th>Product Innovations</th>
</tr>
</thead>
</table>
| Vivisimo               | 2000    | Carnegie Mellon University  
NSF-SBIR ($960K)  
Innovation Works ($600K convertible loan) in 2001;  
Venture Capital (VC) $4 million in 2008; from Maine | CMU Computer Science (CS)  
Faculty & 2 postgrad students | Enterprise search platform  
using clustering algorithm and  
metasearch engine |
| 4Moms                  | 2006    | Innovation Works  
4 VCs - $84.8 million from Pittsburgh, Atlanta, Boston, and Newton, MA | CMU engineering alumni  
+ CMU MBA | Robotic baby stroller,  
infant seat, play yard,  
and other baby gears |
| BlackLocus             | 2009    | CMU’s Project Olympus  
Idea Foundry  
AlphaLab  
2 VCs; from Houston, and Austin) | 1 CMU CS student  
+ 2 Business students | Machine learning software to find the  
lowest price for each product in an online retailer’s catalogue,  
across competing retailers |
| Qrono                  | 2010    | University of Pittsburgh  
[$25,000 award from Randall Big Idea Competition]  
Idea Foundry | Pitt Chemical Engineering graduate student | Predictive modeling method for delivery of  
controlled-release medications and vaccines |
| Insurance Zebra        | 2012    | AlphaLab  
5 VCs-$4.5 million; from Palo Alto, Texas, UK) | Insurance broker/agent  
+ 2 CMU CS alumni | Software to approximate auto insurance pricing  
based on 50 states’ regulation tailored to  
purchaser’s info; insurance quotes and  
referral fee if user buys |
| Identified Technologies | 2014    | AlphaLab Gear  
VC - $2 million; from Pittsburgh branch of  
VC based in San Francisco | Mechanical Engineering graduate from University of Pennsylvania | Self-piloting aerial drones to obtain visual,  
infrared and gas data in construction & drilling sites; data is sent to the  
cloud for secure access and analysis |
| MeshNet Enterprises    | 2014    | Pitt’s Innovation Institute  
[$25K award from Randall Family Big Idea Competition]  
Thrift Mill | Pitt’s CS student  
+ 9 other students | Web platform to optimize career development and  
placement services of universities (users:  
administrators, students, employers) |

established until 2007. The first accelerator program in National Science Foundation and Small Business Administration at the federal level, and Innovation Works, at the state level. There was no formal incubator within these universities, but faculty and students were supported by way of Pittsburgh (Idea Foundry) was founded in 2002. With state funding, Innovation Works established two non-profit accelerator programs in 2008 and 2013. Following is a detailed description of the nature, scope, and funding sources of these institutions.
NSF Small Business Innovation Research Grant: The Small Business Innovation Development Act, passed by Congress in July 1982, authorized the National Science Foundation (NSF) to administer the Small Business Innovation Research (SBIR) Grant program. Congress mandated Federal agencies with R&D budgets that exceed $100 million to allocate 2.8 percent of their R&D budget to increase commercialization of innovations of federally funded research. Currently, eleven Federal agencies participate in the program. Each agency administers its own individual program within guidelines established by Congress. These agencies designate R&D topics in their solicitation. The technology areas currently supported are educational technologies/applications, information technologies, the Internet of Things, semiconductors, electronic hardware, robotics and wireless technologies, advanced manufacturing and nanotechnology, advanced materials and instrumentation, chemical and environmental technologies, biological technologies, and Smart Health and biomedical technologies (SBIR 2015). The SBIR grants channel government funding to early-stage companies with innovative technologies that require additional research and development in order to advance to the commercialization stage. Awards are made on a competitive basis after proposal evaluation. The grants are provided in two phases. The first is a proof of concept/feasibility grant for six months ranging from $150,000 to $225,000, which if successful is followed by a two-year development grant of $750,000. The SBIR grantee may be an individual, i.e. an academic or non-profit research institution is not required as a partner. The government grant has the advantage of not diluting the ownership stake of the startup founders, unlike angel and venture capital funding. To be eligible, an applicant must demonstrate that the innovation involves a high degree of technical risk, either because it has never been attempted and/or successfully done before, or it is still facing technical hurdles that the NSF-funded R&D work is intended to overcome. The applicant must also identify the potential for significant commercial and/or societal impact.

CMU’s Project Olympus: In January 2007, CMU’s School of Computer Science founded Project Olympus, an incubator that later partnered with the Dow Jones Center for Entrepreneurship in CMU’s Tepper School of Business to form CMU’s Center for Innovation and Entrepreneurship. Teams of faculty and students explore the commercial potential of their research and ideas through the Olympus PROBE (Problem-oriented Business Explorations). They receive incubator space, connections to a network of economic development partners, and guidance at every stage by mentors called Entrepreneurs-in-Residence. Olympus hosts Show & Tells, seminars and workshops, start-up job fairs, seminars and workshops (in conjunction with the Innovation Practice Institute of the University of Pittsburgh’s Law School). Student participants receive funding through the Kauffman Innovation Fellowship and Commercialization Leadership awards, and the Olympus Spark Grant Fund. The latter fund is supported by charitable gifts from alumni and other community donors.
Idea Foundry: Founded in 2002, Idea Foundry is Pittsburgh’s first accelerator. It is funded by private foundations and earned revenue, not by government. According to its CEO, Michael Matesic, almost half of the budget comes from returns on investments, which take the form of 5-year convertible loans. By using a convertible debt model, it does not take equity at the early days of development but still share in the success of enterprises it supports. The debt model is consistent with its non-profit mission and does not give it the big rewards that an equity investor/founder might achieve. Entrepreneurs are supported with a micro-grant of up to $10,000, one to three months of business development services such as market research to assess and develop the company’s commercial potential. Participants have access to business planning, legal, and accounting services as well as access to public- and private-sector industry leaders who can provide advice, offer testing opportunities, and serve as potential customers or acquirers. The accelerator programs are in six areas: Healthcare and Life Sciences, Entertainment, & Education, InterSector (Social Enterprise), Innovate H2O, Advanced Materials, and Intelligent Systems Development. Upon graduating from the Accelerator Program, startups are eligible for expedited evaluation to the Idea Transformation Fellowship Program, which provides convertible loans of up to $100,000 and hands-on support to early stage startups for a period ranging from a few months to one year. The program gets participants to the critical point where they can obtain follow-up funding or support themselves through their own revenues. To be eligible, entrepreneurs are required to have an idea for which necessary research has been completed and initial development has resulted in a prototype or detailed design specification. They are also required to reside in western Pennsylvania and intend for their company to be primarily based in western Pennsylvania.

Innovation Works (IW): Established in 1999 with seed funding from the Ben Franklin Technology Partners (BFTP), Innovation Works is a statewide network that provides business expertise and capital to early stage companies with the greatest likelihood for economic impact in Pennsylvania. BFTP is funded by Pennsylvania taxpayers through the Pennsylvania Department of Community and Economic Development. Innovation Works and the three other BFTP centers across the state work in partnership with universities to identify and cultivate research ideas that have viable markets. They provide grants to help speed commercialization by early-stage companies and support third-party licensing. They provide seed funding to promising, early-stage technology companies in the areas of advanced electronics, robotics, life sciences, advanced materials, information technology, new manufacturing processes, and clean energy. In 2008 and 2013, respectively, IW provided the seed funding to establish two affiliate accelerator programs in Pittsburgh: AlphaLab and AlphaLab Gear.

AlphaLab: This accelerator program was launched by IW in 2008 to help early-stage tech startups achieve product-market fit through rapid iterations of product development, intensive customer feedback and market validation. It ranked 15th in
the 2014 ranking of the top 20 U.S. accelerator programs based on valuations, funds raised, exits, survival rate, and satisfaction of its graduates (Hochberg et al. 2015). A small cohort of six to eight startups are selected twice a year to participate in a 20-week program, in which milestones are built in to ensure they stay on track. The program ends with a Demo Day, in which participants make a pitch to prospective investors, and get a chance to present their company to the press. To prepare for Demo Day, multiple group review sessions and an Interim Demo Day are held. AlphaLab invests $25,000 into the startup in exchange for 5% common-stock equity. Aside from seed funding, participants benefit from free office space, access to collaborative working space and conference rooms, as well as educational sessions that cover topics such as customer validation, design, financing, marketing, and accounting. More importantly, participants benefit from mentorship through IW’s network of entrepreneurs, technologists, and investors who have developed and launched products, raised capital, and negotiated manufacturing and distribution partnerships.

**AlphaLab Gear:** Based on the AlphaLab model, this hardware and robotics accelerator program was established in 2013, with funding from Innovation Works and the Small Business Administration. AlphaLab Gear provides expertise in areas specific to physical product companies. With a small cohort, each of eight to ten startups gets a mentor team of 4-6 experts in areas critical to their business, such as design for manufacture, supply chain, retail, and commercial distribution. Mentor teams include entrepreneurs who have founded physical product startups, raised investment capital, and led their companies to successful exits. If accepted to the 40-week program, a startup entrepreneur receives $25,000 in exchange for 5% common stock equity or $50,000 in exchange for 9% equity. The entrepreneur and his/her team receives a private office, access to collaborative working spaces, a workshop with light tools and equipment, and membership in TechShop Pittsburgh, which has prototyping and manufacturing equipment and software, and conducts technical sessions on how to use these machines. Companies with a robotics focus receive additional support from Startbot, an investment firm specializing in early-stage robotics companies. Startbot’s management is comprised of senior executives who are experienced in advanced manufacturing techniques and have links with parts suppliers. AlphaLab Gear companies also receive discounts to buy components or development kits from Amazon Web Services, Apple, and ZipCar. They have access to free or discounted legal, accounting, and tax services.

**Pitt’s Innovation Institute:** This is the University of Pittsburgh’s hub for activities that promote and foster innovation and entrepreneurship among faculty, students, and local business. Launched in 2013, the Institute brings together two Pitt organizations established earlier. The Office of Enterprise Development (OED) develops startup venture opportunities around Pitt innovations. The Institute for Entrepreneurial Excellence provides entrepreneurial education, networking, and assistance for local entrepreneurs and small businesses in the growth and transition
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stages. The OED offers student and faculty entrepreneurial education, co-working space, micro-grants, legal assistance, and mentorship to help bring their innovative ideas to the market. Among its programs are Blast Furnace (an accelerator program) and Pitt Ventures Initiative, which awards a grant of $3,000 to each of 30 Venture Teams of faculty, student, and business mentors who want to translate early-stage innovation that emerges from research into products, services and, ultimately, a virtual startup. Starting in 2015, grants were also awarded from the NSF’s I-Corps commercialization initiative. Each team that participates in the I-Corps site program is eligible to apply for an NSF grant of $50,000 to further investigate the economic impact of their innovation. Pitt’s Innovation Institute delivers entrepreneurial education through seminars and courses, such as the Start Smart Series, Academic Entrepreneurship: The Business of Innovation Commercialization, and Benchtop to Bedside.

Thrill Mill: Thrill Mill was founded in 2012 and is primarily funded through private foundations, like the McCune Foundation, the Hillman Foundation, and the RK Mellon Foundation. It has also received a small amount of support from Pennsylvania taxpayers through the Discovered and Developed in Pennsylvania program. Thrill Mill provides free co-working space and is located close to AlphaLab and AlphaLab Gear. Through a competitive application process, 50 startups are selected annually to participate in a two-week boot camp on entrepreneurship, including market analysis, mission development, elevator pitch creation, and other crucial inputs to the startup process. At the end of this boot camp, each startup delivers a five-minute pitch to Thrill Mill staff, program directors, board members, and other key stakeholders. About 20 of the 50 startups are selected to move to the next phase - an eight-week customer discovery course intended to challenge and question virtually every aspect of each startup’s respective ideas. The most promising startups are then accepted into the 9-month acceleration phase with $5,000 in financial support, and mentorship on how to streamline operations, raise funds, build a customer base, and develop growth-focused partnerships. Thrill Mill takes a one percent equity in each for-profit entity that obtains seed funding from outside investors.

ANALYSIS OF ECONOMIC IMPACT

As of the end of 2014, the tech sector in the Pittsburgh region consisted of about 9,948 firms with a combined annual payroll of about $22 billion for 302,535 employees (Pittsburgh Technology Council, 2016). Table 2 further breaks the data down into six tech clusters. The figures in parenthesis show the percentage changes from 2012 to 2014. Except for Advanced Materials, where employment fell by three percent, employment, total payroll and average wages all increased between 2012 and 2014. The average annual wages of $72,719 is 36% higher than the average salary in the state. As of 2014, advanced manufacturing leads in terms of the number of firms and employment, advanced materials in terms of total payroll, and life sciences in terms of average wages.
Table 2: Pittsburgh Region’s Tech Sector -2014 vs. 2012 Employment Data

<table>
<thead>
<tr>
<th>Clusters</th>
<th># of Firms</th>
<th>Employment</th>
<th>Payroll ($ Billion)</th>
<th>Average Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Technology</td>
<td>9,948</td>
<td>302,535</td>
<td>$22</td>
<td>$72,719</td>
</tr>
<tr>
<td>Clusters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Sciences</td>
<td>394 (+1.3%)</td>
<td>16,438 (+3.1%)</td>
<td>$1.4 (+6.2%)</td>
<td>$88,822 (+3%)</td>
</tr>
<tr>
<td>Advanced Manufacturing</td>
<td>2,159 (-1.2%)</td>
<td>67,315 (+2.4%)</td>
<td>$4.7 (+6.6%)</td>
<td>$70,131 (+4.1%)</td>
</tr>
<tr>
<td>Info Technology</td>
<td>1,603 (-6.2%)</td>
<td>27,881 (+0.6%)</td>
<td>$2.3 (+6.1%)</td>
<td>$82,426 (+5.5%)</td>
</tr>
<tr>
<td>Advanced Materials</td>
<td>258 (+0.8%)</td>
<td>10,057 (-3%)</td>
<td>$612.3 (+7%)</td>
<td>$60,879 (+10%)</td>
</tr>
<tr>
<td>Environmental Technology</td>
<td>1,657 (-0.9%)</td>
<td>36,929 (+1.2%)</td>
<td>$2.9 (+7.7%)</td>
<td>$79,028 (+6.3%)</td>
</tr>
<tr>
<td>Energy Technology</td>
<td>1,057 (+3.3%)</td>
<td>37,474 (+1%)</td>
<td>$3.2 (+7.9%)</td>
<td>$6,503 (+6.8%)</td>
</tr>
</tbody>
</table>


How much of the growth can be attributed to the organizations reviewed in this study? This is not an easy question to answer because outcome data reported by these organizations cover different years. From 1989 to 2014, the Ben Franklin Technology Partners (BFTP) claim client firms of Innovation Works (IW) and its three other counterparts in the state contributed over $23.5 billion to Pennsylvania’s gross state product and generated 140,000 new jobs in the state (51,000 jobs in client firms and another 89,000 jobs through multiplier effects). In addition, from 2007-2011 state revenue of the Commonwealth of Pennsylvania increased by a total of $502 million as a direct result of BFTP investments in client firms, including $144 million in state taxes from related BFTP client services. Compared to the state’s $137.7 million investment in BFTP over the same period, the increase in state tax revenue is 3.6 times larger, implying an average annual return on investment of about 53%. In 2013, BFTP’s Impact Report states that 98 new businesses were formed. That same year, client companies secured $468,448,160 of financing in addition to BFTP’s seed funds. They were awarded 118 patents and software copyrights and launched 318 new products and processes. They generated $412.71 million in sales revenue, created 1,365 new jobs, and retained another 951 jobs (PA Economy League and KLIOS Consulting 2015). From 1999 to 2014, IW invested more than $62 million in over 175 technology startups, thus becoming the single largest investor in seed-stage companies in
Southwest Pennsylvania. The entrepreneurs and companies supported have helped to change the image of Pittsburgh in the minds of investors nationwide. When Steve Case, co-founder of America Online, visited Pittsburgh in 2014, he said: “Steel town is fast becoming startup town” (Tierney 2014). By connecting entrepreneurs to investors across the country, IW catalyzed more than $1.5 billion of later stage capital from more than 80 venture capital firms from across the country. Eleven venture capital firms made their first investments in Pittsburgh in 2014, joining over 100 firms from around the country that have invested in Pittsburgh over the past five years. Among the 40 largest Metropolitan Statistical Areas in the U.S., Pittsburgh now ranks 5th in venture capital deals per million residents and 11th in investment dollars per capita. In 2014, various types of investors provided $437.8 million in early-stage funding across 177 deals in the Pittsburgh tech sector, a 46% increase in dollars, and a 19.6% increase in deals over the previous year. Of the 2014 investments, venture capital firms accounted for $332.9 million in 39 deals, an annual increase of 168% in dollars and 26% in the number of deals. Local angel investors accounted for $72.9 million or 35% more than the previous year (Innovation Works and Ernst and Young 2015).

**Economic Impact of Non-Profit Accelerators:** Since AlphaLab and AlphaLab Gear are Innovation Works’ accelerator programs in Pittsburgh, their impact on the economy in terms of jobs, tax revenues, and investments would be part of the figures reported by BFTP above. In 2014 alone, AlphaLab and AlphaGear were reportedly able to attract more than $140 million in investments from venture capital firms, angel investors, corporate-strategic investors, and other sources. In June 2015, about 800 people crowded in a venue usually used for live concerts on Pittsburgh’s North Shore. The event dubbed Demo Day is when graduates of Alpha Lab and Alpha Lab Gear make a pitch to investors from different states. According to Rich Lunak, CEO of Innovation Works, “It’s been fun to see the momentum building… only about 100 people attended the first Demo Day in 2008”(Nixon 2015). Since its founding in 2008, AlphaLab has graduated 52 companies, and a cohort of seven is still in the program. Its two-year old hardware and robotics counterpart, AlphaLab Gear, has graduated 10 companies, and also has a cohort of seven still in the program. Its older counterpart, Idea Foundry has supported more than 170 companies in 14 years. Close to half of these companies (75) received convertible loans through its Idea Transformation Fellowship Program. The youngest of Pittsburgh’s accelerators, Thrill Mill, has built a portfolio of 21 companies in three years.

**Economic Impact of University Incubators:** The presence of two research universities is a key factor in the birth of tech startups in Pittsburgh. CMU has strengths in robotics, software, and electrical engineering, while Pitt has strengths in energy, materials, and chemical engineering, as well as learning and health sciences. The two universities collaborate on many projects, including the Pittsburgh Supercomputing Center, Pittsburgh Life Sciences Greenhouse, the Center for the Neural Basis of Cognition, the University of Pittsburgh Cancer
Institute, as well as the NSF-supported Pittsburgh Science of Learning Center. Since it was established in 2006, CMU’s Project Olympus has supported 161 PROBE projects from various departments. One hundred twenty-two companies grew from these projects. Of the companies formed, 84 were founded by students and 38 were founded by Faculty or Innovation Fellows. Four of these companies have been acquired by Google, Home Depot, Turnitin, and Paladin Energy Ltd. Seven of these companies received funding from venture capital funds, seven from NSF SBIR grants, eight from Innovation Works, and 21 received Open Field Entrepreneurship Funds of $50,000 each granted to CMU alumni entrepreneurs. Ten of these companies were accepted by Alpha Lab/Gear, seven by Idea Foundry, and 10 graduated from incubator programs outside the state. Over $166 million in follow-up funding has been awarded to 63 student and 31 Faculty PROBE projects from university and outside sources (CMU 2015). In its 20 years, Pitt’s Institute for Entrepreneurial Excellence developed and delivered more than 1,400 educational programs attended by over 40,000 business leaders, and impacted 7,000 jobs in the region. Client companies have obtained $300 million in new funding and increased revenues by $245 million. In 2013 alone, the Pitt’s Innovation Institute reported 47 startup companies were created which raised $13.3 million in funding (Pitt 2015). Moreover, universities in Southwestern Pennsylvania generated over 80 spinout companies in that period through direct licensing activity. According to a report issued by the Pittsburgh Technology Council (Table 3), the number of patents issued to universities in the region increased by 56%, and income from technology licenses and options almost doubled from 2012 to 2014.

Table 3: Tech Transfer and Research Grants Received by Universities

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2014</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td># of licenses/options (Income in $M)</td>
<td>280 ($24.09)</td>
<td>333 ($46.42)</td>
<td>19% (93%)</td>
</tr>
<tr>
<td># of patents filed (issued)</td>
<td>258 (82)</td>
<td>329 (128)</td>
<td>28% (56%)</td>
</tr>
<tr>
<td># of SBIR/STTR Grants (Amount in $M)</td>
<td>51 ($19.9)</td>
<td>24 ($8.1M)</td>
<td>-53% (-66%)</td>
</tr>
</tbody>
</table>


Table 3 also shows that as donations from private foundations to university incubators and accelerators increased over time, the number and amount of small business research grants awarded by the National Science Foundation to Pittsburgh universities declined by half from 2012 to 2014.

CONCLUSION AND AREAS FOR FURTHER STUDY

As hypothesized, in the early stages of building a network of support services for tech startups in Pittsburgh, government intervention played a critical role. This came in the form of subsidies to research universities, the NSF SBIR grants, the founding of Ben Franklin Technology Partners (BFTP), which provided
the seed funding for Innovation Works and its two accelerator affiliates. To this day, BFTP, Innovation Works, and its two accelerators are funded by Pennsylvania taxpayers through the Department of Community and Economic Development. However, the relative importance of taxpayer-supported services for tech startups in the Pittsburgh region declined over time. The number of awards and amount of NSF research grants for small business innovation declined dramatically in the recent three years. This has been offset by university incubators and newly established accelerators attracting additional funding from private foundations over the last seven years. Moreover, the inflow of capital into Pittsburgh from investors throughout the country increased as taxpayer-funded accelerators gained credibility in screening startups with high commercial potential from the ones with low potential. Through their highly selective application process, and rigorous programs, accelerators have reduced asymmetric information, leading to increased funding in early-stage startups by venture capital firms and angel investors. Moreover, the short duration of accelerator programs force startups to either grow or fail fast so they can move on to other higher value opportunities. Also of interest is finding that administration of government subsidies to the tech sector has been designed with concern about the ability of government to pick winners and losers in advance. In general the government does not pick the firms that will be subsidized; rather, they are chosen by organizations that are not government entities. These organizations are staffed through a competitive hiring process, rather than by political appointments. Innovation Works, the largest seed investor in the state, and the four accelerators reviewed in this study, have built a network of alumni entrepreneurs, experienced businessmen, and lawyers as mentors of tech startups. Universities that provide entrepreneurial education, likewise, tap alumni who have become entrepreneurs or lawyers, and local businessmen and consultants, along with their faculty in business, law, and the sciences. Finally, this study has also shown associations among the development of support networks for tech startups, tech startup activity, and increased economic activity in the tech sector in the Pittsburgh region. Additional study of the links among the development of support networks for tech startups, tech startup activity and increased economic activity in the tech sector is needed. We end with some interesting questions that further study can answer. To what extent are these linkages idiosyncratic to Pittsburgh? Are they generalizable? What are the long-term employment effects of support services offered to tech startups? Were the outcomes of tech startups significantly influenced by the economic uncertainty experienced from 2008 to 2012? Were young tech companies forced to sell to a larger, cash-rich corporation, instead of continuing to grow until they were able to make an initial public offering because of macroeconomic conditions?
REFERENCES


CREATING ONLINE LEARNING SPACES FOR EMERGING MARKETS: AN INVESTIGATION OF THE LINK BETWEEN COURSE DESIGN AND STUDENT ENGAGEMENT

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Bobbi Makani-Lim
Mahesh N. Rajan
Marilyn K. Easter
San Jose State University

ABSTRACT: This paper is part two of an ongoing study that investigates the link between course design and student engagement. Over a decade ago, online learning was not seen as a likely alternative pedagogic approach of teaching and learning that would shift on-ground education (Keohane, 2013). Today, the outlook is very different. Many online courses are in the process of being redesigned; creative and robust online courses are now being successfully delivered (Allen & Seaman, 2013; Anderson & McGreal, 2012; DeSilets, 2013; Hosler & Arend, 2012). Historically, whether the course is delivered in-person or online, course design and structure have been positioned as a fundamental component in creating spaces that promote learning. Based on Community of Inquiry Model, our current research examines how course design and organization in online Marketing courses facilitate student engagement. The Community of Inquiry theoretical framework represents a process of creating deep and meaningful (collaborative-constructivist) learning experience through the development of three interdependent elements: social, cognitive and teaching presence (Garrison, Anderson, & Archer, 2000). The design, facilitation, and direction of cognitive and social processes may contribute to realizing personal and meaningful learning outcomes (Anderson, Rourke, Garrison, & Archer, 2001). In this study, we utilize both quantitative and qualitative methods to analyze data from online upper-division Marketing Principles courses. The research findings will demonstrate useful pedagogical practices in teaching online Marketing courses and may also provide instructors with valuable insights to shape learning environments that promote meaningful education.

Key Words: Online Learning, Engagement, Course Design, Community of Inquiry

INTRODUCTION

Online learning enrollment has been growing at an annual rate of 16.4% from 2002-2014, while the total student enrollment for higher education has increased at an average annual rate of 3.7%. A most recent survey conducted by Babson
Survey Research Group and the College Board (Allen & Seaman, 2013; Allen & Seaman, 2015) revealed that the number of students taking at least one online course from emerging markets already surpassed 7.2 million, an increase of almost five million from when the study was started 2002. A trend chart for total and online enrollment is given in Figure 1.1:

**Figure 1.1: Total and Online Enrollment Trends in Degree-Granting Post-secondary Institutions (Fall 2002 to Fall 2013) (Allen & Seaman, 2015 p. 19)**

The advent of the Internet and the upsurge in the use of technology in education over the past decade has made it possible for colleges and universities to offer distance and online courses. Numerous studies have shown that online learning has become one of the most popular methods for delivery of course content because it provides more scheduling flexibility to address the time constraints of students in higher education (Allen & Seaman, 2015; EDUCAUSE, 2015; Hogarth, 2010; King & Cerrone, 2012; Köse, 2010). More importantly, online learning gives students a contemporary skill set that many employers find desirable in potential employees (Chamberlin, 2014). These skills include online communications, research ability, digital literacy and computer use. Online learning also helps develop self-discipline, motivation and initiative, which are real world skills that employers value and look for in potential hires.

**LITERATURE REVIEW**

**Benefit and Challenges of Online Learning:** The development and increase in the use of technology has played a major role in the popularity of online courses in colleges and universities. As with all other learning models, online learning has
its own benefits and challenges. An examination of the literature revealed that the benefits of online learning fall within four areas: flexibility, access, student engagement, and interaction (Alexander & Levine, 2008; Hargadon, 2008; McLoughlin & Lee, 2008, Siemens, 2008). Studies show that the current generation of learners prefers online or blended courses because of the greater time flexibility, freedom and convenience of working on their coursework anywhere due to varying locations (Hogarth, 2010). Online or distance learning affords students the ability to interact more with the instructors and their peers because the class does not start and end in a set time within the classroom, unlike the traditional (face to face) F2F. In their study, Means, Toyama, Murphy, Bakia, & Jones (2009) found that students in OLE performed better than students in F2F environments. In online learning, instructors have the ability to provide numerous opportunities for interaction through emails, online discussion forums, blogs, and posts on social media and collaboration tools. Set up correctly, an online learning environment allows students to express themselves through the creation of digital content such as online media, podcasts, webcasts, and recorded videos (Burch & Nagy, 2007). Research suggests that in the online learning environment, students feel that they have more time to reflect and refer to relevant course materials when working online than in the classroom (Hargadon, 2008; Hogarth, 2010). With more time on task, students are motivated to learn and to interact with each other in team based situations when using blogs in business OLE (Hazari, O’Meara Brown, & Rutledge, 2013). Students are also motivated when they are satisfied with the instructor and how they (instructors’) use technology in class including the overall course assignments (Bolliger and Martindale (2004). Student learning and satisfaction are influenced by their expectations of the course, the frequency and quality of group interaction, and the technological design of the course. (Liaw, 2008; Lin, Lin, & Laffey, 2008).

Nevertheless, online learning has its challenges and these are often in the areas of technology competence, student expectations and motivations, and time management (Torrisi-Steele & Drew, 2013; Sorden & Munene, 2013). It is required that both instructor and students possess the minimum technology skill level to effectively participate in the class. An instructor who does not have sufficient technology skills will find it very difficult to design an effective online course. Swartz, (2014) indicated that there is a big gap in technologies “Millennials” use and the computer competencies that senior professors expect them to have. Professors should not assume that students are proficient in all areas of technology, as they may need help in basic applications such as Microsoft Word, Excel, and PowerPoint. Students lacking technology skills will pose a challenge in keeping up with the pace of the course (Köse, 2010; Vaughan, 2007).

According to Brower (2003), effectively teaching business courses like ethics, and developing a student learning community can be challenging in an OLE. Both learning curve for effectively teaching business courses for instructors and student
learning can be difficult. Studies show that interaction between student and instructor is important in any learning experience and the skill level in using technology on both instructor and student is critical (Anderson, Rourke, Garrison, & Archer, 2001; Andresen, 2009; Daly, Bolivar & Burke, 2010; Dennen & Smith, 2007; Eyal, 2012; Joo, Lim, & Kim, 2011). The lack of synchronous interaction in OLE is not always possible and may affect both teaching and learning (Comey, 2009).

Motivation and expectations are other areas of challenges in online learning (Bennett et al, 2011 & Torrisi-Steele & Drew 2013). While the flexibility and ease of access of online learning can be advantageous, it may also foster a lack of motivation for students to finish coursework. The lack of student motivation could come from difficulty with managing time during the weeks when the class does not meet face-to-face (Holenko & Hoić-Božić, 2008). Students’ multitasking with employment, personal issues, and/or not being focused on the course materials are also challenges in the online learning environment (Galagan & Biech, 2010). Without good time management skills, many students find out too late that they have been lagging behind in coursework. In addition, many students feel that meeting less in class means that they also do not need to devote time to accomplish coursework (Vaughan, 2007). Furthermore, since there is no F2F in online instruction, it is quite a challenge to get students (especially the not so mature students or students experienced with online learning) to read the course syllabus and fully comprehend the requirements as well as expectations.

The Community of Inquiry Framework: The Community of Inquiry (CoI) was first introduced by C.S. Peirce and John Dewey (Seixas, 1993). It was broadly defined as a group of individuals involved in knowledge formation and process of empirical inquiry into problematic situations (Garrison, Anderson and Archer, 2000). The CoI emphasizes that knowledge is necessarily embedded within a social context and therefore requires some intersubjective agreements among those involved in the process of inquiry for legitimacy. The ideas of Lipman and Dewey were expanded and applied to online learning contexts in a project that originated at the University of Alberta. The current CoI framework was initially developed by Garrison, Anderson, and Archer (2000) and emphasized the importance of three presences in online learning. The central construct of the CoI framework is that educational experience occurs at the confluence of three distinct types of presences: social, cognitive and teaching presence (Garrison, Anderson & Archer, 2000). In the 1990’s internet-based, asynchronous learning was in its infancy. Most educators were skeptical of this new modality and needed to be sure that there was sufficient quality in the online learners’ educational experience that resulted from the use of this new modality.

The CoI framework, based on collaborative constructivist learning principles, suggests that learning occurs as a result of interaction through social, teaching and cognitive presences with and among the members of the learning community (Shea, Vickers & Hayes, 2010). According to the literature, both interaction and collaboration are critical for the communities to evolve in the online learning
environment. The CoI framework supports the intentional development of these learning communities through preset conditions to help students to collaborate and learn in that environment (Shea & Bidjerano, 2009). Thus, it is essential to know the constructivist teaching and learning strategies to gain a more comprehensive understanding of the relationship between the three presences and how that helps to create a quality learning environment.

The CoI framework (Figure 2.1) presents the entire learning process and behaviors for knowledge construction with the educational experience at its core. (Shea & Bidjerano, 2009). Garrison, Anderson and Archer (2000) described the interactions among the different presences in the framework as “crucial prerequisites for successful higher education experience” (p. 87). Each of the presences include different but, related sub-elements or categories of interaction within the presence, and these categories identify and represent the different kind of interactions happening within that presence. Thus far, the COI framework has been valuable in emphasizing the fact that knowledge is necessarily embedded within a social context and requires interaction among those involved in the learning process (Shields, 2003).

**Figure 2.1: Community of Inquiry (CoI) framework (Garrison, Anderson & Archer, 2000)**

In any learning environment, students have traditionally expected to learn from their teachers through direct instruction and interaction with the contents of the course. However, as they progress through the course, they may discover that they also learn from their classmates. This peer-to-peer learning does not ‘accidentally’ occur. The instructor designs the course and put the pedagogy in place that would
foster cognitive, teacher, and social interaction. Teaching presence during the course delivery is important to facilitate learning, particularly in a distance-learning environment in which peer-induced participation is lacking. The instructor has to simulate the same classroom-type environment by posting leading questions to engage students to participate in class discussions. Simultaneously the instructor is also expected to provide timely and supportive feedback on submitted coursework to let the students know about their progress in learning and whether or not they are on the right track. These are some types of interactions where students feel teaching presence and experience more effective and meaningful distance learning.

**Research on the Components of the COI:** Kearsley (2000) declared, “the most important role of the instructor in online [or distance] classes is to ensure a high degree of interactivity and participation [among the students]” (p. 78). Parker (1999) supported the pedagogical benefits of teaching presence, particularly the instructor’s role in designing and creating the environment within which learning will happen. Encouraging student conversations and interactions in an online learning environment might include the use of group discussions of complex issues, team projects and by making online discussions a significant part of the student’s course grade.

Parker (1999) also observed that the instructor role took slightly different forms throughout the duration of the course. Before the start of the course, the instructor engages in designing and organizing the course. At the beginning of each online course, the instructor is most likely to lead by example and direct the discussions but, as the class progresses, the instructor would usually assume the role of facilitator rather than an academician who lectures to the class. At this time, the instructor starts to produce “no more than 20 percent of the class input”, and shifts to the role of a facilitator who organizes and manages the discussion among the students. To foster a discussion-friendly climate, faculty should incorporate “real life” examples and inject some humor in the course. Instructors also need to provide feedback, comments and inputs on student coursework to let students know how they are doing in class (Parker, 1999).

In online courses, the three presences of cognition, social and teaching presence were considered vital in facilitating social and cognitive processes. The CoI starts with the creation of a well-designed, organized courses where discourse was clearly understood and encouraged as well as having a feeling of the instructor being close through direct instruction has been shown to directly correlate with students’ perceived learning and sense of community (Arbaugh, 2000; Shea, Li, & Pickett, 2006; Betts, Hartman & Oxholm, 2010).

Grant (2001) studied student learning and satisfaction of courses in logistics and services marketing delivered in a block format. The focus of his research was instructional design and organization of the course. Grant (2001) used two courses
taught in one-week blocks and compared student responses given by pre- and post-
questionnaires. There were 32 students in the one-week logistics class. Following
that class was a second one-week block course in services marketing. Thirty-three
students attended the second course. Twenty-students were enrolled in both
courses. Grant (2001) followed a “customer” satisfaction theory that customers
were satisfied if they scored their perceptions higher than their expectations. Grant
(2001) argued that business majors benefited from exposure to weeklong
workshop-type learning situations since they mirrored the continuing education
such persons would experience in the business world. The researcher studied the
student repeats, those students who chose to take a second intensive course,
separately from students who had no prior experience with one-week courses.

A study conducted by Baker (2010) focused on Teaching presence, and its impact
on cognitive learning, affective learning, and motivation. In the study, Baker
(2010) used five different well-established instruments to measure the different
variables. Data were collected through the online instrument from a diverse sample
of undergraduate and graduate students (n=377) with varying degrees of online
learning experiences. Analysis from the study indicated that there is a statistically
significant positive relationship between instructor immediacy and instructor
presence, as well as a greater sense of presence when classes are conducted in a
synchronous manner (Baker, 2010).

**Course Design and Organization:** One of the cornerstones of an effective online
environment is the course design (Hogarth, 2010). Instructors need to be prepared
to commit extensive time and effort in designing the course for online learning.
For many instructors who are teaching blended courses for the first time, it is usual
to expect that a complete redesign of their courses will be necessary to prepare
these courses for online learning (Ho, Lu, & Thurmaier, 2006; Bersin, 2004). It is
important that instructors master the subject matter they intend to teach to enable
them to design their courses effectively, because online learning is not simply
posting lectures online, letting students go through them, and then evaluate what
they know through quizzes and tests (Bennett et al, 2012; Walker, 2009; Burch &
Nagy, 2007).

It is the instructor’s responsibility to construct the learning process, the
infrastructure, the interactive components, and the assessment system of the
course. The instructor has to think through the course learning outcomes, and then
design the learning activities and lessons that would engage students and stimulate
interaction. In designing their course, instructors can build course materials such
as lectures, presentations, video or lecture captures; design course activities such
as projects, group work, cases and exercises; creating the schedule for course
completion; and providing guidelines and tips on how to use the different types of
media effectively (Grosseck, 2009; Hansen, Manninen, & Tirmaa-Oras, 2006; Bersin, 2004).

**Research Setting:** San Jose State University is the top provider of engineering, science and business graduates to Silicon Valley, the world’s high tech capital. A recent *U.S. News & World Report* survey (2016) ranked the university number 33 in Regional Universities West. It is considered as one of the top top 6 public masters’ universities in the West. As the region’s leading public university with more than 7,000 graduates annually, SJSU graduates provide a significant number of human capital to all Silicon Valley companies, institutions, and government agencies. The university is also the 4th largest Silicon Valley employer, and the 17th largest in Silicon Valley overall.

**METHODOLOGY AND RESEARCH DESIGN**

**Methodology:** This study utilized a parallel triangulation design wherein qualitative questions were included to triangulate the quantitative study. The two strands of data were collected at the same time, analyzed on its own merit, and then merged at the point of interpretation. This design was a good match for the study because it allowed the researchers to form a more complete understanding of the research questions. The two survey tools that were used were the Teaching Presence Scale (TPS) and a modified Attitudes Toward Use of Technology (ATUTS).

Using a quantitative method with a qualitative component approach helped provide a more holistic picture of student engagement, rather than using strictly a quantitative or qualitative approach. Combining the two sets of data together offsets the weaknesses inherent to using just a single research paradigm. It is a practical alternative where elements of quantitative and qualitative researches converge to provide a better understanding of the research problems (Creswell & Plano-Clark, 2013).

This study used a nonexperimental, cross-sectional, closed and open response electronic survey questionnaire conducted through Qualtrics. Students received the survey an embedded link through their invitation emails. The survey was developed using Qualtrics and was also distributed using this cloud-based survey tool. Qualtrics is an online survey tool that is used at the research setting. It has a feature that tracks the target population through the use of the “Qualtrics Mailer” function. Sending out the survey using this feature allowed the researcher to track responses and send out reminder emails to
those who had not taken the survey. The survey was made available at the research setting for three weeks. Each participant was allowed to take the survey only once using the unique link provided to the participant in the invitation email.

**Population and Sample:** The purpose of the study was to investigate the link between course design and student engagement. The sample included students enrolled in business courses in Spring 2016 semester. The courses were delivered using Canvas Learning Management system and hosted at San Jose State University.

**RESULTS**

The data was collected from 141 respondents (n=141). The study focused on the following student characteristics: personal, contextual and technology. Age is a typical demographic variable found in cross-sectional studies. Gender plays an important role in perceptions about teaching presence because gender differences had been found to account for variances in online course completion. Class level refers to the classification a student receives from the university based upon credit hours earned. Class levels used in this study were: freshmen, sophomore, junior and senior. Course duration is the length of the courses that the students took. Technology skill refers to the competency level of the student participants. The categories in this study ranged from Novice to Expert. Technology use is the level of usage that the participants had with different types of technology tools. Attitude toward use of technology measured the participants’ evaluation of whether a particular tool helped facilitate their learning or distracted them from learning.

**Quantitative Measures:** The personal characteristics for this study’s respondents were: age and gender. Respondents age ranges distribution is given below:
The majority of students lie in the age range 21-23 years with 54.29% followed by 24-26 years at 24.29%. The age range of 18-20, 31 and above, and 27-30 years was at 8.57%, 7.14% and 5.71% respectively.

The distribution of the respondents by gender is presented below:

There were more females than males among the respondents: 55% females over 45% males.

Given below is the distribution on student grade levels:
Seniors dominated the grade levels with 65.71% followed by Juniors at 30.71%. The Sophomore and Others were significantly low at 1.43% and 2.14%. There were no freshmen in the class.

**Qualitative Measures:** Student responses to open-ended questions were coded and categorized into themes. The codes were grouped into three themes that corresponded to the course design components. There were a total of 138 responses analyzed from usable responses from the sample.

There were four emerging themes culled from student responses:

1. **Instructional design** -- Students were generally very appreciative of the instructional design of the online courses that were surveyed for this study. Comments such as “the course was designed in such a way that helped me absorb the material at a good pace. I was able to relate the topics to one another as the course progressed”, and “Clear assignments and expectations at first, chapters were easy to follow”, and “a way that the design of the course helped me in my learning was that I was aware of what needed to be done in order to fully engage and learn with the course materials. Updates and reminders of due dates and upcoming assignments also helped me to plan my time accordingly”.

2. **Course organization** -- Comments such as “every week, the assignments were due on the same exact day at the same exact time. This makes in easier to manage your time and know when everything is going to be due”, “the course allowed for me to study, read, and engage with the material at my own pace. With so many
other course, and obligations to handle as a student, the online course allowed me to find a balance between everything”, and “the design of the course helped my learning by providing me the tools to succeed in a professional environment. The design of the course is project based, so learning teamwork and communication skills was important for me in succeeding in this course” reflect the high levels of satisfaction that students expressed with the course organization.

3: Direct instruction -- “By constant communication and being very professional in terms of responding right away with any questions i had for her. It made me feel like i had an active and engaged teacher to help me through this online class”, “the instructor kept the class engaged by encouraging us to keep in contact with our group members, as well as other classmates, in order to play the simulation game to the best of our abilities”, “the instructor keeps the class engaged by making class discussions a requirement. This is a place where we are able to post things that we find important that relate to the topic of discussion. My instructor also requires us to respond to another classmate’s post. This is a great way to get us to read, relate, and respond to our classmates - making the course more interactive”, and “The professor speaks with such great enthusiasm which becomes a chain reaction to many students including myself. The excitement in her tone daily makes the class a bit more enjoyable even when it seems stressful”.

4: Assessment -- “One of my business instructors helped me understand a difficult topic by providing his real life example that somewhat linked to the topic”, “I think he helped the class apply the knowledge we have gained by allowing us to do a simulation”, “the entire IMC is such a complex topic that considering we have made huge progress in understanding it is a big step”, and “He provided online lectures as well as voice lectures that helped us learn”.

DISCUSSION

The results of this research suggest that instructional design, course organization, direct instruction and assessment enhances social, teaching and cognitive presences. By effectively designing online course, students appreciate the instructional design, structure and pace of the online courses. Making the expectations of the online learning environment clear from the beginning of the course allows students to know what they need to do to succeed.

In particular, students seemed to love the fact that they could study the material and complete the assignments at their own pace. Furthermore, students appreciated consistency in the course. Assignments were due at the same time of the week each week seemed to resonate with the students. It was like an automatic
Mehta, Makani-Lim, Rajan and Easter

calendar in their schedule planners or diaries. Hence, it was easy for them to
monitor deadlines and complete the assignments in a timely manner. However,
some students stated that they wanted more interaction and instruction from the
calendar.

CONCLUSIONS

When designing an online course, it is essential for faculty to construct the course
with the social, teaching and cognitive presences in mind. The instructional
material must be easy to comprehend, engaging and value adding to the students,
especially since they accessing and learning the material at their convenience and
on their own. However, given that the students of today (the Millennials) are
generally tech savvy and more adept with online learning environments, there
seems to be a natural proclivity for this form of instruction. Our research clearly
shows that students overwhelmingly were satisfied with the course design,
delivery and instructional content of the online courses that were examined for this
study. These positive findings will no doubt be encouraging to current and future
faculty who might be considering switching to online instruction. While this study
is a good starting point, we will need additional empirical data to confirm the
benefits and advantages of online learning to all stakeholders -- students, faculty,
administrators and universities in general.

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THE STATE OF INVESTMENT ANALYSIS IN 1927: ON THE EVE OF DESTRUCTION

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ABSTRACT: The purpose of financial reporting is to provide information to investors and creditors to help them make decisions about their involvement with an economic entity (Financial Accounting Standards Board, 2010). While this objective may now appear obvious, this was not always the case as illustrated in the late 1920s. Shown in this study based on an examination of books on investing from 1927, investors of that time wanted company information to help in their analyses, but it was not always forthcoming. Warnings by authors were not heeded and our country suffered the consequences. Subsequently, the Securities Acts of 1933 and 1934 were enacted to ameliorate the financial reporting system upon which our society depends. This study describes investment analysis in 1927 and its shortcomings, reminding us all of the importance of financial reporting.

Key Words: investing, financial reporting, corporate securities, stock market crash of 1929

INTRODUCTION

The most cataclysmic stock market crash in the 20th century occurred on October 29, 1929. Stock prices would fall even further, in 1932 to about 10 percent of their values before the crash. Bonds also suffered numerous defaults in 1932 (Geisst, 2004). The Securities Acts of 1933 and 1934 would be passed by Congress and signed into law by Franklin Delano Roosevelt in the hope to help prevent such a disaster from ever happening again. Consequently, accounting rulemaking bodies, especially the Securities and Exchange Commission and the Committee on Accounting Procedure, began in the 1930s to guide public companies in providing information to investors to help them make better decisions (Miranti and Goodman, 1996b).

Examining the state of financial reporting prior to 1929 helps us understand the contribution of accounting rulemaking bodies to our society. Toward this end, this paper examines books on investing in 1927 in order to characterize investing practices in corporate securities just two short years prior to the Crash of 1929. As such, this study continues a research stream (Janson and Thompson, 2009, 2013a and 2013b) that traced the development of investment practices in the United States and the information requirements of those practices through 1926.

The mode of analysis involved reviewing books on corporate investing. The books were identified in two ways. WorldCat (2005) was searched using the
keywords “investing,” “security analysis,” and “financial statement analysis.” In addition, in order to lessen the chance of missing important books, works cited by Graham and Dodd (1934) in their classic, *Security Analysis*, were also examined. These approaches yielded two publications examined in this study: *The Principles of Bond Investment* by Chamberlain and Edwards (1927) and *Main Street and Wall Street* by Ripley (1927).¹ The first describes the state of the art of investing while the last provides a criticism of that art.

**THE PRINCIPLES OF BOND INVESTMENT**

*(Chamberlain and Edwards, 1927)*

Even though Chamberlain and Edwards focused on bonds, their analysis nevertheless gave insight into the quality of financial reporting of the time. Moreover, the success or failure of business often revolved around the same issues for bondholders as for stockholders. They would also occasionally comment on the appropriateness of buying stocks, often viewed as speculation rather than investing. Thus, their work had wider applicability than suggested by its title.

Part I of the text was “Channels of Investment.” In the first chapter the authors motivated their work by noting the lack of knowledge about bonds by both bond salesmen and bond buyers. In the next chapter, Chamberlain and Edwards distinguish between speculation and investment. While both speculators and investors desired a gain, speculators took more risk as “investment more surely and permanently creates new wealth” (p. 10). On the other hand, those that were both speculators and investors at the right time did well through timing the business cycle, speculating in times of expansion and investing in times of contraction.

In “Elements of an Ideal Investment,” Chamberlain and Edwards identified ten traits: security of principal, stability of income, fair income return, marketability, value as collateral, tax-exemption, exemption from care, acceptable duration, acceptable denomination, and potential appreciation. Correcting the omission from their 1911 edition of the text, Chamberlain and Edwards added diversification as another important trait in their revised edition.² They characterized diversification as “the distribution of risk” (p. 29). They reasoned that diversification was favored by most of their aforementioned elements of investment. For example, diversified investments with a higher rate of return were preferable to a safer single investment with a lower rate of return unless it was more likely that “the loss in principal of the diversified investments will be greater than the excess of income from these investments over the income from the single investment” (p. 31).

Chamberlain and Edwards evaluated bonds and stocks against their ten elements for an investment. Not surprisingly, bonds came out ahead in security of principal, stability of income, and, in the authors’ opinion, marketability for unlisted securities. On the other hand, appreciation and marketability of listed securities favored stocks. The authors noted that fair income return, value of collateral, tax exemption, freedom of care, and acceptable duration depended on the circumstances or there was really no known advantage of one type of security...
over another. Moreover, acceptable duration did not apply to stocks. They did acknowledge that some stocks with steady dividend rates, like Pennsylvania Railroad stock, were essentially investments.

Part III of their text focused on “Corporation Loans.” Railroads and industrials will be emphasized in this paper as they represented the extremes in financial reporting at the time and the consequent helpfulness to investors in analyzing their reports. Chamberlain and Edwards noted that railroads, in the 1920s still the largest industry in America other than agriculture, were highly regulated by the federal government. Through the Transportation Act of 1920, the Interstate Commerce Commission (ICC) had the right to fix railroad rates so that the railroads earned a “fair return” on the “fair value” of railroad property. At the time, 5 ½ percent was deemed a fair return with an additional ¼ percent for additions and betterments. Earnings above 6 percent were subject to a 50% recapture by the ICC. Chamberlain and Edwards added that the ICC consolidated railways and controlled new issues of their securities. Consequently, “railroad bonds tend to acquire the preeminent merit of government securities” (p. 281). On the other hand, they noted that a railroad could still fail if it had inadequate traffic.

In “Railroad Bonds: Earning Power and Income Account” they first developed a host of factors for comparing railroads: traffic density ((tonnage moved X average distance)/miles of line operated; the higher the better), diversification of traffic (the more diverse the better), average haul (the longer the better especially considering truck competition), freight originating on own lines (the more the better), seasonal and cyclical variations (the more level the better), duration of traffic for a specific type of item (the longer the better), passenger traffic (important in some cases and increasingly facing competition from cars and busses), and operating efficiency (average freight trainload, average freight carload, average passenger trainload, and operating ratio = operating expenses/operating revenues).

The next several items addressed by the authors revolved around the income statement for the railroads. By way of introduction, Chamberlain and Edwards commented “The Interstate Commerce Commission has succeeded in giving a laudable degree of uniformity to railroad accounting” (p. 291). They added that since 1907, the ICC had regulated railroad accounts and that “capital expenditures...are carefully separated from those incurred in the ordinary course of operation. The old-time jugglery of railroad accounts is no longer possible” (p. 291).1 The authors included the ICC’s summary report as shown in Table 1, whose format apparently reflected that required of individual railroads.
Table 1
ICC’s Summary Report for 1924
(Chamberlain and Edwards, p. 292)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railway operating revenues</td>
<td>$6,147,069,411</td>
</tr>
<tr>
<td>Railway operating expenses</td>
<td>4,688,241,646</td>
</tr>
<tr>
<td>Net revenue from railway operations</td>
<td>$1,458,827,765</td>
</tr>
<tr>
<td>Railway tax accruals</td>
<td>361,169,715</td>
</tr>
<tr>
<td>Uncollectible railway revenues</td>
<td>2,463,625</td>
</tr>
<tr>
<td>Railway operating income</td>
<td>$1,095,194,425</td>
</tr>
<tr>
<td>Equipment and joint facility rents (net deduction)</td>
<td>82,031,765</td>
</tr>
<tr>
<td>NET RAILWAY OPERATING INCOME</td>
<td>$1,013,162,660</td>
</tr>
<tr>
<td>Non-operating income</td>
<td>145,090,204</td>
</tr>
<tr>
<td>Gross income</td>
<td>$1,158,252,864</td>
</tr>
<tr>
<td>Deductions from gross income</td>
<td>609,229,833</td>
</tr>
<tr>
<td>Net income</td>
<td>549,023,031</td>
</tr>
<tr>
<td>Appropriations of net income</td>
<td>366,905,274</td>
</tr>
<tr>
<td>Remainder to profit and loss</td>
<td>$182,117,757</td>
</tr>
</tbody>
</table>

In analyzing individual railroads, Chamberlain and Edwards encouraged per-mile comparisons and an evaluation of operating expenses. Of special interest to bondholders, Chamberlain and Edwards urged examination of the margin or factor of safety. In the income statement, “Deductions from gross income” included fixed charges or interest on funded debt and rents for railroads, equipment, and facilities. Noting that net income was gross income less fixed charges, the authors recommended a factor of safety (net income/gross income) of at least 50%, or, in other words, gross income at least twice as large as fixed charges. Contemporary authors (Lincoln, 1926; Franklin, 1926) also called for this ratio to be at least two to one. Chamberlain and Edwards concluded this chapter cautioning investors that while the ICC allowed a “fair return,” there was a limit: “If a fair return must mean excessively burdensome rates, business will not suffer the present law to continue unchanged” (p. 297).

The authors stated that while they had confidence in income statements of railroads, this confidence did not apply to balance sheets. Not only were the asset values suspect, liabilities of rental and subsidiaries were not included. Instead, they calculated total capitalization in two ways. The first capitalized annual rental payments at 5% and added this to the capital stock and funded debt of the parent. In the second way, the par value of the capital stock and funded debt of the subsidiaries was added to those of the parent. In either case, they felt a debt to capital ratio of two or, in some cases, three to one was acceptable.

They also suggested calculating bonded debt per mile taking into account the traffic and investments for the railroad. Chamberlain and Edwards emphasized, however, the importance of fixed charges and understanding the position of a bond in receivership. More optimistically, they noted that railroad bonds were often considered “legal investments,” appropriate investments for
Thompson

regulated financial institutions, commenting that railroad securities “offer the most stable and certain security outside of civil loans” (p. 304).

At the other end of the spectrum of risk were many industrial bonds, which were not even addressed in the first edition of this book. Chamberlain and Edwards defined industrial securities as other than those associated with governments, municipalities, railroads, public utilities, or real estate concerns. Given this broad definition, they noted the importance of understanding different types of industrials. They cautioned: “Risk is conceded to be greater with many industrials than with most of the other classes of securities, but the bonds of certain industrial companies contain the desirable requisites of a sound investment” (p. 457). Further, “In a comparative sense the element of risk is inherently great in industrials” (p. 457). Consequently, “The ratio of earnings to capitalization should correspond broadly with the risk involved” (p. 457).

Before embarking on a discussion of assets, capitalization, and earnings of industrials, the authors discussed potential sources of failures of industrials, applicable to both bondholders and stockholders. External sources included economic forces (wages, interest, and profits given the level of risk), business cycle (inability to survive a downturn), competition (new or better products or service, advertising, or favorable credit terms), catastrophic changes (war, natural, political, or legal), and inherited evils (previous management’s poor decisions). Internal sources were incompetent management (unable to deal with specific issues or general business conditions), labor difficulties (adequacy and working conditions resulting in a possible strike), financial maladjustments (insufficient financing or ability to pay), duration of the manufacturing process (too long to obtain a return), unwise dividend policy (overpayment leaving a shortfall for maintenance, fixed charges, or contingencies), and insufficient earnings (too little to cover operating costs, interest, and dividends).

Chamberlain and Edwards discussed considerations involving assets that a potential bondholder should take into account. They noted that while a lien on fixed assets may provide a bondholder with security, the real value of fixed assets lay in the earnings that could be generated with them rather than their market value. Interestingly, the authors suggested relying on stock prices rather than the market value of fixed assets as an indication of the value of the business.

The relationship of current assets (cash, marketable securities, and inventories) to current liabilities “is of fundamental importance to the bondholder” (p. 464). They suggested a minimum current ratio of two to one, but it might need to be higher in certain industries. Another important comparison was the “acid test,” where quick assets (cash and receivables) were at least equal to current liabilities. Chamberlain and Edwards advised an even more stringent test by comparing current assets to all debt, current liabilities and funded debt.

As for intangible values, the authors noted that these could be valuable, but “the investor should consider all intangible items with conservatism in order to ascertain the validity and basis of their valuation, and he should bear in mind that intangible items tend to vanish in the hour of need” (p. 467). The authors also noted that bond discounts reported as assets should be eliminated from any analysis.
of assets. Interestingly, they suggested calculating goodwill by the excess of capitalized earnings over at least five years less the value of net tangible assets.

Chamberlain and Edwards wanted capitalization, which they considered to be par value of stocks, bonds, and long-term notes, and current liabilities to be less than the value of the assets. They further stipulated that tangible assets should be about 40 to 50% of capitalization in large diversified businesses. However, they emphasized that the percentage of bonds to capitalization in industrials with their irregular earnings should be lower than in other organizations. They observed bonds being 25-30% of total capitalization on average, though the range was 0 to 65%. Preferred stock also averaged 25-30% while common stock averaged 45-50% of total capitalization. Similarly, Lincoln (1926) suggested a bond to bond and stock ratio of less than 30-35% for industrials.

Chamberlain and Edwards also felt that limited open-end mortgage bond issues were satisfactory as long as they were limited to 50 to 60% of the value of additions or improvements, earnings were at least twice the total of new fixed charges (factor of safety at least 50%), and the current ratio was at least two to one, though they qualified this recommendation by stating that these ratios may need to be larger for many industrials.

Being leery of the variation of earnings by industrials, Chamberlin and Edwards advised prospective bondholders to find companies whose average net earnings for five years were at least twice fixed charges and never were less than fixed charges in any one year. They also advised investors to be aware of sources of earnings for a corporation with more stable operating sources preferred. Readers were also warned of the danger of managers manipulating income through maintenance and depreciation and thereby leveling net earnings. They remarked “In lean years depreciation charges to earnings are relatively small, while in prosperous years, provision is made for the poor years” (p. 475). Apparently, according to the authors, most industrials followed this policy. However, Chamberlain and Edwards advised: “A year should seldom be allowed to pass without some provision for the replacement of certain assets” (p. 475).

They once again discussed variable earnings for many industrials. Chamberlin and Edwards reported operating ratios (operation expenses/operating revenues) of 80 to 90% for industrials and they questioned their ability to react to changing conditions for their product. The authors were especially concerned with those industries with high fixed costs or high inventories of raw materials. These industries would not be able to react quickly to a decrease in demand or prices for their product. The authors preferred the more nimble trading companies that sold necessities directly to the consumer. Companies that reinvested their own earnings, especially those that capitalized these earnings through stock dividends, also found favor with Chamberlain and Edwards: “The common stock of companies which follow this plan consistently and which distribute uniform dividends in time approach true investment rank” (p. 474).

Chamberlain and Edwards explained that industrial bonds first became a significant investment opportunity in conjunction with corporate mergers of the late 1890s. Their popularity grew with the panics of 1903 and 1907 and especially
with the World War as bank financing was hard to obtain. By 1926, par value of industrial bonds was $10.6 billion compared with a market value of $20.5 billion for industrial stock. As these investments were still considered relatively new and their issuing businesses could have unstable earnings, Chamberlain and Edwards claimed that few industrial bond issues were high grade. On the other hand, if high grade industrial issues comparable to those or railroads and public utilities could be identified, they “almost invariably sell on a higher yield basis” (p. 478) due to their perceived shortcomings.

Two years before the stock market crash of 1929, Chamberlain and Edwards prophetically commented on the state of financial reporting for industrials:

Unfortunately the information usually obtainable is inadequate for an intelligent analysis of industrial issues. The lack of uniformity in accounting procedure enables the managements to withhold pertinent data, and to present information in an incomplete form. Then, too, weak managements are tempted to economize on maintenance and depreciation, so that unwarranted dividends may be distributed. Managements of small companies, especially those in extractive industries, are often inclined to pay dividends without adequate depletion reserves (p. 478).

Chamberlain and Edwards discussed the bonds of 12 other types of businesses, many of which were regulated in some fashion such as public utilities, gas companies, water companies, and hydro-electric power companies. A commonality in the analysis of these and other companies was their insistence on at least a two to one ratio for available net earnings over interest charges. However, they were more liberal on the ratio of funded debt to capitalization compared with industrials. For example, they suggested that this ratio could be 50 to 60% for public utilities because of the steadiness of revenues. They also noted the improvement in uniformity in financial reporting for public utilities, but for holding companies of public utilities and their subsidiaries: “Intelligent analysis becomes difficult, for detailed statements of the several companies are seldom available, and that of the holding company is given only in skeleton” (p. 350). As discussed later, Ripley also heavily criticized the financial reports of public utility holding companies.

Among other topics, Chamberlain and Edwards took exception to writers like Smith’s (1924) and Van Strum’s (1925) suggestions that stocks as investments outperformed bonds over long periods of time. They correctly pointed out that these studies used the common stock of companies that were not likely to go bankrupt, when many companies did so at a total loss to the stockholders. Hence, Chamberlain and Edwards concluded that a mixture of bonds and stocks should be held by investors depending on the business cycle:

a. At the bottom of the business cycle, high-grade bonds may be sold and speculative bonds or common stocks may be bought.
b. At the top of the business cycle speculative bonds and common stocks may be sold and high-grade bonds bought (p. 587).

Chamberlain and Edwards in *The Principles of Bond Investment* presented a comprehensive description and evaluation of bonds. As they stated in their introductory chapter, many people, including buyers and sellers of bonds, did not understand bonds very well. On the other hand, many people were well acquainted with stocks. They explained this discrepancy: “While human nature remains what it is, the element of chance, with its exhilarating risk, will be more attractive to men than the element of approximate certainty that is arrived at by painstaking, uninspired care” (p. 603). They added that this explained the focus on stocks over bonds by journalists: “Since the stock market is more interesting and problematical than the bond market to the majority of readers” (p. 603). As noted, it turned out that in 1932 both types of securities were “problematical.”

**MAIN STREET AND WALL STREET (Ripley, 1927)**

Ripley criticized the lack of corporate control and the inadequacy of their financial disclosures, especially by public utilities and general corporations. He feared small investors were disadvantaged and they lacked any practicable recourse. Ripley traced the problem to state legislatures that enacted permissive rules for incorporating that allowed holding companies, no par stock, and limited or no corporate disclosure, in order to earn fees and taxes. Ripley was particularly vexed about no-par stock, which first became legal in 1912 in New York and quickly spread to most other states. This device removed liability on the part of shareholders for the par value of stock and permitted directors to declare dividends that would impair the capital employed in the business.

Ripley pointed out that stockholders had been separated from the management of corporations by holding companies. More general disenfranchisement of stockholders began around the turn of the 20th century when preferred shareholders began to lose their voting rights. The process continued later with the creation of two or more classes of common stock with only one class encompassing a relatively few shares, sometimes controlled by investment bankers, being able to vote. He also disliked the issuing of large amounts of stock to employees and consumers, allowing those with a relatively large holding (but less than 50 percent) to control the corporation.

With respect to financial reporting, he objected to the then common practice of corporations issuing brief annual reports. Instead, he argued that “The stockholders are entitled to know the amount of gross business, the cost of conducting it, and especially the policy as respects depreciation and upkeep in full detail, in order that they may benefit by the intelligent judgment which competent experts will then speedily pass upon the real status as to net earnings” (pp. 109 – 110). As noted, Chamberlain and Edwards expressed similar views.

Ripley held railroads as a good example to follow as “standardized publicity permits a scientific check, month by month, upon policy and results” (pp.
Ripley was concerned especially by the lack of disclosure of public utility holding companies with operating units in many states. For these, there was no regulator. He wanted them to be federally regulated and “that their accounts ought to be formally standardized and made a matter of current public record is beyond all possible question” (p. 114). More generally, given the variety of corporations and the impracticability of standardized accounting, Ripley suggested that “certain norms might well be set up by some such body as the Federal Trade Commission” (p. 115). Clearly a call for accounting standard setters that would follow starting in the 1930s.

Moreover, Ripley suggested the empowerment of “an intelligent minority” (p. 133) of stockholders, or perhaps a portion of the board of directors of a corporation, whose “primary function would have to do with adequate publicity through independent audit” (p. 133). This group would represent the shareholders. Here, Ripley inserted that the Accountants Association of America “went on record in favor of the adoption of the independent audit” (pp. 133 – 134). However, Ripley was skeptical that what he perceived as a disjointed profession subject to various state laws would be any “better than management audit as we have it at the present time” (p. 134).

Ripley explained the title of his book:

Main Street and Wall Street have come to cross one another at right angles – Main Street, our synonym for this phenomenon of widespread ownership, and Wall Street, as applied to the well-known aggregation of financial and of directorial power in our great capital centres. This intersection of interest, so often at cross purposes, is marked by an imminent danger of collision at the junction point of ownership and management (pp. 156 – 157).

Ripley argued that corporations should be: “letting in of light to the fullest degree” (p. 157). Shareholders had a right to know about the financial status of their business. Charles Francis Adams applied this “sunshine” idea almost 60 years previously to railroads through the creation of the Massachusetts Board of Railroad Commissioners in 1869 (McCraw, 1984).

Ripley wanted both balance sheets and income accounts disclosed, with the latter considered more important. He emphasized: “At the threshold of intelligent corporate publicity stands a clear distinction between capital and income – the assurance that the property in being used is not being used up” (p. 172). This required adequate depreciation and maintenance charges so that shareholders could “be advised at the very outset as to the preservation of his capital fund intact” (p. 174). Interestingly, Ripley noted that the Federal Trade Commission in 1915 – 1916 found that less than half of larger corporations considered depreciation. On the other hand, there were companies that recorded excessive depreciation and other charges that reversed or lessened those amounts in subsequent years to maintain or increase earnings. Chamberlain and Edwards (1927) expressed similar views.
Similar problems existed in several industries. Ripley cited the mining industry as often recording inadequate depletion, though there were exceptions such as the American Smelting and Refining Company that separated depletion and obsolescence charges, and had a reserve for new investments. Ripley was again complimentary of railroads, starting around 1900, as “There are governmental standardization and complete publicity of the accounts” (p. 182). He added that “the large investment in real estate, right of way and terminal properties especially, substantially appreciating in value with the growth of the country, may be trusted to compensate for whatever shortcomings as to depreciation policy occur” (p. 182). Public gas and water utilities passed Ripley’s standards, “But for the electric light and power companies, which are still in the speculative and pioneer stage of development, the treatment of these matters is still uneven and in some cases most unsatisfactory” (p. 182). Moreover, “It is in the remaining field of purely private industry that the danger of self-deception or of undue reticence reaches a climax” (p. 183).

Ripley added that while some companies ignored depreciation all together, “Many companies which recognize depreciation as a distinct item in operating expenses treat it rather as an arbitrary amount which may be set aside or not, according to the circumstances, after so-called net profits have been determined” (p. 184). Further, “Such a policy really makes use of depreciation to smooth out the curve of net earnings from year to year, setting off depreciation heavily in good times and letting up on it otherwise. The real fact is that depreciation is just as much of an operating expense as the consumption of supplies” (pp. 184-185).

Some companies satisfied Ripley’s desire for disclosure such as the American Sugar Refining Company that presented the amounts for maintenance, repairs, additions, and improvements, but: “On the other hand, the International Harvester Company makes no statement on the gross volume of its business, giving nothing but the income received, before deducting interest on bonus, depreciation, and like items. One cannot therefore figure what is the operating ratio or the net earning power” (p. 186).\(^6\)

Ripley was more optimistic about companies issuing “current statements”: “responding in a considerable degree to the initiative of the New York Stock Exchange, beginning in 1926” (p. 187). He reported that “A census showed that 242 out of 957 companies then listed on the Exchange were making quarterly reports, 79 were reporting semiannually, 339 issued annual statements, and 297 companies had no agreement with the Exchange respecting the issuance of such statements” (p. 187). He added that many of those with no agreement were subject to the reporting requirements of the Interstate Commerce Commission (transportation companies) or utility commissions. Some companies engaging in interim reporting “even furnish data respecting unfilled business or other information indicative of the way the wind is blowing, as often as once a month” (p. 187).

While some companies provided no interim data, “For newcomers, recently admitted to the list, the New York Stock Exchange now requires periodic statements in all cases. It endeavors to secure quarterly disclosure” (p. 188).
Nevertheless, some companies resisted. Ripley pointed out that “The objection that frequent disclosure is prejudicial in face of sharp competition has force, but this is greatly diminished if the practice becomes universal” (p. 188). Ripley concluded that “Such data could and should be formally given to the world through official channels, just as the railroads furnish their monthly statements to the Interstate Commerce Commission” (p. 190).

Next, Ripley criticized balance sheet disclosures that omitted key items such as the value of certain facilities or did not state how disclosed items were valued. Ripley also took exception with large amounts of goodwill that he characterized as “the outward expression of inward unsubstantiality” (p. 192). It was the balancing amount “In the good old days of the so-called trusts, almost all of them were characterized by the large amount of such water” (p. 192). Like Chamberlain and Edwards (1927), Ripley said that “Theoretically, goodwill represents the capitalization of earning power” (p. 192).

By Ripley’s time, the author continued, corporations did not record goodwill as an offset to watered securities, but recorded the securities as nominal amounts taking advantage of the “no-par” rules in most states. He cited the example where Dodge Brothers, Inc. reported preferred stock at $1 per share despite the fact that it was issued at $100 per share and had a cumulative dividend of $7 per year. Further, interpretation was difficult for companies that combined surplus with the value of no-par stock.

Ripley then criticized the financial reporting of holding companies whose earnings depended upon dividends from subsidiaries and whose capital structure appeared free of debt while its subsidiaries were highly indebted. He stated that “It is clear, therefore, that no annual report is worth the paper upon which it is printed, without complete consolidated statements, both of income and condition, as of a date certain” (p. 203).

Moreover, speculation intertwined with mystery companies that lacked adequate financial disclosure. In contrast,

Were all pertinent data – within reasonable limits, of course – to be disseminated as soon as available, the elements of chance and change upon which speculation thrives would be minimized, or at all events spread by slow stages over considerable periods of time instead of concentrated in quick jumps one way or the other (pp. 204-205).

In addition, “the lack of reliable information vouchsafed to the public, firmly support the proposition that mystery is indeed the mother of manipulation” (p. 205). Skeptical of officers’ and directors’ motivations, Ripley espoused “every possible discouragement should be set in the way of speculation by so-called insiders through the enjoyment of advance information” (p. 206). His solution to speculation was “adequate disclosure of all pertinent data” (p. 207).

Ripley wanted individual industries to take the initiative for corporate disclosure, but noted the difficulty with two or three businesses locked in fierce competition. However, Ripley thought that his best hope for greater corporate
Disclosure lay with the Federal Trade Commission who was authorized in 1914 to obtain corporate information including annual and special reports. They had not exercised this power and, in Ripley’s view, failed to recognize the importance of “the right and interest of administrative authority to cooperate through intelligent official publicity in the determination of open market prices for securities of corporations engaged in interstate commerce which shall truly reflect their worth as based upon assets and earning power” (p. 225). Moreover, he believed that publicity should be “upon a standardized and comparative basis” (p. 227).

Despite past problems Ripley thought that investors should once again consider railroad investments, especially with the passage of the Transportation Act of 1920. Its provisions included requiring approval of the ICC for any new railroad as well as for the issuance of any new securities. Another advantage of railroad investing was “the existing publicity and standardization of accounts” (p. 241) so that “The financial status of a railroad to-day is as nearly an open book as is that of a national bank” (p. 242). Ripley was less sanguine about an adequate return for the railroads based on the rate structure set by the ICC. He also wanted a better consolidation plan for the railroads consistent with the intent of the Transportation Act’s aim of competition among equals.

With respect to public utilities, Ripley delineated the drawbacks of holding companies as complications from inter-corporate ownership, control of the organizations by relatively few, buying and selling of corporations without oversight, and, most notably “the utter obfuscation of accounts” (p. 292). Ripley admitted that interlocking corporations were sometimes necessary because of state laws that required, for example, that a utility register in the same state as its operations. Yet, it bothered Ripley that the utility holding companies might be involved in several unrelated businesses and that there was no discernible way to tell which were profitable or distributing dividends. In addition, annual reports might be late and lacked details as to retirement and renewals, shares owned, and costs of investments. Moreover, holding companies could move expenses around to distort profitability measures not only for investors, but for rate regulation as well.

Ripley reiterated his trepidation about holding companies’ bonds, unsecured by a mortgage on operating facilities. He cited holding companies having fixed charges amounting to 70 – 80% or more of operating earnings and with the bondholders at the holding company level junior in status to those of the operating company. These capital structures were dangerous for the bond and preferred stock holder as relatively small variations in income could eliminate their interest or dividends. Moreover, many of these utilities had not faced an economic depression and, unlike industrials, could not increase prices without regulatory approval.

Another concern of Ripley’s was stock-watering, or “the overissue of securities in proportion to the actual investment” (p. 324). He feared a diminishing of service or the overstating of profits through insufficient depreciation, renewals, and retirements, intercompany profits, or revaluing assets in accordance with the general increase in price levels. Worse, this, in turn, could lead to unwarranted
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dividends. Ripley emphasized adequate depreciation and renewals, “In paying the present rates of dividends, is it keeping the properties whole?” (p. 333). Another issue revolved around valuation for the rate base. “This brings us face to face with the fundamental problem underlying all effective regulation, as to the relative merits of cost of reproduction or original investment” (p. 337). The utilities wanted to use cost of reproduction as prices were rising at the time, but Ripley wondered what would happen when prices fell.

Recounting the history of railroad regulation, Ripley thought that utilities might follow a similar path with the then current state regulation supplanted by federal.9 Further, only about half of the states went beyond rate setting to regulate the financial affairs of utilities. Worse, with the granting by states of immunity to utility insiders, limited voting by stockholders, and permission to buy and sell corporate assets, the management of many utilities were beyond control. More generally, Ripley implored the President recommend to Congress a thorough study of electric utilities. Among his areas of study, he listed holding companies, stock voting rights, no-par stock, maintenance and depreciation, consolidated balance sheets, and “the whole matter of promoting standardization of accounting practice” (p. 351). He concluded: “Nor can the truth work harm to those whose custom it is to work in daylight” (p. 352).

**SUMMARY AND CONCLUSION**

All of these authors wanted more information disclosed by corporations with the exception of railroads, which were then required to issue detailed financial reports as mandated by the Interstate Commerce Commission. They understood that investors could only make intelligent decisions if they were given the needed information. Chamberlain and Edwards (1927) went into detail describing how to calculate amounts and acceptable values for items such as factor of safety and proportion of capitalization for different types of securities in given industries.

Ripley (1927) wanted the “truth” to be disclosed in reports to investors while Chamberlain and Edwards (1927) lamented the lack of sufficient details to carry out their analyses. Chamberlain and Edwards (1927) and Ripley (1927) especially raised concerns about accounting for depreciation and maintenance and the lack of consolidated financial statements as well as the omission of basic information such as sales and operating expenses. Secrecy was common by corporations as Wall (1926) noted that less than 70 percent of the 3,500 reports available from Robert Morris contained sales numbers and about 25 percent did not reveal net income. In Chamberlain and Edwards’ words, “Intelligent analysis” would have been difficult indeed.

Of course, this was not the end of the story. Because of Main Street and Wall Street, first published as a series of articles in Atlantic Monthly, in 1927 Ripley was appointed chair of a committee setup by the Social Science Research Council to investigate corporations. This committee sponsored the work of Berle and Means’, The Modern Corporation and Private Property, published in 1932. Among other recommendations, Berle and Means advocated greater corporate

ENDNOTES

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1Lalumier (1927) also sketched the use of information by investors and bankers. As a brief paper, rather than a book, it is less detailed than Chamberlain and Edwards (1927). Moreover, since it is a paper rather than a book, it is not included in this article, partly due to space limitations.

2Other writers had previously identified what they believed to be important qualities of investments. Hume (1888) mentioned safety, return, conversion (marketability), and diversification while Van Oss (1893) included safety, return on capital, marketability, price stability or chance of increase in value.

3Vernon (1873) had recognized this problem more than 50 years earlier.

4It was in the late 1890s, especially 1899, that manufacturers made greater use of the security markets for merger purposes (Chandler, 1977).

5It is not clear to what group of accountants Ripley referred. The American Association of Public Accountants that started in 1887 became the American Institute of Accountants in 1916 while the competing American Society of Certified Public Accountants formed in 1921. The latter two would later merge in 1936, the organization eventually changing its name to the American Institute of Certified Public Accountants in 1959 (Miranti and Goodman, 1996a).

6Perhaps Ripley meant “interest on bonds” where he wrote “interest on bonus.”

7The situation with holding companies would grow worse as such companies issued much of new stock after 1927 (Geisst, 2004).

8In Chamberlain and Edwards’ parlance, this would correspond to a factor of safety of only 20 – 30% and a ratio of earnings available for fixed charges over fixed charges of only 1.25 to 1.43, well below their desired two to one.

9Public utilities eventually became federally regulated through the Public Utility Holding Company Act of 1935 (Geisst, 2004).

REFERENCES


