CONFERENCE ON GLOBAL MINDSET DEVELOPMENT IN LEADERSHIP AND MANAGEMENT

PROCEEDINGS

March 4-5, 2011

Volume IV
Sponsored by

SCHOOL OF MANAGEMENT
UNIVERSITY OF RIVERSIDE
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ISBN 9780983222316

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A Message From The Chair

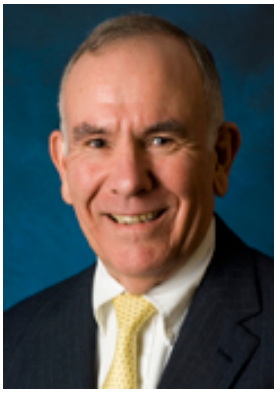
It is with great pleasure, I want to welcome presenters, organizing committee members, reviewers and session chairs to our fourth conference dealing with global leadership and management issues. This conference is designed to serve as an important meeting for the discussion and exchange of ideas and information to enhance understanding, appreciation, and cooperation among diverse groups of professionals. The sessions and the papers deal with opportunities and challenges faced by leaders and managers in the new global environment.

This document contains abstracts in several important subject areas of leadership and management. The collection abstracts exhibit an excellent selection of quality submissions. The authors are from various organizations located in different parts of the country. Please note that proceedings of this conference will be available soon and we plan to distribute globally.

I want to extend my sincere thanks to conference organizers and participants for their support.

Raj K. Singh, Ph.D.
Conference Chair

About the Authors



Dr. Hall holds the Julian Virtue Professorship and is a full professor of Decision Sciences at Pepperdine University. Dr. Hall has more than 35 years of academic and industry experience in computer decision systems and learning technology assessme. He has authored numerous technical papers and several books on computer-based management decision systems. The founder of a high-technology sensor company, Dr. Hall has also served on several government panels and corporate boards. Honored as a Harriet and Charles Luckman Distinguished Teaching Fellow in 1993, he has been involved in developing The Graziadio School's entrepreneurial and e-learning programs. Dr. Hall's current area of research includes the application of artificial intelligent agents to integrated learning systems. He is a registered professional engineer, State of California and is a member of the Beta Gamma Sigma Honor Society. Dr. Hall is the former Editor-in-Chief of the Graziadio Business Report. He was recently honored with the Howard A. While Teaching Excellence Award.

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David Iwane, Ph.D. holds a Bachelor's degree from the University of Southern California, an MBA degree from the University of South Florida, and Ph.D. degree from Capella University. His scholarly interests include human capital management, strategic planning, and leading turn around organizations. His ongoing research in the area of cause related marketing for companies with negative reputations has led him to numerous consulting opportunities with companies currently facing reputation and image issues.

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I'm originally from Boston MA, earned my bachelor's degree in Economics from Boston College and took a commission in the US Air Force in 1963, one step ahead of being drafted into the Army. Twenty years later, I found myself retired from the Air Force in southern California after many adventures throughout the world, particularly in bad neighborhoods in the Third World such as Laos, Pakistan and the Congo, between 1963 and 1973 when I was young and stupid. Along the way, I earned my MA in International Relations from the University of California. Following Air Force retirement, I went to work for General Dynamics as an international program manager doing business mainly in Japan and Taiwan, then found myself working in this same capacity for Hughes Missile Systems Company following a buy-out, took early retirement in 1995 and started my own quality systems consulting business preparing companies for ISO 9001 and AS9100. Along the way, I earned a second master's, a Master of Public Administration, from Cal State Northridge, and a PhD in Business from Capella University. I'm now trying to retire from my own consulting company, with limited success!

My principal outside interest is teaching various Political Science courses on a part-time basis for Chapman University (Middle Eastern Politics, Latin American Politics, History of Political Philosophy, International Law, and Constitutional Law) which I've been doing on a continuous basis since 1975. This was made possible by my being stationed at the same base here in southern California from 1973 until my retirement in 1983. As a result, my three children, now adults with kids of their own, don't know what it's like to be bounced from base to base.

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She has more than 20 years of experience in Information Systems and Technology, with over 12 years specializing in quality control and assurance. Dr. Okoro work closely with top management in software development strategies, documentation, and maintenance for continuous process improvement. Her vast professional background ranges from effective and inspiring leadership, IT alignment with enterprise goals, quality control and assurance, lead change efforts, implement new systems and architecture, redesign business processes, develop business innovations and strategies, information

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Born in China. Received his education in China, Canada and USA and obtained Master Degree in Chemical Engineering, MBA and Ph. D. in Business Management. His interests are knowledge management, intangible valuation, business and project development, globe energy strategy, and corporate economics. He is currently working as Senior Strategy Advisor for an international oil company.

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Consultancy Projects:

- The Project on TECHNOLOGY GAP STUDY AND POSSIBLE REMEDIAL MEASURES FOR THE SELECT SPORTS GOODS sanctioned by Technology Information, Forecasting and Assessment Council (TIFAC), Department of Science & Technology, Govt. of India, New Delhi TIFAC, New Delhi. TIFAC. The study was conducted in collaboration with UNIDO. The final report for the project has been submitted to and accepted by TIFAC.

- Conducted Diagnostic Study of Jalandhar Hand Tools Cluster for IL&FS Cluster Development Initiative Limited (ICDI), New Delhi.

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Conference on
Global Mindset Development in Leadership and Management

Volume 4 Spring 2011

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EVALUATING MANAGEMENT PERFORMANCE: AN ANALYTICS APPROACH

By

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Abstract

Assembling an effective management team is a challenging and complex process in today's global economy. The recent worldwide financial meltdown has simply underscored the importance of a farsighted and balanced management organization. The characteristics and composition of the management team along with effective corporate governance policies can play a role in addressing these issues. The purpose of this paper is to identify some of the factors associated with evaluating management performance and how analytics can be used in the evaluation process. In this study corporate and individual performance data was collected and analyzed on S&P 1500 firms for the period 2004 to 2007. An assessment of the assembled database based revealed a variety of complex relationships which suggests the need for a multi-dimensional analytics approach.

Introduction

Evaluating management teams is both a complex and dynamic process. To capture essence of these complex relationships calls for an integrated modeling approach that takes into account such modalities as diversity, corporate governance, and management team characteristics. Diversity and corporate governance are two factors that can have an impact on firm performance (Allen 2008; Carter, 2002). Specific metrics often considered in this regard are women and minority participation on boards, as suppliers and as CEOs (Smith, 2006; Erhardt, 2003). Management demographics like age, tenure and education may also influence firm performance (Carmen, 2005). However, little attention has been given to assessing in an integrated way the impact of diversity, corporate governance and management demographics including executive compensation on firm performance. The simultaneous examination of these three factors has the potential for providing new awareness into the relationship between organizations and outcomes.

Another potential benefit of increased diversity is the improvements it can make to flexibility in organizational processes and better problem solving which can lead to higher quality decisions (Maxfield, 2008). To date most board and management team based diversity studies have focused on individual numbers and not on a minimum critical mass that is sufficient to sway corporate policies and procedures. In term of gender diversity recent evidence suggests that this relationship is highly non-linear and thus would be difficulty to detect using classical linear regression techniques. A recent study using a curvilinear inverted U-shaped relationship between diversity and firm performance found that there maybe a crucial threshold in the extent of gender diversity beyond which the benefits of additional gains in firm performance are not accrued (Luis, 2008). Furthermore, the study outcomes suggested that firms that simultaneously have greater gender diversity in executive boards and top management teams may perform better than firms with lower diversity in just one of the two groups of executives. These findings further indicate that being recognized as one of the top firms for diversity and diversity management may serve as an effective signal to investors about the prospects of future earnings.

The quality of corporate governance can also impact firm outcomes. Recent findings suggest that the market is positively influenced by corporate social responsibilities and that the market values firms that satisfy minimum requirements in the area of environmental protection (Bird, 2008). At a more detailed level it has been discovered that firm value is an increasing function of improved *governance* quality among firms with high free cash flow. In contrast, *governance* benefits are lower or insignificant among firms with low free cash flow and that not controlling for this conditional relationship can lead to erroneous conclusions that *governance* and firm value are unrelated (Chi, 2010). Furthermore, the empirical evidence shows that there is a positive relationship between corporate ***social*** behavior and company financial performance (Wu, 2006). A number of metrics have been suggested for quantifying corporate responsibility/governance (Hutchins, 2008). Characterizing the relationship between firm performance and executive demographics in general (e.g., age and tenure), and CEO compensation in particular, continues to receive considerable attention. A variety of studies have attempted to explain the relationship between CEO compensation and firm performance (Chen, 2010; Hallock, 2008). The general consensus is that the relationship between pay and performance is very complex. More specifically, recent findings suggest, for example, that the relationship between executive compensation and firm performance is non-linear and asymmetric (Canarella, 2008). A study on both the direct and indirect effects of CEO tenure and age on CEO compensation found that the positive relationship between shareholder return and the increase in value of executive options held decreases with CEO tenure (McKnight, 2004).

Analytics is the application of computer modeling to help business and government assess and solve problems. As such the science of analytics is seeing increasing application in a variety of decision- making applications (Gutteridge, 2010; Holbrook, 2004; Stoneman, 2003). The identified non-linear relationships between a

number of the factors suggest a multi-dimensional analytics approach. Neural networks (NNs) have been characterized as "computing devices that use design principles similar to the information processing system of the human brain" (Bharath, 1994). NNs use complex network relationships to mimic the connections between sets of data. Panel data analysis is a methodology for studying a cross section of factors over time periods as in the case of this study. The integration of time series with cross sectional panels can improve the quality of the results compared to using either time or cross-sections alone. Panel data analysis allows controlling for variables that cannot be observed or measured like organizational cultural factors.

Data Base

The target variable (firm performance) for this study was measured by Tobin's Q (Chung, 1996). The overall database consisted of corporate performance, organizational characteristics and CEO demographics extracted from the S&P 1500 for 2004 through 2006. The data base was developed using the Wharton Data Research Service (WRDS). More specifically, the KLD component of WRDS was used to extract the firm level social responsibility and governance data (e.g., proportion of women and minority CEOs). Individual CEO data (e.g., total compensation) was acquired from the ExecuComp data file. Normality was checked for each of the continuous variables. The distributions for firm revenue, total executive compensation and Tobin's Q were significantly skewed to the right. Accordingly, these variables were "normalized" by taking the log of the raw measurements. The database was also purged of extreme outliers (Dehon, 2009). Missing data was supplied using standard imputation procedures (Walton, 2009). The resultant sample size for the three year period was 1798.

To control for various industry effects dummy variables were used to characterize manufacturing, financial/insurance, wholesale/retain, information services, utilities and energy/mining (Chava, 2004). These six sectors alone constituted over 90 percent of the S&P 1500 firms. The analysis also controlled for firm size using total revenues. In terms of diversity the variables considered were the level of women and minority participation on boards, as suppliers and as CEOs. Corporate social responsibility and firm outcomes is also receiving increased attention. For the current study the extent of affirmative action problems and environmental issues surrounding the firm were used as a measure of corporate responsibility/governance. This study also examined the effects of CEO demographics on firm performance. Specifically, CEO age, tenure with the firm, and total compensation were considered.

Table 1 provides selected descriptive statistics for the period 2004-2006. For example, approximately 4 percent of the firms had women or minorities as CEOs (CEO) and 13 percent had at least 30 percent of the board seats held by women or minorities (BOD). Approximately 6 percent of the firms had experienced serious environmental violations (ENV) and 8 percent significant affirmative action controversies over the reporting period, respectively. The manufacture (MAN) and finance (FIN) sectors

constituted 55 percent of the firms. The average tenure of the CEO with the present firm was 12 years.

Table 1 - Selected Descriptive Statistics (2004-2006)

Variable	Mean	SD	Min	Max
Tobin's Q	1.55	1.18	0.08	10.21
CEO (%)	0.05	-	0	1
BOD (%)	0.20	-	0	1
AFF (%)	0.08	-	0	1
ENV (%)	0.06	-	0	1
MAN (%)	0.42	-	0	1
FIN (%)	0.13	-	0	1
TCOMP ($M)	4,835	6,665	114	92,199
AGE	54.79	6.77	34	90
Tenure	11.82	8.47	1	56

Summary

The ongoing worldwide financial and economic crisis has spotlighted a number of significant deficiencies in corporate management. Corporations are examples of hierarchical structures consisting of individual managers, teams, the decision-making process and overall organizational performance. The relationship between the management team composition and firm performance is both complex and dynamic which calls for an in-depth assessment. The purpose of this paper was to identify specific organizational variables that could have an impact on firm performance and to identify an analytical approach for assessing these factors.

One of the analytical challenges in assessing the impact of board, management and supplier diversity on firm performance is the relatively small proportions of women and minorities in each of these three diversity categories. For example, while the number of women and minorities on boards has increased over the past decade the proportion meeting the critical mass of 35 percent associated with the KLD database definition remains low compared to general population demographics. One can argue that having token representation on the board or on the management team or as a supplier is not the same as having a critical mass. The next step in this research effort is to select the appropriate analytical models for evaluating the database. Based on the challenges associated with the database a two prong analytics approach appears in order. The first step will be to analyze the database using a neural net model with the goal of identifying the most promising variables. The second step will then be to evaluate the reduced database employing a random effects panel regression model. This two step analytics approach should maximize the opportunities to gain meaningful insights to the complex nature of management and organizational performance.

References

Allen, R.; Dawson, G.; Wheatley, K.; White, C. (2008). Perceived diversity and organizational performance. *Employee Relations*, 30(1), 20.

Bird, R; et. al. (2008). What ***corporate*** social responsibility activities are valued by the market? *Journal of Business Ethics*, 76 (2), 189.

Carmen, C., 2005. The relationship between top management teams and innovative capacity in companies. *The Journal of management Development*, 24 (7), 683.

Canarella, G.; Nourayi, M. (2008). Executive compensation and firm performance: Adjustment dynamics, non-linearity and asymmetry. *Managerial and Decision Economics*, 29, 293.

Carter, D.; Simpkins, B.; Simpson, W. (2002). Corporate governance, board diversity and firm performance. The Financial Review, 38, 3.

Chen, M. (2010). Managerial pay adjustments: Decomposition and impact on firm productive efficiency. *Economic Modeling*, 27, 196.

Chi**,** J.; Lee, D. **(**2010). The conditional nature of the value of corporate governance. *Journal of Banking & Finance*, 34, 350.

Chung, K.; Pruitt, S. (1994). A simple approximation of Tobin's Q. *Financial Management*, 23 (3), 70.

Dehon, C.; Gassner, M.; Verardi, V. (2009). A Hausman-type test to detect the presence of influential outliers in regression analysis. *Economic Letters*, 107, 54.

Erhardt, N.; Werbel, J. ;Schrader, C. (2003). Board of director diversity and firm financial performance. *Corporate Governance: An International Review*, 11(2), 102.

Francoeur, C.; .Labelle, R.; Sinclair, B. (2008). Gender diversity in corporate governance and top management. *Journal of Business Ethics*, 81(1), 83.

Gutteridge, T. (2010). The new HR *analytics*: predicting the economic value of your company's human capital investments. *Choice*, 48(4), 737.

Hallock, K.; Madalozzo, R.; Reck, C. (2008). CEO pay for performance heterogeneity using quantile regression. *CAHRS Working Paper Series*.

Holbrook, R. (2004). Addinging value with analytics. *Strategic Finance*, November, 41.

Hutchins, M. (2008). An exploration of measures of social sustainability and their application to supply chain decisions. *Journal of Cleaner Production*, 16, 1688.

Luis-Carnicer, P.; et. al. (2008). Gender diversity in management: Curvilinear relationships to reconcile findings, 23(8), 583.

Maxfield, S. (2008). Corporate Inclusion**.** Americas Quarterly, 2(1), 53.

McKnight, P.; Tomkins, C. (2004). The implications of firm and individual characteristics on CEO pay. *European Management Journal*, 22(1), 27.

Smith, N., Smith, V.; Verner, M. (2006). Do women in top management affect firm performance? A panel study of 2,500 Danish firms, *International Journal of Productivity and Performance Management*, 55(7), 569.

Stoneman, B. (2003). How one small bank attacked identity theft. *American Banker*, 168(2), 5.

Walton, M. (2009). Addressing and advancing the problem of ***missing data***. *Journal of Biopharmaceutical Statistics*, 19(6), 945.

Wu, M. (2006). Corporate social performance, corporate financial performance and firm size: A meta analysis. *Journal of American Academy of Business*, 8, 163.

CAUSE-RELATED MARKETING AS A SOLUTION FOR COMPANIES WITH NEGATIVE REPUTATIONS: AN EXPLORATORY INVESTIGATION

By

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Abstract

Cause-related marketing is a relatively new phenomenon used by companies within the last two decades to link elements of corporate social responsibility with strategic marketing initiatives. Numerous studies have shown cause-related marketing associated with increasing brand equity, brand awareness, and revenue. When a company has its reputation negatively affected, traditional efforts to repair this image are often seen as opportunistic. This study examined how select consumers perceived the use of cause-related marketing strategies for companies with negative reputations within the financial services industry in the United States. Data was collected in a three-stage process. First, participants were solicited through the *Los Angeles Business Journal*. Second, the participants were directed to an online qualifier survey. Finally, from this group of qualified participants 20 randomly selected individuals were chosen for in-depth interviews. The participants were asked about their perceptions of CRM strategies with companies that have a negative reputation, and what if any factors play a factor in this reputation recovery effort. What was discovered was that CRM can be an effective strategy to improve the image/reputation of a firm; however it is most effective if coupled with an operational fix. This qualitative study offers guidelines and ideas that business leaders can modify for the most effective application of the strategy in their respective industries.

Introduction

Incidents that damage corporate reputations can have an adverse impact on all aspects of a firm's operations. With global business competition increasing, companies are now forced to look at all aspects of doing business, including how they are perceived by consumers and other stakeholders. A negative reputation affects all areas of a company including but not limited to revenue, brand equity, and worker morale and there are no easy fixes to overcome these problems. Most companies engage in aggressive public relations campaigns and/or public apologies as did Ford Motor Company in 2000 when it faced massive tire recalls on sports utility vehicles, or when Exxon dumped

millions of gallons of oil along the Alaskan coast in 1989 (Lukaszewsik, 1993). More recently, in 2010 with Toyota Motors and their vehicles faced sudden acceleration issues causing several deaths. Other strategies may include reorganization of entire management teams or simply avoiding the public spotlight. Whatever tactic a firm chooses it will most likely result in significant financial losses and in some cases irreparable damage. The problem affects stakeholders, employees, companies that may do business with the firm, and even consumers who may be faced with unavailability of products or services or significantly higher prices.

Cause-Related Marketing (CRM) is a relatively new phenomenon that has emerged over the past two decades. It links elements of corporate philanthropy with strategic marketing. The drawback of traditional charitable campaigns is that they ask for donations; however, CRM is a marketing strategy rather than a way to increase charitable contributions (Williams, 1986). Furthermore, unlike other charitable campaigns, the aim of CRM is to enhance brand awareness, enhance consumer loyalty, thwart negative publicity, and increase sales, just to name a few objectives. Porter and Kramer (2002) argued that traditional corporate contribution programs are unfocused, diffuse, and simply reflect the values of key executives or employees. Often companies that align themselves through some corporate giving campaigns (such as Live Aid, Farm Aid or Save the World campaigns) are overshadowed by the event itself. Sponsors frequently spend millions of dollars in these campaigns and many are ultimately pushed into anonymity due to the success of the overall event. Williams (1986) further states that unlike traditional corporate philanthropic campaigns CRM strategies work in inverse proportion to amount of money spent.

Numerous studies have been conducted outlining the many benefits of CRM practices (Drumright & Murphy, 2008; Mescon & Tilson,1987; Varadarajan & Menon, 1988). However little research has been done regarding the benefits for firms that have negative reputations using CRM strategies.

Background of the Study

American Express originally coined the term *cause-related marketing* in 1983 when it launched a cause campaign event to raise money for the restoration of the Statue of Liberty (Varadarajan & Menon, 1988). The company raised more than $1.7 million in three months through its agreement to donate a penny to the statue renovation for every credit card transaction, a dollar for every new credit card issued, and a dollar for every vacation worth $500 or more sold at an American Express travel store (Williams, 1986). For American Express, the program yielded an overall credit card increase usage of 28% and an additional 17% increase in new cards issued. Since this event, companies from various industries have seized the opportunity to not only align with causes, but to further use CRM as a strategic tool to build product awareness and increase brand loyalty. Some of these companies include Coca Cola, Heinz Company, Nabisco, and Avon, to name only a few.

The seminal works (Mescon & Tilson, 1987; Stroup, Neubert, & Anderson, 1987; Varadarajan & Menon, 1988) in the area of CRM have greatly affected the current application of the phenomenon by demonstrating over the years the various benefits and purposes that strategic philanthropic endeavors can promote. Early research often tried to identify which variables relating to the implementation of corporate philanthropy were the most important to consumers and which yielded the greatest return on investments. Many of the early theoretical perspectives as well as methodology have not changed a great deal mostly due to the nature of the topic at hand (Stroup, Neubert, & Anderson, 1987; William, 1986; Varadarajan & Menon 1988). Studies on the use of CRM strategies with companies that have negative reputations and images, have even confirmed that CRM can have beneficial outcomes (Creyer & Ross 1996; Varadarajan & Menon 1988).

The most useful accomplishments of the early studies were to demonstrate the various social opportunities as well as financial opportunities CRM can create through effective implementation. The seminal studies (Caesar, 1986; Fernstrom & Meredith, 1983; Varadarajan & Menon, 1988) have also illustrated the types of activities that were most effective for a given company and the reasons why. As research continues in the field of CRM, theories evolve and move into differing directions. Today CRM is being used in a wide variety of situations and with a multitude of different types of companies and organizations.

Statement of the Problem

Corruption and scandal are two factors that can tarnish a corporate image. Other factors could also include inferior goods, poor service, or even an obsolete product line; but whatever the reason may be, the effects of a perceived negative reputation can have far reaching consequences. In short, a bad corporate reputation is bad for business and several studies have shown (Fombrun & Stanley, 1990; Mescon & Tilson, 1988; Yoon, Gurhan-Canali, & Schwarz, 2006) that once a company becomes entangled in corporate deception, scandal, or corruption, much or sometimes all of the brand equity of the company is lost due to this tarnished reputation. Consumers as well as stakeholders are leery of ever doing business with this company again. Currently, most firms just try advertising and public relations campaigns to turn the tide of this negative image, or just fixing the problem and doing nothing more. Even when companies try to make amends after such events their efforts are often in vain or may take years to repair (Strahilevitz, 2003). Consumers may even perceive these attempts to make amends for past discretions as being opportunistic and lack any real credibility or depth. For businesses in competitive industries these months or even years of lost revenue may run into the hundreds of millions of dollars and often weaken the company beyond the point of return. Furthermore when companies suffer due to economic downturns from factors such as negative reputations, many different parties are affected including the employees, the stakeholders, management team, vendors of the firm, and also the consumer (Fombrun, Gardberg, & Sever, 1999).

The benefits derived from CRM practices are well-documented, (Fernstrom, 1983; Mescon & Tilson, 1988; Vardarajan & Menon, 1988). Researchers in the past have studied the effects that CRM has had on companies with negative reputations, and it has even been shown to be effective in the case with American Express in Great Britain. Other studies, such as the one done by Creyer and Ross (1996), were less definite and conclusive about the effectiveness of CRM with companies that have a negative image. Studies have even been conducted on perceptions of a firm with a negative image and the effectiveness of a cause campaign Strahilevitz, (2003). What is lacking, however, is an understanding of why CRM strategies are effective or not with companies that have a negative reputation. Therefore, the topic to which this study is directed was to determine if CRM is a viable and practical solution for companies with negative reputations and why it is or is not effective.

Purpose of the Study

The purpose of this study was to examine consumer perceptions of the effectiveness of CRM activities related to companies that have negative images that they want to repair. In addition this project attempted to further contribute to the body of knowledge needed to address the problem of negative corporate reputations through the use of CRM strategies as a possible mitigating resource.

Rationale

The rationale for performing such a study lay in the interest of understanding the far-reaching effects of cause-related marketing activities beyond the mere association between a brand and charitable group. American Express' initial successful engagement with the Statue of Liberty restoration project later led the company to once again utilize this strategy when the company came under attack with the British Hotels, Restaurant, and Catering Associations for having high transactions fees (Williams, 1986). The three aforementioned associations decided to ask establishments to put placards in their place business condemning American Express's high transaction fees. To counter negative consumer and business dissatisfaction with the company, American Express decided to contribute proceeds of transactions to a British cause, the Duke of Edinburgh Award. Soon after, the placards once placed in the windows condemning American Express started coming down and the company was able to once again regain consumer support. In this case, American Express used CRM strategies successfully by contributing to the Duke of Edinburgh Award which ultimately led to the pacification of critics. Creyer and Ross (1996) used the expectancy disconfirmation theory to show the effects of CRM with companies that had ethical and unethical corporate behavior, and found it was possible to overcome the negative consequences of unethical behavior. In this study the researchers setup three hypothetical companies (cereal manufacturers) with varying degrees of corporate image and asked participants to respond to purchase preferences based upon the different scenarios provided. What was discovered in one of the research studies that

utilized CRM as a strategy to repair the firm's negative reputation was that it was possible to overcome the negative consequences of unethical behavior though it was not as advantageous as utilizing a strategy that included fixing the manufacturing error, sponsorship and volunteering. Strahilevitz (2003) conducted two studies to determine the effects of a CRM campaign for companies perceived as ethical, ethically neutral and unethical. The results of this study revealed that the ethically neutral company benefited the most from a CRM campaign, while the unethical firm was seen to have ulterior motives. Research extending into these types of practices regarding similar situations has been rare, and it is for this reason in addition to the current timing of financial fallouts in the U.S. financial markets that such a study was conducted.

Research Questions

This study was designed to examine the effectiveness of CRM activities with companies that have negative images that they want to repair. To do so, the following research questions were posed:

RQ1: To what degree is CRM an effective strategy for firms wishing to change their negative reputation?
RQ2: How can such a strategy be used?
RQ3: What types of CRM activities will be most effective for companies with varying degrees of negative reputations?
RQ4: When can CRM strategies be used?
RQ5: What are important factors a firm must consider when choosing a cause?

Significance of the Study

The significance and potential contribution of this research was that companies that are negatively affected by an adverse event that has affected their reputation might be able to mitigate potential losses to revenue and image in addition to rectifying any wrongful acts they have committed through positive CRM activities. Furthermore since the research finding from this study suggested that CRM activities can help repair negative reputations, more companies could engage in these activities that could also benefit the non profit entities as well.

Assumptions and Limitations

There was an assumption that CRM strategies can greatly affect consumer perception in a number of ways both negatively and positively. There was also an assumption that cause marketing is generally perceived by consumers as being a positive activity. It was also assumed that companies are interested in finding strategic ways to improve their image and reputation.

According to Morgan and Smircich (1980), it is difficult to draw generalizations from a research, whether it be a descriptive, explanatory, or exploratory study. Yin (1984) also stated that due to the overall lack of construct with descriptive case studies, the credibility and reliability of the study can be compromised unless relevant data is documented. This study looked at the perceptions of only 20 participants. Although care was taken to draw a random sample from the participant pool, there were similarities between the participants. Another limitation noted was that there was bias towards the way the participants answered questions, since these were the individuals who voluntarily participated in this study. Other limitations included the narrow scope of this study, which was limited to U.S. financial services firms. Finally, this research did not extend into stakeholder expectation of corporate responsibility, including other stakeholder groups such as suppliers, investors, communities and NGOs.

Theoretical/Conceptual Framework

This study followed in the tradition of many other qualitative studies on the topic of CRM by trying to identify the key motives and perceptions of consumers when dealing with companies with negative reputations. The early works (Creyer & Ross, 1996; Starhilevitz, 2003; Varadarajan & Menon, 1988) on the specific topic of CRM with companies with negative images set the foundation for the conceptual framework of this study. These researchers were a select few who had looked at various elements of a negative image and the use of CRM as a strategic tool, this study is based upon some of their findings.

According to Miles and Huberman (1994), a conceptual framework explains, either graphically or in narrative form, the main items to be studied that include factors, constructs or variables, and the presumed relationship amongst them.

Results

The literature review sends a clear message that cause-related marketing activities for companies that have positive reputations can have beneficial results for both the company and cause organization (Vardarajan & Menon, 1988; Fernstrom, 1983; Mescon & Tilson, 1988). The literature regarding corporate reputation further sends the message that incidents that damage corporate reputations can have an adverse impact on all aspects of a firm's operations, including decreased revenue, lower worker morale, and diminished brand equity, to name just a few outcomes (Fombrun, Gardberg, & Sever, 1999; Mescon & Tilson, 1988; and Yoon, Gurhan-Canali, & Schwarz, 2006). The literature that deals directly with the use of CRM and companies with negative images,

however, is a little less clear as to why the strategy was effective. Past research (Creyer & Ross 1996; Farache, Perks, Wanderley, & Filho, 2008; Starhilevitz ,2003; Valor, 2005) conducted in this area was predominantly quantitative in nature and so although results did show advantages for engaging in CRM activities the underlying reason for why the strategy was successful were speculative at best. One of the goals of this research was to further contribute to the growing body of knowledge on CRM and to enable companies to better understand the use of cause-related marketing to overcome negative reputations. Through 20 in-depth telephone interviews, participants offered their insights into the following research questions:

RQ1: To what degree is CRM an effective strategy for firms wishing to change their negative reputation?
RQ2: How can such a strategy be used?
RQ3: What types of CRM activities will be most effective for companies with varying degrees of negative reputations?
RQ4: When can CRM strategies be used?
RQ5: What are important factors a firm must consider when choosing a cause?

The volunteers invited to participate in the study came from a recruitment piece published in a Los Angeles business periodical The *Los Angeles Business Journal*, where they were directed to take a brief online qualifier survey. The purpose of the internet survey was to better qualify the volunteers and to seek those participants who were willing to further provide data through an in-depth interview. The qualifier survey was comprised of 10 questions on topics such as education, involvement with causes, and personal financial investments. The internet survey yielded a total of 57 participants and of those, 36 best met the criteria being sought for this survey. Twenty participants were then selected to take an in-depth interview; of those, 11 female and 9 were male. Due to the *Los Angeles Business Journal's* far-reaching reader and subscription base, two of the chosen participants resided outside of the local Southern California area. One participant came from the state of Oregon and another from the state of Washington; the rest resided in various cities throughout the greater Southern California region. The themes reported in the data are concerns and/or perceptions of the participants representing their individual thoughts with varying characteristic and redundancies.

Using CRM to Change a Negative Reputation

The first research question provided a starting point to gauge whether CRM strategies could be effective solutions for companies with negative reputations. All of the respondents stated that they felt CRM had merits for improving a firm's reputation. One participant even stated, "I think cause-related marketing may be the only solution for this company. They have nothing to lose and so they need to get back the public trust in some way and CRM seems like a good solution." Another participant who revealed that he was an executive for a Southern California title company was asked if he felt CRM was an effective solution for XYZ company and he stated, "I think so, I would do a similar type

of campaign. I don't know much about companies with negative reputations but the cause campaign certainly won't hurt the company, and it is always good to try and give back." Another respondent stated that, "As a consumer if I think my money can make a difference to a cause I would do it. I wouldn't necessarily seek them out but if they were one of my potential companies to do future business with, I would do business with them again sure." These sentiments were mentioned by the majority of the participants as well, all of whom felt that through CRM, the company can make a societal difference in addition to boosting internal morale of the employees of the firm.

To understand the degree to which CRM is an effective strategy, questions regarding effective solutions were asked and 16 of the 20 participants (80%) stated that they felt such a solution to repairing a firm's image was first contingent upon correcting the operational flaws of the organization. These fixes according to the participants included restructuring of the current executive team, implementing tighter internal controls, having greater accountability of executives, and no longer engaging in practices that damaged the firm's image in the first place. One respondent stated, "I think I would first address the reason for the debacle; XYZ needs to fix their business model and make sure this won't happen again and then do cause marketing. I think CRM is a good secondary solution for them though." Another stated, "first and foremost the company must correct the problem, show the public that they have implemented internal controls to prevent this from ever happening again, and to be more transparent in allowing interested parties access to their operations CRM is a great strategy to follow after this."

Self-regulation and acknowledgement of the negative event were also key themes mentioned by the majority of respondents for overcoming a negative reputation. According to the respondents, companies with negative reputations need to address the key issues or problems and come up with adequate solutions on their own and in a timely manner. One person who was working in the mortgage lending business stated that "early acknowledgment of the problem, sincere apologies, and correcting the wrong doing is all necessary to gain public acceptance."

How CRM Can Be Used

CRM strategies can be used in a number of ways, and responses to the second research question sought ways in which CRM could be used for companies with negative reputations. Varying degree of responses were given from a stand-alone solution to an "add-on" component with a fix to the original problem which many referred to as a "fix it plus." The plus according to the participants meant doing something extra on top of fixing the problem. Only 20% of the respondents felt that CRM alone would be a suitable solution to fixing a firm's negative reputation. One person stated that,

> I think CRM alone is ok since I don't think this company really has that bad of a reputation, and anything they can do extra, would be a good thing. This company

> operated under the guidelines set forth by the lending laws and merely took advantage of those laws. The buyer is as much at fault as the company is.

Responses like this one were the exception to the rule, however. The other respondents all felt that CRM was only an effective solution if it was paired with an operational fix. The fix, according to the respondents was to no longer engage in predatory lending practices, offer a more detailed account of the products being purchased by consumers, and have stronger internal controls to monitor the firm. The "plus" element behind the "fix it plus" was described as doing something substantial, above and beyond the normal actions, since this company had a bad reputation. This "plus," according to the respondents, was necessary because the XYZ company needed to do more than just correct the initial problem. One participant who was a hotel manager further illustrated this point by explaining that

> In the hotel business different guests will react differently to different situations. For example, some may not be afraid of a bug in a room and you can simply eradicate the bug, while another might have a phobia to bugs. For the guest with the phobia, more needs to be done than simply killing the bug. With the heightened emotion, you need to roll out the red carpet per say and do whatever it takes to please that guest. Since we are dealing with a company that has a negative reputation I want to see them do more. The CRM is that self flogging fix it plus in my opinion.

This same theme was repeated by many over several questions in the interview. Sixteen of the 20 participants (80%) stated that in order to repair a negative reputation, a multi-pronged approach would be most beneficial, which should include restructuring of the old management team, having better institutional controls, public relations, and cause marketing. A sub-question of whether preference would be given between the choice of a firm that had a negative reputation but is now engaged with CRM, and another firm that did not have a negative reputation but also was not aligned with a cause was asked. All but one respondent stated that they would choose the firm that was involved with a CRM project over the one that was not, but the one person who stated that they would not choose the offending firm did state that given enough time, their own opinion of XYZ may change as well.

Three of the 20 respondents (15%) stated that the scandal or negative image causing event could actually be beneficial to the firm if they were able to successfully deploy the CRM activity alongside the negative press. The rationale here was that the negative event would generate a large amount of publicity, and if the firm would be able to harness this exposure and use it to their advantage, the outcome may even be a positive one. An example of this according to a participant was to "apologize to the media and let them know corrective actions that are being taken and that the company will further support a cause such as Habitat for Humanity and market this to the media that is already covering the event." This added exposure could provide greater brand awareness, public

sympathy, public support for the cause, and even increased revenue. One respondent an executive for a health care firm stated that "scandals such as the one faced by XYZ in some weird way would probably help XYZ more than it would hurt them." Another respondent stated that "bad press is not always bad since the extra media attention may benefit the firm as far as gaining extra exposure, and some may even come to defend the firm more feeling they are being singled out." Furthermore 6 of the 20 participants (30%) also echoed the theme that the public is willing and wanting to forgive companies that are sincerely apologetic and trying to do good.

CRM Usage with Varying Degrees of Negative Reputation

Question 3 sought to discover the perceptions of the varying degree of negative reputations exhibited by different firms. Questions about varying degrees of reputation from firms that have defective products to companies that have committed out right fraud were investigated. In one of the earlier reports on CRM, Williams (1986) analyzed the case of American Express and the British Hotels, Restaurant, and Catering Association and that particular company's negative image due to high transactions fees, demonstrating that by using CRM strategies the company was able to overcome its negative image and eventually gain widespread acceptance. For XYZ Corporation's negative reputation was due to unfair and predatory lending practices. Due to the contemporary nature of the economic downturn and state of the economy, all the participants related well to the perils of companies like XYZ Corporation. Two of the participants felt that what the company did was merely follow a set business model and that the business practice in and of itself was not unusual or that egregious in nature. Both stated that it was a prudent business model that maximized revenue during a very optimistic period. The term "fix it plus" once again resurfaced and was used quite often by the participants, indicating that for companies with negative reputations it was imperative to not just fix the problem, but then to do more for the consumer or public in some way, and the CRM was seen as this "plus" element. Depending on the severity of negative reputation the "plus" factor had to be substantial. Only one respondent felt that XYZ Corporation did not have a negative reputation and merely practiced what was allowed under the federal lending guidelines. Two additional participants felt that XYZ had a mildly poor reputation and all the other participants felt that XYZ had a severely poor reputation.

Toyota Motors and the sticking gas pedal incident of February 2010 was mentioned as an example by a few participants as an example of a company facing a negative reputation. However, unlike many of the mortgage lending companies that apparently defrauded the American public, it was generally perceived by these participants that Toyota had a different type of image-damaging event and that the participants were more apt to be forgiving. One participant who referred to Toyota's situation stated that

> Since Toyota had built up a strong brand and is known as a company with good products, negative reputation is not as big a factor as a company like XYZ. It wouldn't make sense for Toyota to get involved with a cause since this is a product failure, and the company has a good name. Toyota's "fix it" plus could be done by installing a triple fail safe mechanism to make the cars even safer than all others.

However, this person went on to say that if Toyota had multiple recalls he would reconsider his position about this company and at that point CRM might be an option this company should use to improve its reputation. Two participants (10%) stated that they felt that after an incident causing a negative reputation, like having an accounting scandal or outright fraud that the companies would be less apt to be a repeat offender due to the extra public and regulatory scrutiny. So they felt some comfort in knowing that such a repeat offense would be unlikely in this case.

When Can CRM Strategies Be Used

Question 4 sought to understand when CRM strategies can be used. The question sought to understand if there was an optimal time for deploying such a strategy and also to see whether participants felt any skepticism towards using CRM to overcome a negative reputation. The question further sought to see if there was a minimum timeline behind involvement in the strategy. The question regarding when the strategy should be deployed garnered varied responses amongst the participants. Seventeen of the twenty participants (85%) felt that firms placed in a similar situation as XYZ should be preemptive in their deployment of the strategy rather than being reactive to public opinion. One of the participants interviewed stated,

> I would, in my opinion engage it sooner than later. I would rather be proactive then reactive. If Congress calls you to the carpet then anything you do will seem reactive. So you should man up and do it before any judgment is made. Go for the self-reprimand. That is my opinion. I would do it as soon as possible sooner than later. I never knew about cause-related marketing but I think it is interesting and how it works. This concept will be a great piece to add on to the company fixing the problem.

Another person stated "You do not want the case to be heard before the court of public opinion; action should be swift and immediate."

Three of the 20 participants (15%) felt that the company should deploy a CRM strategy several months to a year after the initial event that caused the firm to have a bad reputation in order to get greater buy-in from the public and prevent skepticism. One participant stated, "Let people settle down a bit and not be ravished beasts. Plus you don't want to damage the reputation with the non-profit as well. So I don't know exactly what will be the best time but not right away. There is an internal and external component, but

to get buy in on both sides they need to wait a bit. People need positive news after such a devastating event and this would be a good thing to do to raise morale". Another participant felt that using CRM too early on would lead the public to see this as opportunistic and insincere. The last participant interviewed stated that,

> I'm not sure if this company's intentions are genuine but time will tell. With this kind of venture this cause-related marketing has to be a long-term commitment. It is not something that can be measured in one month, three months, six months; it's a longer term project. Cause-related marketing is a good idea but it is a long-term project in my opinion.

Nineteen of the 20 participants (95%) felt that overall CRM was not over used or skeptical about its use by companies with negative reputations. In fact most all agreed that they made purchases that supported causes regularly, and supported companies that try to do good things. The sentiment here was that through CRM purchases the individual was getting more for their money since proceeds did go to a worthy cause and at the same time it would make them feel good for doing a good deed. Furthermore 12 of the 20 participants (60%) had school-aged children and stated that through consumption of goods is the only way they can afford to and effectively donate to causes. The parents also mentioned that the millennial generation is a lot more socially conscious and aware of various social issues. All of the 12 parents stated that they even felt some pressure by their children to purchase products that were cause-affiliated. Research into this did confirm that the millennials also known as the Generation Y group, are more socially conscious towards causes (Howe & Strauss, 2000). Only 3 of the 20 participants (15%) stated that they mostly gave to causes via monetary donations but preferred doing so through personal purchases if they could.

All the participants (100%) felt that CRM could be used in any context and with any type of company situation, whether it is a company with a bad reputation or not. Once again the theme that was echoed consistently was the fact that companies with negative reputations needed to do more than a company that has a good reputation and CRM was a good solution towards achieving this, if enacted in addition to fixing the problems that caused the negative reputation. All the participants (100%) stated that if the company were able to keep a low profile and not be involved with another scandal that the public would eventually forget about incident. Another theme that was also mentioned frequently was that the public will forgive. The participants felt that generally the public will forgive an offending firm. The sentiment here was that businesses must adhere to certain ethical and legal standards in order to continue to do business, and as long as they do so, the general public will allow the business to operate without prejudice.

Length of time committed to a cause was mentioned by all as a key factor of when they would choose the offending company. The majority of respondents stated that one to three years would be a sufficient timeline for them to reconsider using the

offending firm provided the firm was still in good standing and no other offenses were committed. Another perception mentioned by two participants was the fact that since the offending company was caught doing a wrongful act, it was less likely to be a repeat offender. There was the sentiment that this offending company may be more trustworthy since it has been fully exposed.

Most Important Factors in choosing CRM

The last question sought to understand the factors and also the types of CRM activities best suited for companies with negative reputations. This question sought to understand if "fit" was a factor for companies choosing CRM strategies. The majority of participants felt that Habitat for Humanity was a good choice due to its high profile status and the association with real estate. Several participants further stated that a cause that dealt directly with those affected by the housing fallout would be equally effective but could not name specific organizations that dealt with this. One participant stated that there was an organization in the past called Heart and Jeremiah which offered down payment assistance for first time home buyers and buyers in need but its has since been disbanded due to the housing crash. This participant stated that such an organization might be beneficial for XYZ since it also pertained to real estate finance, and suggested that the company should possibly see if it can reinstate the defunct organization. Restructuring of bad home loans was another solution many felt would be good for the company. One participant stated that

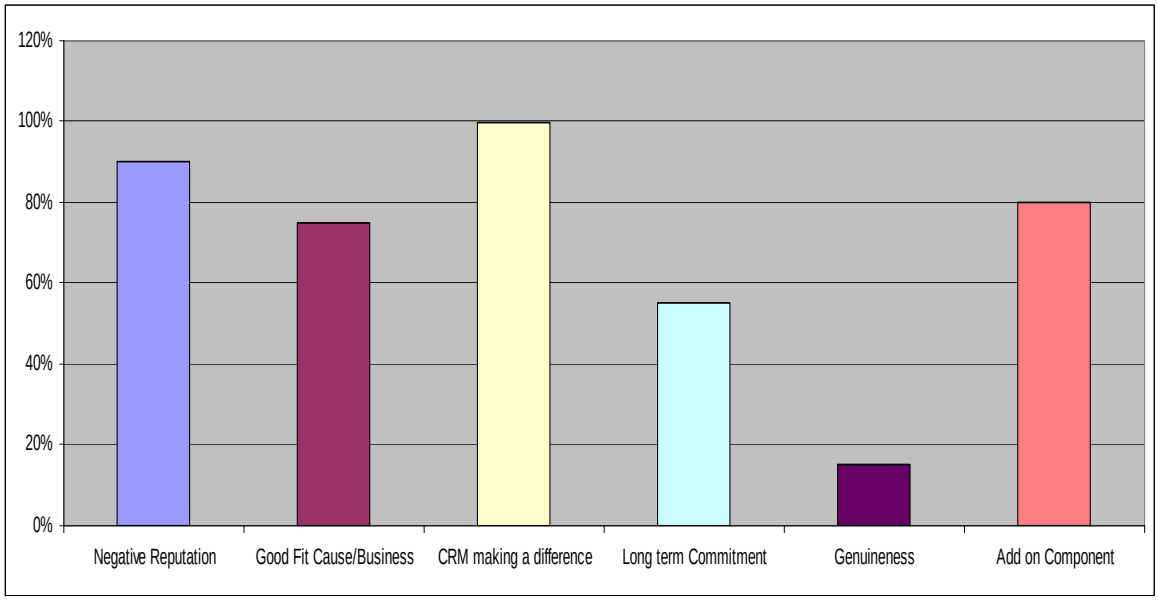
> Habitat for Humanity makes sense it deals with housing and this was the main business of the profiled company. Why would you choose a charity that dealt with something else like an animal shelter for dogs or something to that nature a dog didn't lose his house or anything, this cause makes sense to me.

These responses fall in line with Barone and Miyaki (2007) argument that the more closely a cause was to the core business of the target firm the greater the responsiveness to the cause and firm relationship. One participant who stated he owned four McDonald's franchises said that,

> If XYZ was a large multinational company involved in other things other than real estate finance then I don't think a cause venture with Habit for Humanity would be successful. Let me give you an example with McDonalds we focus on kids and doing everything for kids. We are very kid conscious, and we support the Ronald McDonald house which is for sick children and we do stuff for Camp Ronald McDonald for terminally ill children where they go to camp. We have World Children's Day where we donate restaurant proceeds for a day or a week to children's causes around the world through all our restaurants. You need synergy; you need focus. If the company is focused only on housing then a cause dealing with that makes sense.

Another participant who identified herself as construction manager felt that since the effect of the housing crash and what XYZ was involved with contributed to this dilemma, a cause which was far more reaching such as cancer research would be more effective. The person stated that the housing crash has affected a whole number of people not exclusive to just home buyers and investors and so a cause that was more diversified would be better. Another participant also echoed a similar sentiment stating that "The housing crisis is now a global problem and so a cause that affects everyone would be a good such as the United Way or the Red Cross." Being involved with high profile causes was also mentioned as a significant factor by the majority of the participants.

Combined Summary Noting Themes Graph



Conclusion

Cause-related marketing can be an effective solution for companies with a negative reputation. All the participants interviewed in this study felt that CRM was an effective solution for rebuilding a firm's image; however, it must first be coupled with correcting the firm's problem. For firms with bad reputations, the first step in redeeming their image is to correct the problem or mistake and demonstrate in some way that the fix is correct and permanent. Internal controls, self-regulation, and greater transparency were all given as indicators as to a fix. All the participants could identify with perils of the fictitious entity and most agreed that this was a company with a negative reputation and one that needed to improve their reputation to survive as a company. The one respondent who did not feel the firm had a negative reputation did however feel that CRM was a good strategy to use to gain more customers, and to build the company's image.

The cause was an important factor, one with which the company must be aligned according to the majority of participants as well. A cause like Habit for Humanity was well-recognized by most and the majority felt that the organization was a worthy

cause for the firm. Some respondents did, however, feel that a cause that could in some way directly benefit those that were affected by the scandal and not just a general cause that was in line with the firm's core business would be a better choice. However, only one participant could name another cause felt to be a worthy organization, and it was also now defunct due to the unraveling of the housing crisis. Two participants stated that they felt a global cause would be better since the housing meltdown did affect many individuals.

Why CRM Works

The reason most given as to why CRM is an effective solution for firms with negative reputations is because it appears to add another dimension to an operational fix for a company with a bad reputation. The terms "fix it plus" and "add on" were mentioned quite often by the participants. Companies that have bad reputations due to some event need to correct their mistakes first and foremost and then offer more to the public to gain greater acceptance. CRM is this "add on" component that they were seeking. CRM was also seen as a self-reprimand or self-flogging, as mentioned by many. The idea here was that the company took from consumers and now must pay back in some way to society. CRM also works because unlike a traditional public relations campaign that tries to diffuse or put a spin on a situation, the strategy puts into action a plan that benefits a third party. CRM is also a program that all the participants felt was still viable and not something seen as an opportunistic approach by companies to gain public favor, though timing was mentioned as a critical component to this piece and length of time of the commitment to the cause was as well.

Commitment Term and Timing

In order for CRM to truly be effective, timing of the strategy is an important factor. For the majority of participants early action was thought to better than delaying and waiting to see how public reaction plays out. The participants who felt early intervention was a better strategy also realized that there might be some skepticism to the campaign, but also felt that if the company was going to do it anyway, it should engage in the activity early on. Two participants, however, felt that waiting until the frenzy was over would be a better plan. These participants felt that the public would be less skeptical and would have greater buy in if the firm would wait awhile before announcing their plans to engage in a CRM plan. Another reason for citing this was because the two felt that early engagement could also damage the reputation of the cause organization. The length of time committed to the project was almost unanimously agreed by all stating that the firm needed to have a long term commitment with the cause organization to gain favorable public opinion. One year was the time frame most quoted by all.

Bad can be good

One of the most interesting things about this study that was revealed was the fact that

most all the participants felt that a bad reputation like the one in this research study was not necessarily a bad thing for the offending firm. Various reasons were given as to why this was perceived. Many felt that the added media exposure to such an event can actually have beneficial consequences if the firm acted swiftly to correct the problem and then used CRM to further offer up their good intentions. Many examples were also cited by the participants, from the corporate case with Exxon and the Exxon Valdez oil spill, to celebrity figures like the LA Lakers basketball star Kobe Bryant's infidelity case and also that of former President Bill Clinton. The participants felt that with these offending companies and individuals their popularity grew with the scandal. Another reason cited by a few participants as to why bad can be good is that the offending firm would be less apt to repeat the offense since they were exposed, and that there also should be greater transparency and monitoring by regulators for these firms. The participants stated that there was a sense of security since these companies would be under greater scrutiny.

SUMMARY, CONCLUSIONS AND, RECOMMENDATIONS

The purpose of this study was to examine perceptions of the effectiveness of CRM activities conducted by companies that have negative reputations that they want to repair. Next this project sought to contribute to the body of knowledge needed to address the problem of negative corporate reputations through the use of CRM strategies as a possible mitigating resource. The literature predicting the success of CRM activities on companies with negative reputations was sparse since little research had been conducted on companies with negative reputations, particularly those in the financial business sector. The literature dealing with how CRM was used and its overall effectiveness did give strong indications that this strategy could be used in various types of business situations, including companies with negative reputations (Vardarajan & Menon, 1988; Fernstrom, 1983; Mescon & Tilson, 1988). Additional literature on companies with negative reputations further revealed that companies with damaged reputations faced a myriad of problems including loss of revenue, lowered worker morale, and decreased brand equity just to name a few issues, (Fombrun, Gardberg, & Sever, 2000; Mescon & Tilson, 1988; Yoon, Gurhan-Canali, & Schwarz, 2006). The intent of the study was to uncover common answers and common themes and to build upon that base to further uncover perceptions of CRM usage with firms that have negative reputations. In each interview, in-depth questions were designed to probe further to truly understand the participants' responses. As a qualitative study, the results of this research are not intended to be generalized to other types of businesses and industries: however, the information attained can be used as a basis for further research.

Summary of Findings

All of the twenty participants (100%) interviewed in this study did confirm that CRM was a viable solution to implement for companies with a negative reputation. Of those participants however 19 of 20 (95%) of them felt that CRM could only be used as an "add on" component after the firm fixed the original problems that caused the company to have a negative reputation in the first place. Using CRM alone or just fixing

the problem alone were both not seen as effective solutions compared to pairing both activities together. The reason most frequently given was that the subject company had a very negative image and had deliberately victimized the public. Unlike a product recall or mislabeling a product, 16 of the 20 participants (80%) of the participants felt that the actions of the company were far worse. Eighteen of the 20 participants (90%) of those interviewed stated that they were impacted in some way through the housing meltdown in the last five years. Fourteen of the 20 participants (70%) cited cutbacks at work; however, two participants said they had been sold bad loans that affected them personally. Only one person (5%) felt that CRM was sufficient to be a stand-alone solution for a company with a negative reputation, but that person also did not feel that the subject company really did anything wrong.

CRM has been found to be a very effective strategy for improving a positive firm's positive image as evidenced by numerous articles on the topic, (Fernstrom, 1983; Mescon & Tilson, 1988; Gupta & Pirsh 2006; Hill, Ainscough, Shank, & Manullang, 2007). Even literature on firms with negative images using CRM indicated that the strategy did have some beneficial outcomes (Willams, 1984; Creyer & Ross, 1996; Starhilevitz 2003). The outcome from this particular study indicated that CRM can also have a positive effect for firms with negative reputations as well, to the extent that it is used in addition to a corrective fix. The main reason why CRM appears to be effective as a solution to repair a negative reputation is because it goes beyond the mere fix and enters into a greater offering of sincerity. The CRM acts in this situation as an additional self-imposed penalty, an added component of sincerity, and simply offering back something more tangible for a wrong that was committed.

In their research on companies with negative reputations, Rhee and Valdez (2009) documented that managing reputation is one of the most important ways companies can differentiate themselves from competitors during uncertain economic times. The literature further illustrated that executives as well as scholars from various disciplines understand the importance of maintaining a positive reputation due to the fact that most modern-day firms compete so evenly on many different fronts including marketing, production, and even business technique Chajet (1997). Ninety five percent of the participants interviewed perceived the subject company XYZ Corporation to have a negative reputation. Common responses included phrases such as "predatory lending", "taking advantage of", "greed", "deception", and "personal gain". In talking about firms' with negative reputations, participants did feel that there were varying degrees of negative corporate reputation as well. For this particular company, deception and fraud were main themes noted in the description of the firm, but in discussing other firms like ones with product failures, prevalent responses included terms such as "quality control", "safeguards", and "production failure." With these types of organizations CRM was thought not to be the best strategy for improving image.

The sample participants selected for this survey were randomly chosen from a recruitment advertisement placed in the *Los Angeles Business Journal*, a local business

publication. The rationale for choosing this publication was two-fold. First it was assumed that the readers of this particular publication are business-minded individuals who could better relate to the topic at hand. Secondly, due to this particular publications wide readership and circulation, it was assumed that the participants would respond to the recruitment piece from outside of the local area and even outside the state. Two of the participants chosen for the research did in fact reside outside of California. One came from the state of Oregon and another from the state of Washington. The publication recruitment piece directed the participants to a Google pre-qualifier survey. The 10 question survey gathered information about each participant from investment activity to education level. Although age was not a question that was asked in the survey it became apparent during the interview that the younger participants 30 years of age and under were more sympathetic to cause-related marketing by the type of answers being given. Phrases such as “die hard philanthropist”, and “sympathetic to causes” were noted as personal traits described by the participants.

CRM Only

Previous literature illustrating the beneficial effects of CRM on companies with negative reputations has not always been able to demonstrate the reasons why the strategy was or was not an effective one. This is partly due to the fact that these studies were quantitative in nature and did not focus on trying to understand the underlying reasons and motives. This research showed that CRM can be a very effective solution for companies with negative reputations, but not as a stand-alone strategy. The CRM activity needs to be first paired with an operational fix. Using CRM alone or just fixing the problem were both perceived as less effective solutions than coupling the two strategies together. Although some benefits may be derived by the use of CRM nineteen of the twenty participants (95%) of the participants in this study felt that CRM had to be coupled with a corrective fix and would not be effective if it was used by itself.

“Add on” Component

CRM appears to be a valid strategy to use for companies with a negative reputation when used as an add on component. The perceived degree of negative reputation appears to also be a factor. For firms like the subject company where fraud and deception were a major component, CRM was only effective if it was used as an “add on” component to the corrective fix. Sixteen of the twenty participants (80%) felt that if the company could make a corrective fix to their initial problem, then CRM would be significant in changing negative public perception. CRM as an effective solution for repairing a negative reputation was mentioned by Williams in a 1986 study on American Express, where the company successfully used the strategy to overcome negative sentiments towards the company in Europe by donating proceeds to a worthy cause.

In a later study, Creyer & Ross (1996) further explored the issue of CRM with companies with negative reputations when they setup a fictitious company with a

negative reputation and sought participant feedback using various fixes to the problem; CRM was one such solution. The study did show CRM did have an impact in changing perception; however, it was less effective than when the manufacturer made corrections. This literature falls in line with the findings of this study by first demonstrating the merits of CRM and also the importance of corrective fixes to repairing a negative reputation.

Timing and Time

Timing was another important factor that was mentioned as a critical component to a successful CRM campaign. The big question was when to deploy such a campaign if CRM was going to be the preferred strategy for improving a firm's reputation. Seventeen of the twenty participants (85%) stated that early engagement of the strategy would be more effective than waiting. Those who stated that early use of CRM would be more beneficial than waiting generally felt that since the cause was a worthy one, waiting to help the cause would have no beneficial outcome. Three of the twenty participants (15%) who felt waiting would be better argued the point that the public would be skeptical if a company with a negative image were to try and start doing good deeds early on. Varadarajan and Menon (1988) did mention that the use of CRM on companies with negative reputations could be seen as opportunistic and firms using such a strategy need to be cautious of their actions. Strahilevitz (2003) also noted in his study that firms initially perceived as ethical are less likely to be viewed as having ulterior motives. The majority of literature on companies with negative reputations however (Lukaszewsik, 1993; Fandray, 2000; Yang & Levenson, 2007; Kihl & Richardson, 2009) state that early action and acknowledgement towards a negative event is far more effective than waiting. Lukaszewsik (1993) argued this point by referring to Exxon and how the company's delay in cleaning up an oil spill in 1989 left not only an ecological disaster but also a negative public perception that Exxon was incapable of handling such a disaster. In contrast, Johnson & Johnson quickly and effectively handled a poison scare on one of their popular products Tylenol (Fandray, 2000). This company reacted quickly to the event and mitigated further damage by reassuring consumers and stakeholders that they were capable and willing to act swiftly to the threat. Johnson & Johnson's reaction to the negative event is even viewed as a textbook response for handling such catastrophes.

Conclusion

The terms *negative corporate reputation* and *cause-related marketing* have been used repeatedly throughout this study. After 20 in-depth interviews and intensive data analysis, these two terms which have not been associated with each other much in the past are now seen to have a closer association to one another. The literature on CRM and the literature on companies with negative reputations draw close comparisons with the findings of this study. The Varadarajan and Menon (1988) article and the Creyer and Ross (1999) study are two examples of literature pertaining to this topic that most resembled the findings from this particular study. The Varadarajan and Menon (1988), article was one of the first to analyze CRM as a strategy for overcoming a negative

reputation. The participants from this research study all felt that CRM had merits in improving the image of a firm that had been negatively portrayed. Varadarajan and Menon (1988) further discussed the fact that using CRM with companies that have a negative reputation can also be viewed as opportunistic and gave caution for using such a strategy. When the participants were asked when such a strategy should be used, three people felt that early use could lead to skepticism. In the Creyer and Ross (1999) study, what was discovered was that CRM did have a beneficial impact on a firm with a negative reputation; however, not as great as an impact as when the manufacturer provided a fix to the problem. With this particular study sixteen of the twenty participants (80%) felt that the best way to overcome a negative reputation is for a firm to combine the operational fix with CRM which many referred to as an "add on" component.

Another finding from this study that also matched the literature (Fandray, 2000; Kihl & Richardson, 2009; Lukaszewsik, 1993; Yang & Levenson, 2007) was the fact that early action and reaction to a negative causing event was better than waiting. Seventeen of the twenty participants (85%) stated that they felt that using CRM immediately was a better choice for companies that had a negative reputation.

This current study attempted to shine light on two separate issues and illustrate how CRM can actually benefit the other in a way that has not been extensively used in the past. CRM is still an effective marketing strategy and having a good corporate image is vital in a competitive global economic climate

Recommendations for Future Study

Based upon the findings of this study there are several opportunities to further this research. The literature framing this study clearly showed the negative effects a bad corporate image can cause a company, while the literature on CRM did show the many advantages of using such a strategy. This study confirmed that CRM does have merits in assisting firms that may have a negative reputation. The findings still left questions to be answered by future research.

First, future research needs to confirm whether in fact CRM as an "add on" component is an effective solution for overcoming a negative image with varying degrees of reputation. It is recommended that future studies compare and contrast the different types of negative images and see how various CRM activities can be effective for improving the firm's reputation.

Second, this study showed that CRM can be an effective solution with a U.S. based financial firm. It is recommended that a future research study be conducted to validate if similar results can be attained with a company in another industry, or even within the same industry but outside of the United States.

Third, this study was framed primarily from the perspective of the consumer and general public. It is recommended that a replication study using the same set of questions is recommended but targeted to the firm's stakeholders or investment analysts be conducted.

REFERENCES

Adkins, S. (1999). *Cause related marketing: Who care who wins*. London: Butterworth-Heinemann.

Arndt, J. ,& Simon, J. (1983). Advertising and economies of scale, *Journal of Industrial Economics*, *12* (32), 229-242.

Barone, M., Norman, A., & Miyazaki, A. (2007). Consumer response to retailer use of cause related marketing: Is more fit better? *Journal of Retailing*, *83*(4), 437-445.

Bick, G., Jacobson, M.C., & Abratt, R. (2003). The corporate identity management process revisited. *Journal of Marketing Management*, *19*(7/8), 835-855.

Bonini, S., Court, D., & Marchi, A. (2009). *Rebuilding corporate reputations*. McKinsey Quarterly, (3), 75-83 Retrieved December 13, 2009 from Business Source Complete database.

Broderick, A., Amandeep J., & Tony, G. (2003), Tickled Pink: The personal meaning of cause-related marketing for consumers. *Journal of Marketing Management*, *19*(5/6), 583-610.

Caesar, P. (1986), Cause related marketing: The new face of corporate philanthropy. Non Profit World, 5(4), 21-26.

Carroll, A.B. (2001). Ethical challenges for business in the new millennium: Corporate social responsibility and models of management morality. In: Richardson, J.E. (Ed.), Business Ethics, London: McGraw-Hill.

Carroll, G.R. (1985). Concentration and specialization: Dynamics of niche width in populations of organizations. *American Journal of Society*, 90, 1262-1283.

Caruana, A. (1997). Corporate reputation: Concept and measurement. *The Journal of Product and Brand Management*, *6*(*2*), 109-118.

Chajet, C., (1997). Corporate reputation as a strategic asset: Corporate reputation and the bottom line. *Corporate Reputation Review*, *1*(1),19-25.

Cone, C., Feldman, M., & DaSilva, A. (2003). Causes and effects. Harvard Business Review, 87(7), 95-101. EBSCO Publishing.

Cooper, D., & Schindler, P. (2008). *Business research methods* New York, NY: McGraw-Hill

Creswell, J.W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Cryeyer, E.H., & Ross, W.T. (1996*). The impact of corporate behavior on perceived product value. Marketing Letter, 7*(2), 173-185.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Los Angeles: Sage.

Dey, I. (1993). Qualitative data analysis: *A user-friendly guide for social scientists*. London: Routledge.

Drumwright, M., & Murphy, P. (2008). The current state of advertising ethics. *Journal of Advertising.* Armonk, NY: 38(1), 83-107.

Ellen, S.P., Mohr, A.L., Webb, J.D. (2000), Charitable programs and the retailer: Do they mix? *Journal of Retailing*, 76(3), 393-406.

Fandray, D. (2000). The ethical company. Workforce. 79(12), 74-77. Retrieved August 30, 2009, from Academic Search Premier database.

Farache, F., Perks, K., Wanderley, L., & Filho, J. (2008). Cause related marketing: Consumers' perceptions and benefits for profit and non-profits organisations. Brazilian Administrative Review. 5(3), 210-224.

Fernstrom, M. (1983). Corporate public responsibility: A marketing opportunity? Management Review. 72(2), 54-57.

Fombrun, C.J., Gardberg, N., & Sever, J. M. (2000). The reputation quotient: A multi-stakeholder measure of corporate reputation. *The Journal of Brand Management, 7*(4), 241-255.

Fombrun, C.J., & Shanley, M. (1990). What's in a name? Reputation building and corporate strategy. *Academy of Management Journal, 33*:233-58.

Gioia, D.A., Shultz, M., & Corley, K.G. (2000). Organizational identity, image, and adaptive instability. *Academy of Management Review, 25*(1), 63-81.

Groenland, E.A.G. (2002). Qualitative research to validate the RQ-dimensions. Corporate Reputation Review, 3(4), 308-315.

Gupta, S., & Pirsh, J. (2006). A taxonomy of cause- related marketing. *Journal of Nonprofit & Public Sector Marketing*, *15*(1/2), p25-43.

Hadden, R. (2005). Contented cows give better milk: Your people, your profit. ASQ World Conference on Quality and Improvement Proceeding; 2005; 59, ABI/INFORM Global pg. 127.

Hill, P., Ainscough, T., Shank, T., & Manullang, D. (2007), Corporate social responsibility and socially responsible investing: A global perspective. *Journal of Business Ethics*, *70*(2), 165-174.

Hillenbrand, C. & Money, K. (2007). Corporate responsibility and corporate reputation: Two separate concepts or two sides of the same coin? Corporate Reputation Review, 10(4), 261-277.

Hoeffler, S., Keller, K.L., (2002). Building brand equity through corporate societal Marketing. *Journal of Public Policy & Marketing*, *21*(1), 78-90.

Itami, H. (1987). *Mobilizing invisible assets*. Cambridge, Massachusetts: Harvard University Press.

Kay, J. (1993). *Foundation of corporate successes*. New York, NY: Oxford University Press.

Kihl, L., & Richardson, T. (2009). Fixing the mess: A grounded theory of a men's basketball coaching staff's suffering as a result of academic corruption. *Journal of Sports Management*, *23*(3), 278-304.

Lee, R., & Esterhuizen, L. (2000, July). Computer software and qualitative analysis: trends, issues and resources. *International Journal of Social Research Methodology*, *3*(3), 231-243.

Lewins, A., & Silver, C. (2006). Choosing a CAQDAS package: A working paper. (5th ed.) Thousand Oaks: Sage.

Lukaszewski, J., (1993). The Exxon Valdez paradox. In J.A. Gottschalk (ed.) Crisis response: Inside stories of managing image under siege, pp215-217 Visible Ink, Detroit, MI.

Madejski, C. & Money, K. (2007). Corporate responsibility and corporate reputation: two separate concepts or two sides of the same Coin? Corporate Reputation Review, 10 (4), 261-277.

Maxwell, J. A. (1992). Understanding and validity in qualitative research. ProQuest Psychology Journals, 62(3), 279-300. Retrieved November 20, 2008, from ProQuest database.

McAlister, D., & Ferrell, L. (2002). The role of strategic philanthropy in marketing strategy. *European Journal of Marketing*, *36*(5/6), 689-705.

Meech, LT. (2001). Corporate identity and corporate image revisited. *European journal of marketing*, *35*(3/4), 292.

Mescon, T., & Tilson, D. (1988). Corporate philanthropy: A strategic approach to the bottom-line. California Management Review, 87(29), 49-61.

Milewicz, J. & Herbig, P. (1994). Forecasting: Trials and tribulations. *Management Decision*, *32*(1), 33-36.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage.

Morgan, G., & Smircich, L. (1980). The case for qualitative research. Academy of Management Review, 5(4), 491-500.

Nakra, P. (2000). Corporate reputation management "CRM" with a strategic twist? Public Relations Quaterly, 45(2), 35-42.

National Institutes of Health, Office of Human Subjects Research (2009). The Belmont report: *Ethical principles and guidelines for the protection of human subjects of research.* Retrieved May 29, 2009, from http://ohsr.od.nih.gov/guidelines/belmont.html

Ohlund, B. & Yu, C-H (1999). Threats to validity of research design. Retrieved June 4, 2008 from http://www.careativewisdom.com/teaching/WBI

Olsen, G.D., Pracejus, J.W., & Harris, K.E. (2001). When profit equals price: Consumer confidence about donation amounts in cause-related marketing. *Journal of Public Policy and Marketing*, *22*,(2), 170-181.

Polonsky, M.J. & Macdonald, E.K. (2000). Exploring the link between cause related marketing and brand building. *International Journal of Nonprofit and Voluntary Sector Marketing*, *5*(1), 46-57.

Porter, M. & Kramer, M. (2002). The competitive advantage of corporate Philanthropy. Harvard Business Review December 2002.

Porter, M. & Kramer, M. (2006). The link between competitive advantage and corporate social responsibility. Harvard Business Review December 2006.

Powell, F. & Guerin, D. (1997). Civil society and social policy: *Voluntarism in Ireland*, A&A Farmer, Dublin Ireland.

Pringle, H., Thompson, M. (1999). *Brand spirit: How cause related marketing builds Brands.* Chichester: Wiley.

Rhee, M., & Valdez, M. (2009). Contextual factors surrounding reputation damage with potential implications for reputation repair. Academy of Management Review, 34(1), 146-148.

Roberts, P.E. & Dowling, G.R. (1997). The value of a firm's corporate reputation: How reputation helps attain and sustain superior performance. Corporate Reputation Review, 1(2), 72-76.

Roy, D., & Graeff, T. (2003). Consumer attitudes toward cause-related marketing activities in professional sports. Sports Marketing Quarterly, 12(3), 163-172.

Saha, M. & Darnton, G (2005). Green companies or green con-panies: Are companies really green, or are they pretending to be? Business and Society Review, (110)2, 117-157.

Scott, T. (1986). Continental to reinstate hobby flights. Houston Chronicle (April 30), Section 3, 1, 4.

Strahilevitz, M., Myers G.J. (1988). Donations to charity as purchase incentives: How well they work bay depend on what you are trying to sell, *Journal of Consumer Research, 24*(4), 434-446.

Stroup, M.,& Neubert, R. (1987). The evolution of social responsibility. Business Horizons, 30 (March-April), 22-24.

Trochim, W. M. (2006). Qualitative validity. Retrieved November 18, 2008, from http://www.socialresearchmethods.net/kb/qualval.htm

Varadarajan, P., & Menon, A. (1988), Cause-related marketing: A coalignment of marketing strategy and corporate philanthropy. *Journal of Marketing*, *52*(3) 58-72.

Valor, C. (2005) Consumer's responses to corporate philanthropy: Are they willing to make trade-offs? *International Journal of Business and Society, 6*(1), 1-26.

Williams, Monci Jo (1986). How to cash in on do-good pitches. Fortune, 114 (June 9), 71-80.

Yang, J., & Levenson, E. (2007). Getting a Handle on a scandal. Fortune, 155(10), 20.

Yin, R.K. (1984). *Case study research: Design and methods* (Applied Social Research) Beverly Hills, CA: Sage.

Yin, R.K. (1994). Discovering the future of the case study method in evaluation research. *American Journal of Evaluation*, 15, 283-290.

Yin, R.K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.

Yoon, E., Guffey, H.G., & Kijewski, V. (1993). The effect of information and company reputation on intention to by a business service. *Journal of Business Research*, 27, 215-228.

Yoon, Y., Gurhan-Canli, Z., & Schwarz, N. (2006). The effect of corporate social responsibility (CSR) activities on companies with bad reputations, *Journal of Consumer Psychology*, *16*(4), 377-390.

Young, S., & Kim, H. (2008) Antecedents of consumer attitudes toward cause-related marketing. *Journal of Research*, *48*(1), 123-137.

APPENDIX A. “XYZ” CORPORATION BUSINESSS PROFILE

XYZ Corporation is a U.S. based multi national firm dealing in various financial investments, but is primarily involved in commercial insurance and real estate finance. The company has been in business since the early 1900’s and has established itself as an industry leader. In 1992 the founding principal gave up managing duties to a savvy young entrepreneurial executive who shifted much of the company’s primary focus from personal insurance to high risk high profit wholesale subprime real estate investments. Between 2006-2007 approximately 90% of the company’s revenue came from making initial loans to homebuyers and then repacking the loans to investors as investments. The company experienced exponential growth over the last few years and until late 2006 the company was touted as one of Wall Street’s most successful companies.

In late 2007 many subprime mortgage holders across the nation began to experience high default levels, and XYZ Corporation was one of the most severely affected. Many industry experts faulted XYZ for high level of defaulting loans due to over zealous sales associates making questionable loans to unqualified consumers, and even some allegations of outright fraudulent lending were mentioned. Consumer “watchdog” groups even went as far as accusing XYZ of predatory lending practices accusing the firm of deliberately going after vulnerable consumers due to lax lending requirements.

In March of 2008 as the U.S. economy began to decay as a result of the housing meltdown the Federal Government took over the ailing XYZ Corporation. In one of the first moves made by the Federal Government six members of the executive team were terminated which included the CEO, CFO, and four VP’s from various divisions. Stock prices which were once valued as high as $70 per share were now at below $10.

In an attempt to stabilize stock prices and regain consumer confidence the new executive team has decided to pursue a cause related marketing campaign to revamp their image. The company has decided to donate $500 from every sale made through their real estate division to Habitat for Humanity a non profit affordable housing project for needy families. In addition $50 for every purchase made through any other financial product of XYZ’s will also be donated to the organization. XYZ Corporation has high aspirations for this new campaign and has estimated that they can eliminate homelessness in the United States in the next 10 years with this new campaign. The company is committed to making a major social change for this country and has labeled the new campaign: “A cause for our people”

* XYX Corporation is a fictitious business entity paralleling many of the perils of U.S. financial companies between the years 2006-2009. The profile was reviewed and approved as to plausibility of the company affairs by the faculty chair.

Designed by researcher David Iwane, (2010).

APPENDIX B. CRM QUALIFIER QUESTIONNAIRE

Directions: Please answer each question with either a yes or no response. If you choose not to answer a particular question you may skip to the next question. Participants answering yes to question #10 may be contacted to participate in a telephone interview. Questions or comments regarding this questionnaire may be directed to David Iwane. Thank you for your participation.

1. Have you ever participated in a cause or volunteered your time to a charitable organization. This could include walk-a-thon, church fund raisers, etc.?

2. Have you ever purchased an item knowing the company supports a cause? This could include such things as box tops for schools, proceeds to charity,…

3. Do you have a checking and or savings account?

4. Do you have a 401K or other financial investments?

5. Are you over 18 years old?

6. Have you been working for at least 5 years?

7. Have you ever worked for or are working for a company that has a negative public perception due to a scandal?

8. Do you have a high school degree?

9. Have you attended or graduated college?

10. Are you willing to participate in an interview that will be approximately 30-45 minutes in length?

Designed by researcher David Iwane,(2010).

RECENT CHANGES IN MARKETING STRATEGIES IN JAPAN DUE TO INCREASING NUMBERS OF WORKING JAPANESE WOMEN

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Abstract

Changes are currently occurring in Japan which are having a profound impact on a number of different aspects of Japanese society, including sales and marketing. This paper offers an analysis of these changes through a brief look at the principles which underscore Japanese culture and how they relate to these changes. At the heart of this evolving phenomenon is a situation unique in Japanese history. For the first time, Japanese women in ever increasing numbers are filling career-track white collar positions previously reserved for men. This paper contains a description of the effects increasing numbers of employed Japanese women are having on the evolution of domestic marketing practices in Japan and attempts to offer an explanation of this developing phenomenon based on the basic principles inherent in Japanese culture and society.

Discussion

Background

In order to understand recent changes in Japanese domestic marketing strategies, it is necessary to gain a working understanding of those aspects of Japanese society that make that society what it is. Too often, foreigners in general and Americans in particular confront Japanese business practices, including marketing techniques, at a distinct disadvantage by attempting to apply their own techniques to Japanese practice and often come away totally befuddled.

The first concept that makes Japanese culture and society what it is can be termed the horizontal aspect of Japanese society, including such practices as consensual decision-making, group orientation, peer pressure, concepts of group dependence, and social obligations. These characteristics are fairly well-known among foreigners and typically represent the limit of foreigners' understanding of Japanese society. But even these time-honored characteristics are slowly breaking down under the relentless pressure

of change and economic realities (Milhaupt and Miller, 1997). Consensual decision-making has always been questionable as a management practice in Japan, although Westerners seem to have swallowed the concept whole. In practice, consensus has been a smokescreen to mask peer pressure and conformance to group norms, and Japanese industry has been in the process of attempting to develop more innovative middle management for several years (Sethi, Nomiki and Swanson, 1984).

Another horizontal aspect of Japanese working culture is lifetime employment, highly touted by Westerners but known in Japan as a myth. Lifetime employment does indeed exist in Japan, but only at the top tier of companies within the traditional *keiretsu*, a grouping of mutually-supporting companies together with their suppliers (lower-tier companies) that are locked in an informal but pervasive business embrace. Lifetime employment is guaranteed by the 5% or so of the top tier companies simply because layoffs and cutbacks occur throughout the lower tiers, thus insulating the top tier from the necessity of cutting back workers (Cutts, 1992)(Maher, 1985).

The second aspect of Japanese culture, however, is much more pervasive and much less understood than the more obvious horizontal aspects discussed above. It can be termed the vertical aspect of Japanese society, and contains such concepts as hierarchy, relative status and societal harmony. It is in understanding this vertical aspect of Japanese society that will give us the best insights relative to societal changes that are occurring throughout that society.

The concept of harmony, termed *wa* in Japanese, is the glue that tends to hold Japanese society together. In a country where less than 15% of the surface area is suitable for habitation because of the many mountains, and where the relatively large population is pushed together on the few flat areas such as the Kanto Plain where Tokyo is located, it was an absolute necessity for the Japanese to formulate a code of behavior based upon the maintenance of societal harmony in order to make it possible for the population to live together peacefully (Alston, 1989). This pervasive behavioral concept, in turn, spawned other behaviors that became equally well-entrenched, such as relative status, or *ba* (Ikujiro and Noboru, 1998). This concept of relative status literally assigns to each Japanese person whatever status he or she might hold relative to every other person (Kowner and Wiseman, 2003). Theoretically, every Japanese has a relative status at least somewhat different than every other Japanese. These differences become apparent when one watches the relative depth and duration of greeting bows between two Japanese. The greeting bow is usually preceded by an exchange of the all-pervasive business card, which gives to the recipient of the card a clear indication of the bearer's status. Once the relative status is made clear to the other person, a bow of the proper depth and duration can be made with no loss of face.

A very important aspect of both harmony and relative status in the exercise of all Japanese business is the very nature of the business relationship in Japan. The Japanese do not make the distinction between business and personal relationships that non-

Japanese tend to do (Hawrysh and Zaichkowsky, 1990). For the Japanese, it's simply a relationship, and that business relationship necessarily becomes personal, sometimes to the discomfort of the foreigner doing business in Japan. The Japanese business relationship is essentially based on common trust and reliance, thereby promoting harmony, and a clear understanding of relative obligations, thus preserving relative status. If harmony and relative status are maintained by all sides, loss of face is avoided and business progresses (Koike, 1994).

Another manifestation of these concepts of harmony and relative status is the pervasiveness of hierarchy throughout all aspects of Japanese society (Ford and Honeycutt, 1992). Hierarchy is a natural outgrowth of a society which has arranged itself in "layers" based on status for the inherent purpose of preserving societal harmony, but this very hierarchical nature contains the seeds of its own inefficiencies, as has been seen with Japan's recent economic problems. The *keiretsu* concept is heavily hierarchical by nature and has been criticized recently by more modern-minded Japanese business thinkers as an archaic concept that may very well be past its prime (Ibata-Arens, 2004). Considering that the *keiretsu* concept provides the total underpinning for the so-called lifetime employment system in Japan, if this arrangement fails to continue, then major adjustments will have to be made.

The situation of working women in Japan

The traditionalist attitudes concerning women in Japan are well known. Despite the 2½ times growth in Japanese female employment between 1955 and 1980 (Tanaka, 1986), discrimination against women still exists in all areas of employment in Japan and seems to be stubbornly hanging on despite the passage of the Japanese Labour Standard Law and the Equal Employment Opportunity Law in 1985 (Munchus, 1993). However, the interesting thing to consider is that, unlike those societies that discriminate against women because they are women, Japanese society has not discriminated against women for this reason. The discrimination against women in Japan is a direct outgrowth of the relative status concept discussed earlier in this paper. Historically, Japanese women held low-status positions – wife, mother, farm worker and part-time worker – and were therefore treated accordingly. Whatever status a woman possessed was drawn generally from her husband or father (Shirahase, 2001). This may seem like a meaningless point on its face – after all, the effect is the same – but we shall see later in this paper that when the employment status of a woman changes, her relative societal status changes as well.

This change is being directly affected by the precipitous drop in the Japanese birth rate combined with the aging of the population in general due to improved health care (MacKellar, 2000). The continuing drop in Japan's birth rate is presenting a serious set of challenges to the Japanese economy and an increasing effort is necessarily underway to open more jobs to Japanese women to compensate for the net labor loss (Hosni, D. E. and Kobayashi, T., 1993). The drop in the fertility rate has been directly linked with the

fact that women are marrying later or not marrying at all. Further, those who do marry have fewer children (Klitsch, 1994). Ironically, another reason that has been offered to explain this phenomenon is that working women in Japan these days tend to remain working and will tend to put off marriage or at least child-bearing for the sake of remaining in the workforce (Nomaguchi, 2006). Therefore, allowing women into the work force at all levels is becoming a necessity and not an option. It has become a question of national survival, and Japan as a nation has amply demonstrated its ability to survive.

A common reason for increasing the number of women in employment in Japan is to reduce manufacturing costs (Bolwijn, P. T. and Brinkman, S., 1987). However, this does not necessarily mean a move toward gender equality by increasing the relative societal status of women. Old cultural habits die hard, and Japan remains a heavily acculturated society. In 1986, one-third of large Japanese companies stated they would not promote female college graduates even if they had the same abilities as men (Adler, N. J., 1993). It is notable that Japanese women working for foreign companies in Japan enjoy significantly higher levels of job satisfaction than their counterparts employed by Japanese companies (Duignan, R. and Iaquinto, A., 2005). Such employment tactics as the increased use of "part-time" workers, a low-status position, has realized an increase in relatively low-paid female employment in a job category that is not protected by the employment law and that allows much easier dismissal policies by companies. Even the Japanese government got into the act in 1986 by passing a law that gave tax breaks to part-time working spouses (Weathers, C., 2005/2006), thus serving to perpetuate this condition. An interesting study concerning sex discrimination in pay between men and women (Kawaguchi, D., 2007) actually asserts that certain Japanese firms purposely hire more women, particularly part-time women, to realize greater profits by cutting costs through lower wages. Nonetheless, statistics indicate that the nature of women's employment is changing. The paid employment rate for women in general has risen from 29.5% in 1980 to 38.4% in 2002, and the rate of working married women rose from 26.4% in 1980 to 37.2% in 2002.

Improvements beginning to occur

An unexpected result of the gender discrimination situation in Japan is the inadvertent growth of a relatively affluent unmarried female working class in Japan. Concerning pay differentials between men and women in Japan, studies have shown that, although Japanese women are better educated than their counterparts in other developed countries, they are paid significantly less (Nakata, Y. F. and Takehiro, R., 2002)(Osawa, M., 2004/2005). It is significant to note that, with the rising marriage age of both sexes in Japan, the large majority of unmarried working women still reside with their parents, thus relieving these young women of having to earn a higher pay in order to support themselves while at the same time offering them a certain financial independence as a result.

However, there are certain bright spots appearing in women's employment in Japan. A significant response by large Japanese companies to the 1985 EEOP law, stimulated by both the dropping birth rate, which is directly precipitating the ageing of the population as noted above, and the pressure of world public opinion, a managerial career track specifically for women termed the *josei sogoshoku* was created for qualified female university graduates that runs parallel to the clerical career track, termed the *ippanshoku* (Nakamura, M., 1996). In 1996, 82% of *sogoshoku*-track employees worked in companies of 1,000 employees or more, making it essentially a large-company phenomenon, but one that is opening certain doors to qualified Japanese women that were heretofore closed to them. This has actually resulted in the evolution of equivalent wage levels between men and women on the career track in their 30s for the first time in Japanese history and moving Japan ahead of most other developed economies in this area.

A further development in career tracks occurred when the *jun-sogoshoku* track was created specifically to accommodate married women who desired to stay employed on the career track. For a somewhat reduced level of pay, these women were relieved of the full responsibilities of those on the management career track to transfer around the country or perhaps even overseas as well as to have to work overtime which would take their time away from their families. This can be seen as the Japanese equivalent of the "mommy track" that appeared in the United States about twenty years ago. This is a further indication that these accommodations are being made in order to retain female workers on the management career track. The motivator appears to be typically pragmatic and very Japanese – and the arrangement seems to be highly agreeable with those involved.

There are several differences between working Japanese men and women that have become increasingly obvious with the increasing number of working women. First, Japanese women tend to take a less-than-devout attitude toward work than do men, particularly married women who still strongly identify with their home responsibilities. Second, many working women view part-time work as perfectly acceptable, whereas most Japanese men would consider having to work part-time to be somewhat shameful. Third, many working women, particularly unmarried women, consider their earned income as "extra money", whereas men consider their earned income as the mainstay of their present or future family. Fourth, Japanese women tend to be more pragmatic in planning their lives, whereas Japanese men tend to be much more rigid in meeting predetermined career goals. Fifth, Japanese men generally try to fill "high status" positions with large companies, whereas Japanese women are once again more pragmatic and tend to gravitate to second-tier companies and foreign-owned companies that pay well. These characteristics are presenting an entirely new dimension to the Japanese working landscape which many working men, particularly managers, are attempting to understand and to which Japanese marketers are paying close attention.

Resultant societal changes

This as well as other changes in the patterns of working women in Japan has resulted in a fairly affluent class of young (20s and 30s), unmarried Japanese women with few, if any, financial obligations. There seem to be several forces at work that feed into the dropping marriage rate in Japan. Studies show that the more highly educated the woman and the more economically independent she becomes, the less likely she is to marry (Raymo, J. M., 2003)(Raymo, J. M. and Iwasawa, M., 2005). The employment rate for young women ages 25-34 has risen by 16%, to 56% of the labor force since 1975, further inhibiting marriage and birth rates (Lo, C., 2006). Finally, one interesting study concerning married women in the labor force indicates that, due to the propensity in Japanese society to care for elderly parents at home, more married women seek employment outside the home to reduce intergenerational conflict, particularly with her mother-in-law, thus adding an additional reason to become employed (Kumagai, F., 2005). In fact, it is said that a Japanese man seeks a replacement mother to continue to take care of him when he seeks a wife, and traditionally one of the wife's responsibilities is to care for the husband's mother. Naturally, the husband's mother has a higher relative status than the wife, so this reason alone has tended to reduce the marriage rate among Japanese women.

Effects on consumption

All this is creating a society of unmarried working women slowly attaining a degree of wage equality with their male counterparts. These unmarried working women possess the disposable income to spend on consumer goods without many of the family obligations that would otherwise claim a portion of their income. The marketing functions of many Japanese companies have become well aware of this growing market sector and have adjusted their product planning to match this new reality (Ishikawa, T., 1989). Traditional Japanese marketing methods tend to work very well in this new context, featuring as they do a focus on consumer attitudes about products and their uses as well as an incremental approach that allows them to fine-tune their marketing efforts rapidly based on sensitivity to customer desires (Johansson, J. K. and Nonaka, I., 1987). "Women's marketing" has become extremely important within the Japanese consumer economy (Becker, C., 1997) and an increasing amount of attention is being given to advertising targeting Japanese women (Dallmann, K. M., 2001). The increasing importance of Japanese women's consumption power, particularly in the generation born after 1958, has highlighted a very un-Japanese characteristic – individualization expressed via consumption (Ohashi, T., 1989) which Japanese society is just beginning to adjust to.

Even married working women have a significant impact on "women's marketing" in Japan. One of the traditional roles of the married Japanese woman has always been the management of the family's finances, unlike in many other societies where the husband

keeps a tight rein on the family income. Typically, up until the advent of electronic deposits, the Japanese husband would turn over his paycheck to his wife, who would then manage the family budget and make all necessary purchases, banking what's left as savings. This arrangement remains essentially unchanged in Japan today and shows no indication of changing anytime soon. Therefore, it is the wise marketer who recognizes who manages the family's purse strings.

Effects on Japanese domestic marketing

Traditional Japanese marketing has depended on "soft" data, such as visits to dealers, as well as "hard" data, such as retail sales and inventory levels. What has characterized Japanese marketing from the late 1940s is a strong desire to serve the consumer, thus orienting marketing efforts toward deciphering relevant consumer attitudes towards products (Johansson and Nonaka, 1987). Once these data are gathered, Japanese marketing managers generally make small, incremental adjustments in product features and presentation. This incremental approach allows for fairly rapid adjustments to change once the need is detected.

As a direct result, Japanese domestic marketing of consumer products has been closely linked with a continuing awareness of changes in consumer lifestyles, which in turn triggered a change in marketing (Ohashi, T. (1989). As early as the early 1980s, it had become obvious to Japanese marketers that women were exerting increasing influence on domestic product consumption. This phenomenon has been called the new holonic generation - women born after 1958. Women in general have always been very important to the Japanese marketer because of the married woman's key role as the keeper of the family finances. Due to the small size of the typical Japanese living quarters, typically a rather small apartment, the Japanese appliance industry pioneered the manufacture and sale of "mini-appliances" such as refrigerators that stood only three feet tall in order to minimize the space they would need in an apartment. As a result, the old-fashioned Japanese housewife would need to literally shop every day because of the limited storage space. As a result, the freshness of fruits, vegetables, meat and fish became paramount to the Japanese consumer, and the housewife felt a strong responsibility toward her family to provide only the best products.

This fixation with high quality on the part of Japanese woman translated easily to consumer goods such as electronics. When Japanese families began to acquire enough money to buy these types of items, it typically fell to the wife to make the purchase. Therefore, Japanese marketers have been very much aware of the purchasing power of the Japanese woman for quite some time. I'm reminded of a recent experience my wife and I had in purchasing her a new car. We went to the Honda dealership together and, as we walked through the front door, three salespeople approached me, not her. When I told them that they needed to talk with her, they looked noticeably uneasy. In Japan, the

salespeople would have approached the woman, not the man. In fact, the man probably would not have been present to begin with.

In fact, thanks largely to the purchasing influence of Japanese women, trade barriers to foreign imports seem to be relaxing. Surveys taken in 1986 and 1987 indicated that most women liked the design and individuality of imported products but still had doubts concerning their reliability (Sadafumi, N. (1990). As a result, foreign imports have tended to "cluster" into types associated with foreign sources – such as soft drinks, cigarettes and jeans associated with the United States, for example – and it has been the Japanese woman, through her purchasing power, that has had a Darwinian effect on which imports survive and which fail to catch on.

Earlier in this paper, the purchasing impact of the young, unmarried Japanese female was noted as significantly increasing in influence, and this influence is felt nearly exclusively in the consumer goods category, particularly involving luxury goods. Since the early 1990s, there has been a brand-name products boom in Japan, spearheaded by these newly-affluent young women (Anonymous, 1997). There was a significant increase in overseas vacation trips following the burst of the economic bubble which had the effect of drastically reducing the price of such trips. As a result, large numbers of young unmarried women began to take "shopping vacations" to purchase consumer goods internationally at much lower prices than in Japan. During my last trip to Tokyo in mid-1995, I visited the Akihabara District, known for its electronics, and noted that I could buy these same (Japanese manufactured) products much cheaper in Los Angeles! I have been told that, in the mid-1990s, it was possible to take a "shopping vacation" of two weeks to Hawaii from Japan using one of the vacation packages then available, buy Japanese-made electronics in Honolulu, and end up actually saving money.

Not surprisingly, this newly-affluent sector of the population has been specifically targeted by Japanese advertising. Surveys taken in the mid-1990s indicate that the portrayals of women in Japanese magazine and television ads had subtly changed from the submissive, somewhat ditsy woman typically portrayed in the 1960s through the early 1980s to a more developed, more complete person in her own right (Ford, J. B., Voli, P. K., Honeycutt, Jr., E. D., and Casey, S. L., 1998). Further, these advertisements were to a large extent reflective of the changes that were taking place in Japanese society (Sengupta, S., 1995). Although women still appeared in these ads more frequently than not in more decorative roles, nonetheless there was an increase in women portrayed in working roles.

One interesting study concerning magazine advertisements targeting teenage girls in Japan pointed out a Japanese characteristic that I have been aware of for many years – the predilection of Japanese men to consider feminine beauty in terms of youth, much more so than other world cultures I've experienced. In the late 1990s, the Japanese version of Seventeen magazine contained a significantly higher number of "girlish" images than the American version (Maynard, M. L. and Taylor, C. R., 1999). I was

reminded that the suffix "-ko" is widely used in female given names in Japan. "Ko" means "little girl" in Japanese. I have no idea what psychological implications this predilection for youth might have, but it is noticeable that Japanese women wear very little facial make-up and they do seem to try to fit this youth-oriented model much more than women of other cultures.

Conclusion

Near the beginning of this paper, I indicated that the dissection of Japanese culture would help in our understanding of evolving Japanese marketing techniques. The Japanese people are world-renowned as successful adapters as well as survivors. The adaptations to the impact that increasing numbers of working women are having on Japanese society that have already been made and that are still being made are a testament to that talent for adaptation. Newly-affluent working women, particularly those on the *jun-sogoshoku* career track, have acquired relative status not previously held by Japanese women, and this new status is being implicitly recognized by Japanese marketers.

As was already noted, the characteristic Japanese marketing strategy is incremental, a very Japanese cultural characteristic and one that has supported the ability to adapt inherent in Japanese culture for several hundred years. The marketing recognition of the newly-acquired social status of working women, seen in terms of the attention paid to this newly-affluent group, speaks for itself. It should also be noted, although it is beyond the scope of this paper, that these advances in employment supported by the Equal Employment Opportunity Law occurred without any sort of hue and cry of the type experienced in the West. Western feminism remains both foreign and somewhat distasteful to all Japanese, regardless of gender. These changes evolved very much in concert with the concept of social harmony, slowly but surely. Admittedly, these developments were the result of addressing a national problem – Japan's aging society – nonetheless they are occurring, to the national credit of that most pragmatic of all major world cultures – Japan.

References

Adler, N. J. (1993). Competitive frontiers: Women managers in the Triad. *International Studies of Management and Organization, 23* (2), 3-24.

Alston, J. P. (1989). Wa, Guanxi, and Inhwa: Managerial principles in Japan, China and Korea. *Business Horizons, 32* (2), 26-31.

Anonymous (1997). Brand-name products boom in Japan. *International Journal of Retail & Distribution Management, 25* (10), 330-332.

Becker, C. (1997). Hair and cosmetic products in the Japanese market. *Marketing and Research Today, 25* (1), 31-38.

Bolwijn, P. T. and Brinkman, S. (1987). Japanese manufacturing: Strategy and practice. *Long Range Planning, 20* (1), 25-35.

Cutts, R. L. (1992). Capitalism in Japan: Cartels and Keiretsu. *Harvard Business Review, 70* (4), 48-54.

Dallmann, K. M. (2001). Targeting women in German and Japanese magazine advertising: A difference-in-difference approach. *European Journal of Marketing, 35* (11/12), 1320-1341.

Duignan, R. and Iaquinto, A. (2005). Female managers in Japan: Early indications of career progression. *Women in Management Review, 20* (3/4), 191-208.

Ford, J. B. and Honeycutt, E. D., Jr. (1992). Japanese national culture as a basis for understanding Japanese business practices. *Business Horizons, 35* (6), 27-34.

Ford, J. B. and Voli, P. K. (1998). Gender role portrayals in Japanese advertising: A magazine content analysis. *Journal of Advertising, 27* (1), 113 -125.

Hawrysh, B. M. and Zauchkowsky, J. L. (1990). Cultural approaches to negotiations: Understanding the Japanese. *International Marketing Review, 7* (2), 28-43.

Hosni, D. E. and Kobayashi, T. (1993). Japan's labor shortage. Computers and Industrial Engineering, 24 (4), 607-613.

Ibata-Arens, K. C. (2004). Alternatives to hierarchy in Japan: Business networks and civic entrepreneurship. *Asian Business & Management, 3* (3), 315-335.

Ikujiro, N. and Konno, N. (1998). The concept of "ba": Building a foundation for knowledge creation. *California Management Review, 40* (3), 40-55.

Johansson, J. K. and Nonaka, I (1987). Market research the Japanese way. *Harvard Business Review, 65* (3), 16-19.

Kawaguchi, D. (2007). A market test for sex discrimination: Evidence from Japanese firm-level panel data. *International Journal of Industrial Organization, 25* (3), 441-460.

Kamagai, F. (2005). Co-residency living arrangement as a factor to facilitate labor force participation of Japanese women: Community level analyses of Japanese families. *The International Journal of Sociology and Social Policy, 25* (3), 42-63.

Klitsch, M. (1994). Decline in fertility among Japanese women attributed not to contraceptive use but to late age at marrisge. *Family Planning Perspectives, 26* (3), 137-138.

Koike, S. (1994). Perspective: Predictable Japanese – an analysis of their interdependent relationships. *The Journal of Language for International Business, 5* (2), 37-43.

Kowner, R. and Wiseman, R. (2003). Culture and status-related behavior: Japanese and American perceptions of interaction in asymmetric dyads. *Cross-Cultural Research, 37* (2), 178-211.

Lo, C. (2006). Japan's golden age. *The International Economy, 20* (1), 35-37.

MacKellar, L. (2000). Population ageing in Japan: A brief survey. *Innovation: The European Journal of Social Sciences, 13* (4), 413-430.

Maher, T. E. (1985). Lifetime employment in Japan: *Exploding the myth. Business Horizons, 28* (6), 23-26.

Maynard, M. L. and Taylor, C. R. (1999). Girlish images across cultures: Analyzing Japanese versus U.S. Seventeen magazine ads. *Journal of Advertising, 28* (1), 39-49.

Milhaupt, C. J. and Miller, G. P. (1997). Cooperation, conflict, and convergence in Japanese finance: Evidence from the "jusen" problem. *Law and policy in International Business, 29* (1), 1-74.

Munchus, G. (1993). Discrimination against working women in Japan. *Women in Management Review, 8* (1), 9-15.

Nakamura, M. (1996). Development of female managers and the sogoshoku in Japan. *The Journal of Management Development, 15* (8), 65-71.

Nakata, Y. and Takehiro, R. (2002). Employment and wages of female Japanese workers: Past, present, and future. *Industrial Relations, 41* (4), 521-548.

Nishikawa, T. (1989). New product planning at Hitachi. *Long Range Planning, 22* (4), 20-24.

Nomaguchi, K. M. (2006). Time of one's own: Employment, leisure, and delayed transition to motherhood in Japan. *Journal of Family Issues, 27* (12), 1668 -1700.

Ohashi, T. (1989). Marketing in Japan in the 1990s: Homing in on the holonic consumer. *Marketing and Research Today, 17* (4), 220-230.

Osawa, M. (2004/2005). Japan's changing economy and women workers. *The Japanese Economy, 32* (4), 96-109.

Raymo, J. M. and Iwasawa, M. (2005). Marriage market mismatches in Japan: An alternative view of the relationship between women's education and marriage. *American Sociological Review, 70* (5), 801-823.

Raymo, J. M. (2003). Educational attainment and the transition to first marriage among Japanese women. *Demography, 40* (1), 83-104.

Sadafumi, N. (1990). Japanese Consumers: Introducing foreign products/brands into the Japanese market. *Journal of Advertising Research, 30* (2), 35-46.

Sengupta, S. (1995). The influence of culture on portrayals of women in television commercials: A comparison between the United States and Japan. *International Journal of Advertising, 14* (4), 314-334.

Sethi, S. P., Namiki, N. and Swanson, C. K. (1984). The decline of the Japanese system of management. *California Management Review, 26* (4), 35-46.

Shirahasa, S. (2001). Women and class structure in contemporary Japan. *British Journal of Sociology, 52* (3), 391-408.

Tanaka, H. (1986). Working women in Japan. *Equal Opportunities International, 5* (1), 1-8.

Weathers, C. (2005/2006). Equal opportunity for Japanese women: What progress? *The Japanese Economy, 33* (4), 16-45.

INVESTIGATING THE INTERACTION BETWEEN RELATIONSHIP MARKETING AND IMPROVEMENT OF BANKING SERVICES

By

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Abstract

The purpose of this study is to investigate the connection between the relationship marketing and improvement of banking services. As a case study, we analyzed data from Tosse Credit Institute. The research population included all available customers in Tehran branches, which is on average 13199 people per week. Sample size was chosen to be 375, according to Morgan's table, and the population was obtained via stratified random sampling method. In order to gather information, two questionnaires were used. The first questionnaire consisted of 39 questions on marketing relationship. The questions were selected based on Likert spectrum composed of the following component: financial interests, social factors, structural links, quality of communication and emotion. The second questionnaire was about service improvement. It contained 22 questions, again satisfying Likert spectrum, covering: physical and tangible evidence, credibility, accountability, assurance and empathy. The psychometric properties of the questionnaires were approved bysupervisors, consultants and experts. The method of alpha Cronbach coefficient was used to estimate the internal consistency between the data collected from questionnaires and the aforementioned components. Our estimate attains confidence of (0.83) for relationship marketing and (0.89) for service improvement. Results of Chi-Square test and Spearman correlation coefficient confirmed existence of interaction between relationship marketing and improvement of banking services in Tosse Credit Institute. Our results indicate that this interaction is direct and positive ($p > 0.01$).

Introduction

To achieve success in competitive markets, customer satisfaction is an essential and key factor in loyalty (Ndubisi and wah, 2005). As a result organizations have focus on the bases which are necessary for customer satisfaction. One of the mentioned approaches is making a relationship between economical unit and the client until they can obtain useful information about the needs of customers. Moreover, by providing services they will achieve customer satisfaction. As a result, the main purpose of relationship

marketing is to establish close relationship with customers and recognize their needs to relieve them accurately and sufficiently. Relationship marketing not only has the ability to understand [the needs of] customers, but it also can help to increase market share, profitability and decrease costs. Research has shown that the cost of providing services to a loyal customer is 5 to 6 times less than the cost of services to attract a new customer (Ndubisi, 2003). Berry (1983) regards relationship marketing as a strategy to attract, maintain and strengthen relationships with clients. Rap and Collins (1990) have argued that the goals of relationship marketing are creating and maintaining ongoing relationships between the economic unit and its customers. Furthermore, it is critical that both sides benefit.

Statement of problem

Banking industry is one of the complex and critical industries in the world (Zinedin, 1995). Private Banking will require keeping current customers and moving in line with customers. What guarantees the survival and growth of these banks depends on their customers and as long as they can maintain their existing customers they will be more successful. Harrison (2001) has an opinion that the financial services sector (banks) are now exposed to changes which had not experienced earlier on its history, these changes had a profound impact on industry structure and nature of competition. Also Colgate and Stewart (1998) stated that the intensity of competition and complexity, forced many banks to accept the new paradigm of marketing concept, which means "relationship marketing" and lead them toward aggressive marketing strategies rather than defensive marketing strategies.

Packard, one of the founders of Hewlett-Packard Co., Has said that "Marketing is so important that we can not only manage its implementation with marketing affairs". Relationship marketing philosophy is focused on this belief that maintaining existing customers is critical for long-term profit. Keeping and strengthening relationships with customers plays a critical role in creating and sustaining competitive advantage in the market (Kotler, 2000).

In order to fully understand the customers, their needs and demands, it is necessary to have close relationship with them. Relationship marketing is a new approach in the banking industry which its main purpose is to make close and long term relationships with customers in order to complete understanding of the customers and to achieve customer's satisfaction (Ndubisi and whah, 2005).

Due to increasing worldwide competition among banks, relationship marketing has been considered as a very good way to create and maintain long-term relationship with customers, since the available services in commercial banks is relatively the same, for most banks differentiating services from competitors is difficult. So a large number of World Banks have tend to use relationship marketing approach and implementing its foundations (Spean, and sue 2000).

However, it seems that marketing in general is a new term among private banks in Iran. Since marketing is being necessitate when organizations are faced with a competitive environment. In recent decades Iran's private banking industry with the changes and developments in the area of deregulation, technology that provide services and development goals set by the private banks that are non-governmental system, goes gradually towards to be more competitive.

During these years, private banks in Iran attempted to establish units to serve its customers or marketing and market research which showed the reason that the industry moves toward becoming more competitive and with no doubt in the near future it will also intensified. According to the searches performed in academic libraries, Iran's scientific data centers and ... we didn't find research in this area which dedicated to private banking in Iran. Accordingly, this study is going to investigate the interaction between relationship marketing and improvement of banking services in private banking.

Importance and necessity of research

Nowadays most banks are faced with dynamic environment. According to the rapid changes, all banks, both public and private in the competitive position of market circumstances place attracting and retaining the business customers at the head of their programs since it is the best way that have been profitable and it is undeniable fact that without the creative relationships between customers and banks and no quality of service cannot expect a clear future for financial institutions. Long-term relationships with clients in financial institutions may not be clear. As mentioned, increased competition put financial institutions and banks under pressure to maintain their profitability. In fact, along with changes in industry structure and its saturation occurred, the nature of competition has changed. These changes closely related to environmental changes and their clients. (Harrison, 2000)

This study has aim to fill out the vacancies existed in the literature of relationship marketing in private banking in Iran. Hence, for being efficient and to ensure their survival, private banking needs to learn and benefit from expert knowledge as the basis for creating a strong relationship with customers.

Therefore, based on results of this study we hoped to offer the industry's managers some important tips till they improve their relationship marketing programs to establish and maintain customer loyalty in the long term relationship.

Research background

The concept of relationship marketing in the field of service providing organizations was presented for the first time in 1983 by Barry and it has been defined as a strategy of attracting, maintaining and improving relationships with customers (Berry, 1983). Gronroos also mentioned a comprehensive definition of relationship marketing as

to identify and establish, maintain and enhance and when necessary also to terminate the relationships with customers and other stakeholders, at profit, so that the objective of all parties involved are met and this is done by a mutual exchange and fulfillment of promises (Gronroos, 1994). Kotler and others are defined the relationship marketing concept, as follow ; to create, maintain and promote strong relationships with customers and other stakeholders. They believe that marketing increasingly is being away from individual transactions toward building relationships with customers and network marketing (Kotler et al, 1999). Relationship marketing has a long-term approach; its main purpose presented in the long term value to customers and measures the success of long-term customer satisfaction.

- Abrat Russel(1999) in research entitled "Relationship marketing in private banking in South Africa" showed that customers were conceived the quality of relationships as an important criterion in selecting banks, and how is the formation and strengthening of the relationship on customer's loyalty affecting the bank.
- Spean and man sue (2000) have been done research in Chinese and foreign banks in Hong Kong to identify factors related to marketing relationship. The advantage of this research, which is sustainable to Asian and developing countries, is considering the social activities. These two researcher interested in dividing relationship marketing into four groups that include: social activities, sales activities, exchanging the information, monitoring the relationship.
- Chiu, H. C., Hsieh Y.C., Lee M. (2005). In research as "relationship marketing and change customer behavior" showed that the financial benefits, social factors and structural links are improving consumer values and thus increases customer loyalty.
- Fullerton (2005) in their study which entitled "Do commitment in relation with loyalty and quality of service is important?" Concluded that effective and ongoing commitment, make up much of the relationship and loyalty and quality of services. He also received that effective commitment of retailers has positive impact on customer loyalty.
- Ndubisi(2007) in research entitled "investigating the effects of relationship marketing strategy on customer loyalty" in Malaysian banks reached the conclusion that four key factors in marketing affect the relationship marketing on customer loyalty which conclude of : 1. Trust 2. Commitment 3. Relationship and 4. Customer complaints.
- Saser and Richeld(1990) about keeping customers in the research project of been and co shows that 5 percent increase in rates of retaining customers, on average, increase35 to 95 percent of the "Customer Lifetime Value" that this caused significant mutation on the company 's profitability .

research results	research methodology	Variables	researcher and years of research	research title
Significant impact on the independent variable and dependent variable	cause and affect (Regression)	**Independent variable:** Relationship Marketing; Interactive Marketing, Value creation rather than value distribution, Partnership and strategic alliances. **Dependent Variable:** Organizational performance indicators**;** Increasing market Share, Retaining current customers., Attracting new customers., Creating loyal customers**.**, Increasing profit, Increasing return on investment, Positive image.	Shaker,T. Ismail & Basem, Y. Alsadi(2010)	Relationship Marketing and Organizational Performance Indicators
Positive and significant relationship between dependent and independent variables	Correlation(correlation coefficient factor analysis)	Independent(procedures and policies of relationship commitment, satisfaction with the bilateral cooperation relations) depend(loyalty)	Lages et al,2008	Criterion-B2B Relief and concession card: bringing relationship marketing the or to the interested firm relationships with enterprise procedures
Positive correlation between independent variables and Marked Bank...	Correlation(correlation coefficient)	Independent(emotional intelligence and confidence) depends(loyalty)	Heffernan et al 2008	Relationship Marketing: impact of emotional intelligence and trust on bank performance
Significant impact on the loyalty of four variables	Correlation(regression analysis)	Independent(Trust Commitment Communication Conflict Management) dependent(loyalty)	Ndubisi 2007	Customer relationship and loyalty marketing benefit
Five marketing relationship established between the interested customers based on perceived relationship quality and customer satisfaction has to distinguish	Correlation(factor analysis and auditing)	Independent(Trust Commitment Communication Conflict Management competency) dependent(relationship satisfaction and quality)	Ndubisi and Wah-2005	Foundations of factor analysis and certification, marketing and customer satisfaction related benefit
Independent variables and significant positive impact on sales growth and market share, ROA	Correlation(correlation coefficient and regression analysis)	Independent(trusted social connections shared values and try mutual empathy) depends on(enterprise performance)	Sin et al-2002	+ Relationship marketing approach to impact business performance benefit based service economy
Significant impact of the independent variable and mediator on the dependent variable	Correlation(factor analysis and structural equation modeling)	Independent(ensuring social and special treatment benefits) mediator(satisfaction and commitment) dependent(loyalty and word of mouth communication)	Hennig-thurau et al-2002	Understanding relationship marketing outcomes (benefits integration relationship) and relationship quality

This paper also with considering Shammout's model (2007) investigated the variables of relationship marketing and improvement of banking services. Each of these variables is described briefly as follows:

•**Relationship marketing**: to identify and establish, maintain and enhance and when necessary also to terminate the relationships with customers and other stakeholders, at profit, so that the objective of all parties involved are met and this is done by a mutual exchange and fulfillment of promises (Gronroos, 1994).
• **Financial benefits**: are usually referred to as frequency marketing or retention marketing where the service provider uses economic benefits such as price, discount or other financial incentives to secure customers loyalty (Lin et al, 2003).
•**Social factors:** a set of personal relationships during the interaction between buyer and seller to maintain what they build closer ties to be called the social factors (Liang and Wang, 2005).
• **Structural links**: structural links value added services, innovative and integrated to provide customers the ease at any other location are not available (Lin et al, 2003).
• **Relationship quality:** an assessment of the overall strength of the relationship is partly the needs and expectations and meets customer demands. This variable with three key components of trust, satisfaction and commitment is measured (Wang et al, 2006).
• **Emotions:** a mood that assess cognitive, or thinking of an approach rises. As a result, if positive emotions may have been motivated person, makes a person's relationship with the service provider to continue and in case of negative feelings does not keep a person's relationship (Wang, 2004).
• **Improvement of service:** Parasurman et al. expressed the improvement (quality) service, expected performance and performance differences between the dimensions of service.

Methodology:

The purpose of this study is to perform applied research and the research type is descriptive research which is survey – solidarity.

According to the targets previously explained in the introduction, the assumptions of this study are set as follows:

Research hypotheses:

Main hypothesis: the interaction between relationship marketing and improvement of private banking services is significant.
Subsidiary hypotheses:
H1. Between the financial interests and improvement of banking services, there is a significant relationship.

H2. Between social factors and improvement of banking services, there is a significant relationship.
H3. Between structural links and improvement of banking services, there is a significant relationship.
H4. Between quality of relationship and improvement of banking services, there is a significant relationship.
H5. Between emotions and improvement of banking services, there is a significant relationship.

Research population

The research population included all available customers in Tehran branches, which is on average 13199 people per week.

Statistical sample and Sampling Methodology

The statistical population in this study is distributed in 18 branches in Tehran and other cities. Moreover, the largest numbers of branches of Tosse Credit Institute are in Tehran. Therefore, the population was obtained via stratified random sampling method. According to the database of available customers in Tosse Credit Institute and their definition of available customer, Sample size was chosen to be 375. The details presented in the table below are based on Morgan's table.

Table (1): Population and Sample size

NUMBER OF STATISTICAL SAMPLE	PERCENT (%)	NUMBER OF STATISTICAL POPULATION	BRANCHES
299	79.67	10515	TEHRAN
76	20.33	2684	OTHER CITIES
375	100	13199	TOTAL

Data collection method

All the information about concepts and theories related to relationship marketing has been collected through the library research, searching the internet, reading books, articles and dissertations and interviews with the experts in this field.

In order to gather information, two questionnaires were used. The questionnaires were developed using 5-point Likert type scale, ranging from (1=strongly disagree) to (5 = strongly agree), and these questionnaires follow the pattern of ERM. The first questionnaire consisted of 39 questions on marketing relationship. The questions were selected based on Likert spectrum composed of the following component: financial

interests, social factors, structural links, quality of communication and emotion. The second questionnaire was about service improvement. It contained 22 questions, again satisfying Likert spectrum, covering: physical and tangible evidence, credibility, accountability, assurance and empathy.

Validity of research instrument

Questionnaires mentioned were prepared according to standards and various theories, and has been translated into Farsi for this purpose. The psychometric properties of the questionnaires were approved by supervisors, consultants and experts. From their point of view the questionnaires have the ability to measure Effective factors in relationship marketing and quality of banking services.

Reliability of research instrument

To estimate the internal consistency between the data collected from questionnaires and the aforementioned components the method of alpha Cronbach coefficient was used and in a pilot study with volume of 30 clients we calculated the Reliability coefficients as shown in following table.

Table (2): Questioners reliability coefficients

Reliability coefficient	Dimention
0.83	Relationship marketing
0.89	Improvement of banking services

Methods analyzing of hypothesis
Statistical data have been analyzed through Chi-Square test and Spearman correlation coefficient and using SPSS software.

Research findings
To confirm and extend results of data analysis to study the example of a society that extracted an agreement from the test and Spearman correlation coefficient and Chi-Square test is used to test the results of this Order is given below.

Main hypothesis: the interaction between relationship marketing and improvement of private banking services is significant.

Table (3):chi-square test results agreement between **relationship marketing and**

improvement of private banking services

10.133	Chi-Square
4	Degrees of freedom
0.038	Chi^2 level
0.121	Spearman correlation coefficient
0.019	Significant level

Calculated Chi-Square (10.133) with degrees of freedom (4) and the significant level of (0.05) is larger than critical Chi-Square (9.49), so there is significant interaction between relationship marketing and improvement of banking services. The Spearman correlation coefficient (0.121) at significance level (0.05) shows that the interaction between relationship marketing and improvement of private banking services of Tosse Credit Institute is direct and positive.

Subsidiary hypotheses:
H1. Between the financial interests and improvement of banking services, there is a significant relationship

Table (4): chi-square test results agreement between **financial interests and improvement of private banking services**

10.14	Chi-Square
4	Degrees of freedom
0.038	Chi^2 level
0.121	Spearman correlation coefficient
0.019	Significant level

Calculated Chi-Square (10.14) with degrees of freedom (4) and the significant level of (0.05) is larger than critical Chi-Square (9.49), so there is significant interaction between financial interests and improvement of banking services. The Spearman correlation coefficient (0.121) at significance level (0.05) shows that the interaction between financial interests and improvement of private banking services of Tosse Credit Institute is direct and positive.

H2. Between social factors and improvement of banking services, there is a significant relationship.

Table (5): chi-square test results agreement between **social factors and improvement of private banking services**

10.188	Chi-Square
4	Degrees of freedom
0.040	Chi^2 level
0.136	Spearman correlation coefficient
0.026	Significant level

Calculated Chi-Square (10.188) with degrees of freedom (4) and the significant level of (0.05) is larger than critical Chi-Square (9.49), so there is significant interaction between social factors and improvement of banking services. The Spearman correlation coefficient (0.136) at significance level (0.05) shows that the interaction between social factors and improvement of private banking services of Tosse Credit Institute is direct and positive.

H3. Between structural links and improvement of banking services, there is a significant relationship.

Table (6): chi-square test results agreement between **structural links and improvement of private banking services**

743.532	Chi-Square
4	Degrees of freedom
0.000	Chi^2 level
0.98	Spearman correlation coefficient
0.000	Significant level

Calculated Chi-Square (743.532) with degrees of freedom (4) and the significant level of (0.01) is larger than critical Chi-Square (13.28), so there is significant interaction between structural links and improvement of banking services. The Spearman correlation coefficient (0.98) at significance level (0.01) shows that the interaction between structural links and improvement of private banking services of Tosse Credit Institute is direct and positive.

H4. Between quality of relationship and improvement of banking services, there is a significant relationship.

Table (7): chi-square test results agreement between **quality of relationship and improvement of private banking services**

743.532	Chi-Square
4	Degrees of freedom
0.000	Chi^2 level
0.99	Spearman correlation coefficient
0.000	Significant level

Calculated Chi-Square (743.532) with degrees of freedom (4) and the significant level of (0.01) is larger than critical Chi-Square (13.28), so there is significant interaction between quality of relationship and improvement of banking services. The Spearman correlation coefficient (0.99) at significance level (0.01) shows that the interaction between quality of relationship and improvement of private banking services of Tosse Credit Institute is direct and positive.

H5. Between emotions and improvement of banking services, there is a significant relationship.

Table (8): chi-square test results agreement between **emotions and improvement of private banking services**

737.807	Chi-Square
4	Degrees of freedom
0.000	Chi^2 level
0.99	Spearman correlation coefficient
0.000	Significant level

Calculated Chi-Square (737.807) with degrees of freedom (4) and the significant level of (0.01) is larger than critical Chi-Square (13.28), so there is significant interaction between emotions and improvement of banking services. The Spearman correlation coefficient (0.99) at significance level (0.01) shows that the interaction between emotions and improvement of private banking services of Tosse Credit Institute is direct and positive.

Conclusion

Today's organizations, according the importance of fulfilling customer needs and demands, gradually have found a tendency towards creating and maintaining long-term relationships with customers. According to previous research in this field, this article also has been investigated the interaction of relationship marketing and improvement of banking services by using the developed model in the field of banking.

Results of previous research had suggested that the communicational links (including financial interests, social and structural factors) improve the relationship and thus improvement of banking services are increasing (Shammout, 2007). The study will also assume that these facts enhance the quality of banking services by influencing the quality of communication; in supporting of previous research the obtained results showed that all three factors and improvement of private banking services have significant interaction.

As the background research is presented, the researchers suggested that the quality of communication as an important criterion in selecting an organization is considered by the client (Brat and Russell, 1999, Ndubisi, 2007 Shammout, 2007), all of them believe that trusted service provider, customer satisfaction, performance and commitment to service provider with the service provider company, forming the key components of quality of relationship (Wang and et al, 2006). According to the results obtained in this study there is a significant relationship in the interaction between communication and improvement of quality of banking services.

Some researchers such as Wang (2004), Shammout (2007) had suggested that the emotional experience of clients, is an important component in the current relationship marketing and is the best predictor in improving the quality of banking services, it means that customers of Tosse Credit Institute the more feels positive, the more improvement will find in banking services. Thus, the feelings of customers not only lead to lasting customer (behavioral approach), but also can prevent from changing clients and the intendancy towards competitors (loyalty approach). The results obtained in this study indicate that there is a significant interaction between quality of relationship and improvement of private banking services.

References:

- Abrat Russel, Russel Joy, (1999), Relationship Marketing in private banking in south Africa, International Journal of Bank Marketing, Vol. 17, Issue 1, pp.5-19.
- Berry, L.L. (1983). "Relationship marketing. In L.L. Berry, G.L. Shostack & G.D. Upah (Eds.), Emerging Perspective on Services Marketing". Chicago: American Marketing Association, pp.25-38.
- Chiu, H. C., Hsieh Y.C., Lee M. (2005). "Relationship Marketing and consumer switching behavior", Journal of Business Research Vol. 58, No.12, pp 1681-1689.
- Colgate Mark, Alexander Nicholas, (1998), Banks Retailers and their Customer: a Relationship marketing perspective, International Journal of Bank Marketing, 16.4, pp. 144-152.
- Fullerton, G. (2005). "The service quality – loyalty relationship in retail Services: Does commitment matter?" Journal of Retailing & Consumer Services, Vol.12, pp99-111.
- Gronroos, C. (2004). "The relationship marketing process: Communication, interaction, dialogue, value" , Journal of Business & Industrial Marketing, Vol.19, No.2, pp. 99-113.
- Harrison, Tina. (2000). "Financial Services Marketing", Edinburgh, Prentice Hall.
- Harrison, Tina; (2001). Financial Services Marketing, Edinburgh, prentice Hall.
- Heffernan, T and O'Neill, G and Travaglione, T and Droulers, M. (2008) «Relationship marketing: The impact of emotional intelligence and trust on bank performance», International Journal of Bank Marketing, Vol. 26, No. 3, pp. 183-199.
- Kotler, P and Armstrong, G. and Saunders, J and Wong, V(1999) Principles of marketing, Prentice-Hall, Upper Saddle River, New Jersey
- Kotler, Philip, (2000), Marketing Management: A framework, New Jersey, prentice Hall.
- Lages, Luis Filipe and Lancastre, Andrew and Lages, Carmen (2008) «The B2B-RELPERF scale and scorecard: Bringing relationship marketing theory into business-to-business practice», Industrial Marketing Management, Vol. 37, No. 6, pp. 686-697.
- Liang, C., & Wang, W. (2005). "Integrative research into the Financial services industry in Taiwan: Relationship bonding tactics, relationship quality and behavioral loyalty" Journal of Financial Service Marketing, Vol. 58, pp. 806-818.
- Lin, C., Weng, J. C. M., & Hsieh, Y. (2003)."Relational bonds and Customer's trust and commitment – A study on the moderating effects of Web site usage", The Service Industries Journal, Vol.23, No.3, pp. 109-127.
- Ndubisi, N. O and Wah, C. K. (2005) «Factorial and discriminate analyses of the underpinning of relationship marketing and customer satisfaction», International Journal of bank marketing, Vol. 23, No. 7, pp. 542.
- Ndubisi, N.O. (2006) «A structural equation modeling of the antecedents of relationship quality in the Malaysia banking sector», Journal of Financial Services Marketing, Vol. 11, pp.131 - 141.

- Ndubisi, N.O. (2007), “Relationship marketing & customer loyalty”, Marketing Intelligence & planning, Vol.25, No.1, pp.98-106.
- Parasuraman, A., Valarie A. Zeithaml, and Leonard L. Berry (1985), “A Conceptual Model of Service Quality and its Implications for Future Research,” Journal of Marketing , 49 (Fall), 41-50
- Saser, K. Richeld, O., (1990). “The construction model of customer trust, Perceived value and customer loyalty”, Journal of American Academy of Business, Cambridge Vol. 14, No.9, pp 98-103.
- Shaker, T. Smail (2010). “Relationship marketing and organizational performance indicators “, European Journal of Social sciences, Vol.14, No.4, pp. 545-557.
- Shammout, A. B. (2007). “Evaluating an extend relationship marketing Models for Arab guests of five-star hotels”, A Thesis Submitted in Victoria University in Melbourne.
- Sin, L. Y. M and Tse, A. C. B. and Yau, O. H. M. and Lee, J. S. Y and Chow, R. (2002) «The effect of relationship marketing orientation on business performance in a service-oriented economy », Journal of Service marketing, Vol. 16, No. 7, pp. 656-676.
- Spean, Philip: Man sue, Gary (2000) , principles of Marketing, New Jersey, prentice Hall
- Thorsten Henning-Thurau, (2002), Understanding relationship Marketing outcomes, an integration of relational benefits and relationship quality, Journal of service research, Vol 4, No3, 230-247.
- Wang L.H. (2005). “Using Switching barriers as moderator to explore the Relationship between customer satisfaction and customer loyalty”, A Thesis submitted to the Faculty of the Graduated school of Management of the Tatung University.
- Wang P.M. Raymond, Yau H.M. Oliver, Lee S.Y. jenny, (2006), Is Relationship Marketing for everyone? , European Journal of Marketing, Vol.34, No.9.10, pp.111-1127.
- Wong, A. (2004). “The role of emotional satisfaction in service Encounter”, Managing Service Quality, Vol.14, No. 5, and pp.365-376.
  Zinedin R.: (1995) Explorin

RELATIONSHIP MANAGEMENT AMONG SUBCONTRACTORS IN CONSTRUCTION INDUSTRY

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Abstract

One prominent characteristic of the construction industry is the practice of subletting portions of a project to specialized subcontractors by the main contractor. Subcontractors play a vital role in the construction industry. They are special contractors who are hired to perform specific tasks in a project. Due to the increased role of subcontracting in construction industry it will be beneficial if these different companies are kept in such an atmosphere of teamwork where they can produce maximum output. The concept to lean construction also reveals the importance of management in such a way that the adverse factors should always try to be minimized. Generally the construction industry contains sectors which are very diverse and comparatively very unstable too. The demands are very diverse and fluctuate, vary from project to project.

Successful projects in construction industry require cooperation at different project members interfaces such as client-contractor, consultant-contractor, contractor-subcontractor, and subcontractor-subcontractor. These interfaces of mutual relationships need to be explored to identify the barriers in cooperation. In this paper a model based on game theory has been developed to explore the cooperative strategies in construction projects. The scope of this paper is limited to relations between contractor-subcontractors and subcontractors-subcontractors interfaces, in construction projects.

Introduction

In contrast to manufacturing industry the construction industry has very diversified products. According to Dainty R.J. *et al*. (2001) each construction project is unique and different from previous with respect to materials, location, design, method of construction and required specialists. Even in case of similar projects the conditions may vary. Construction material production conditions remain uncertain. Wide rang of machinery, skills and specialists mostly required in short term project environment.

Moreover the increasing trend of subcontracting has increased the fragmentation in the construction industry.

One prominent characteristic of the construction industry is the practice of subletting portions of a project to specialized subcontractors by a main contractor. According to Mathews J. *et al.* (2000) as much as 75-80 % of the gross work done in the construction industry involves the purchasing of material and subcontracting services, when only considering new construction of large and complex facilities. Eriksson E. *et al.* (2007) further says that, in spite of the subcontractor's large share of services, main contractors remain relatively unconcerned in their approach to them.

Subcontractors play a vital role in the construction industry. They are special contractors who are hired to perform specific tasks on a project. Hinze J., Tracey A. (1994) says, in spite of subcontractors' vital role little is known about the actual terms of the working relationship that exists between subcontractors and the main contractor.

Figure1 shows the structure of a general supply chain of a construction project. It shows why it is important for main contractor to manage efficient links among subcontractors and suppliers in order to achieve good progress. The figure1 also gives an idea about how different parties are involved and depend on one another. The figure shows that the main contractor generally has some suppliers and also outsources different activities of project to subcontractors. Lehtinen U. (1997) explains that these subcontractors may further have their own subcontractors and suppliers. In this way a multi layered structure is formed which includes different types of small and medium scale contractors.

Beach R. *et al*. (2005) described that the links among these supply chain members can be divided in two categories, contractual (vertical) links and non contractual (horizontal) links as shown in figure1. Supply chain management in construction industry requires better relationships at different critical project interfaces such as client-contractor, consultant-contractor, contractor-subcontractor, and subcontractor-subcontractor. These interfaces of mutual relationships need to be explored to identify the barriers in supply chain management. In this paper we will discuss the supply chain relationships among contractor-subcontractor and subcontractor-subcontractor.

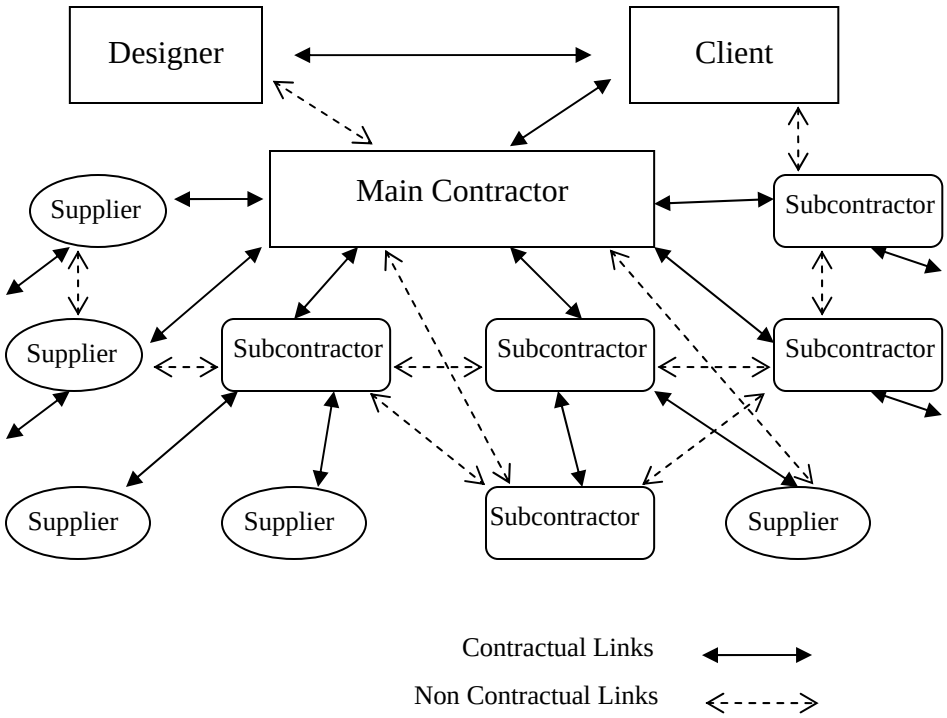

Figure 1: Links among different parties in a construction supply chain.

To keep a balance at each of above described interface, there should be proper contract conditions at each interface. As shown in figure1 that supply chain member also have non contractual links therefore contract conditions are not enough. There should also be proper cooperative atmosphere through administration and managerial practices.

Hovi N. (1995) states that the subcontractors need to develop some kind of relationships with one another which will prove beneficial whenever they work together. The role of main contractor is important in this regard. Main contractor is overall administrator of construction site and responsible of selecting subcontractors and suppliers therefore its active involvement is necessary to make a cooperative team.

2. Cooperation in Construction Projects

Poor relationships are mostly due to lack of coordination and communication among the participating organizations of a project. Nazir R. (2009) describes some general factors which result in creating barriers among project members' relationships, as listed below.

- Hostile attitude based on win/lose policy
- No long term relationship focus
- Non commitments (formal and informal)
- Poorly defined criteria for sharing of risks and benefits
- Lack of transparency and communication
- Behavioural and cultural obstacles

According to Conley A. M., Gregory A. R. (1999) the ultimate effect of disputes and non-cooperation results in form of cost overrun, time overrun, poor quality, defects, conflicts and disputes. The studies reveal that it is necessary to change the traditional hostile relationships into positive and cooperative relationships among the different parties involved in a construction project. Cheung Y. K. F., Rowlinson S. (2007) further describes that "relationship management" is a way which gives cooperative atmosphere for all organizations working in a construction project, including subcontractors down in the supply chain. The active participation of subcontractors gives rise to more productive relationships, according to project objectives. They also concluded from case studies that leadership plays an important role in relationship management. Without the real efforts of senior management of organizations the relationship management is difficult to develop

3. Cooperation theories

3.1 Prisoner's Dilemma

Axelrod R. (1984) in his famous book "The Evolution of Cooperation" discusses the conditions for cooperation in detail. Axelrod used the famous Prisoner's Dilemma game to study the cooperative behaviors among individuals. His model of "Iterated Prisoner's Dilemma" is a famous study in cooperation strategies. The payoff matrix of Prisoner's Dilemma is shown in Table 1. Nowak A. M. (2006) states, a cooperator is a player who pays some cost to benefit another player receiving this cooperation. A defector does not pay any cost because it is not benefitting any other player but he can receive benefit of cooperation if some one cooperates with it. In game theory these benefits are measured in form of payoffs for the purpose of analyses.

Table 1: Payoff matrix of Prisoner's Dilemma, Akiyama E., Kaneko K. (1995)
Each cell shows payoffs of player1 and player2 respectively.

		Player 2	
		Cooperate	Defect
Player 1	Cooperate	3 : 3	0 : 5
	Defect	5 : 0	1 : 1

Payoffs in table1 explain that if both players will cooperate with each other then they will get 3 points each. If both defect each other then both will get 1 point each. When one player cooperates then the defector will get 5 points and the one who cooperate will get no point. So there is temptation in defection if other is cooperative. When player1 cooperate the best strategy for player2 is to defect, similarly when player 1 defects then best strategy for player2 is again to defect. So both players will defect in

order to play safe. But the dilemma is that they can get more points if both cooperate to each other.

3.2 Cooperation Analysis in Construction Projects

According to Asgari S. M., Afshar A. (2008), application of "game theory" in construction industry is still in its beginning. When there are rational behaviors then decision makers can analyze the condition by "game theory" for beneficial decisions.

To analyze cooperation strategies in construction projects we consider a simple structure of a construction project. Consider a construction project in which main contractor also sublets work to two subcontractors (SC) as shown in figure 2. The division is such that part of the work is carried out by main contractor and remaining is equally distributed among two subcontractors.

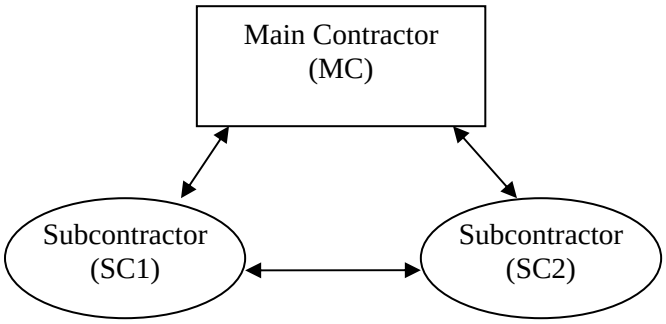

Figure 2: A simple structure of participants of a construction project

Further for simplicity we consider that every player (MC or SC) have only two strategies. One is to Cooperate (C) and other is Don't cooperate (D). In contradict to Prisoner's Dilemma, we have changed the "Defect" strategy to "Don't cooperate" because in our case the defector cannot be offered any incentive. More over to make the things simple there is no levels in cooperation. Each player has only two options Cooperate or Don't cooperate.

For calculation of payoffs we consider the following conditions:

- When a player is being cooperated by other it receives 3 points (+3) for each cooperation.
- When a player himself cooperates to any other he looses 1 point (-1) for each cooperation.
- When a player Don't cooperate then it neither receive nor loose any point (0).

In order to make the payoff more realistic we consider that when subcontractors will cooperate among themselves then it will also beneficial for the main contractor. Main contractor is overall responsible for the project so if subcontractors will achieve their targets (which are actually set by main contractor) then main contractor will also be benefited. Therefore we also set following additional conditions.

- When one SC Cooperate to other SC then MC also gets 1 point (+1).
- When both SC Cooperate to each other then MC gets 2 points (+2)

Table 2 shows the payoff calculation for each player with different strategy options. If there are three players and each player has two strategy options then there will be total eight combinations. The client also wants the benefit of each player in order to boost the construction industry. So Client's benefit is also calculated by considering 50% of MC's payoff and 25% of SC's payoffs (0.5 (MC's payoff) + 0.25 (SC's combined payoffs).

Table 2 Different combinations of strategies and corresponding payoffs

Strategies Combinations				Payoffs				
Sr. No.	MC	SC1	SC2	MC	SC1	SC2	Total	Client
1	C	C	C	6	4	4	14	5
2	C	C	D	2	1	6	9	2.75
3	C	D	C	2	6	1	9	2.75
4	C	D	D	-2	3	3	4	0.5
5	D	C	C	8	1	1	10	4.5
6	D	C	D	4	-2	3	5	2.25
7	D	D	C	4	3	-2	5	2.25
8	D	D	D	0	0	0	0	0

Nash Equilibrium (NE) named after the person (John Forbes Nash) who proposed it. NE gives a stable condition of strategies in game theory. As defined by Morris P. (1994) & Thomas L.C. (1984), if each player is playing with its strategy then NE will be the combination in which no player can get additional benefit by changing its strategy while other players' strategies remain same. The combination of these strategies and corresponding payoffs are Nash equilibrium.

The NE in the payoff conditions of table 2 is determined and different combinations in this regard are shown in table 3.

Table 3: Determination of Nash Equilibrium (NE)

Cells show the payoffs of SC1 : SC2 : MC respectively.

MC

		C		D	
		SC2		SC2	
		C	D	C	D
SC1	C	4 : 4 : 6	1 : 6 : 2	1 : 1 : 8	-2 : 3 : 4
	D	6 :1 : 2	3 : 3 : -2	3 : -2 : 4	0 : 0 : 0

In table 3 it is visible that the best strategy for SC1 is D, best strategy for SC2 is also D and best strategy for MC is also D. The outcome is similar as in case of Prisoner's Dilemma. The best strategy for each player is Don't cooperate, irrespective to the strategies of other players. So if all the players go for "D" then no one will get any payoff as shown in table 3. On the other side the best option for all players is when all of them cooperate. If everyone goes to play safe then all of them will play "D". If there is situation that every one is sure that if it goes for "C" then other will also do the same then in this situation the choice for every player will be "C". For client the best situation is also when every one is playing "C". Although the payoff of client is also close to maximum when MC is playing "D" and SCs play "C" but it will not be a better choice for client. The reason is that client wants benefit for every player, more over if SCs have to face "D" then next time they will not go for "C" which is discouraging for the client. From the results in table 2 we can predict that if the game is played repeatedly then players will go for cooperation. More over it is better to teach and motivate every player to cooperate with others.

Axelrod R. (1984) arranged a competition; experts all over the world were invited to submit their strategies to play "Iterated Prisoner's Dilemma". There were different strategies from most simple i.e All D (always defect), All C (always cooperate) to complex type of strategies. The winner strategy was a relatively very simple one consisting of a short program (code). It was "tit for tat" (TFT), which states "*cooperate in first move and then play the same (cooperation or defection) which opponent has played in previous move"*. TFT won the first round and then a second competition was carried out by Robert Axelrod. In the second round he announced the result of first round. Even then the TFT won the 2nd round also.Under similar conditions, Axelrod R. (1984) on basis of his analysis describes following five conditions to promote cooperation.

1. *Enlarge the shadow of the future*
2. *Change payoffs*
3. *Teach to care about each other*
4. *Teach reciprocity*
5. *Improve recognition abilities*

4. Strategies for Cooperation in Construction Industry

In view of the analyses carried out by Axelrod R. (1984), some important strategies to achieve cooperation in construction industry have been suggested, which are named strategic thrusts. These strategic thrusts are listed below:

1. Increase the probability of future interactions
2. Make cooperation more beneficent than defection.
3. Teach and motivate contractors to cooperate.
4. Improve reciprocity in construction industry.
5. Improve conditions and abilities for formation and recognition of reputations.

Descriptions of these strategic thrusts are given below:

Strategic thrust1: Increase the probability of future interactions:

If there is no interaction in future then defection will be more beneficent and cooperative behavior will not pay. There are two conditions to enlarge the future interactions. One is to increase the durability and 2nd is to make the interactions more frequent. Consider different broader types of construction fields, the different groups of each field normally stick to their special construction field. It means the member of each group interact within the group in different projects. If the members of groups are less then there will be more frequent interactions. Members of a small group interact more frequently than members of a large group. Moreover the element of recognition of others will be more in small groups as there will be fewer strangers. The interactions can be increased by creating such an atmosphere during the construction project that one interaction could be divided in several small interactions.

Strategic thrust 2: Make cooperation more beneficent than defection:

It has been proved earlier that non-cooperation seems more attractive than being cooperative. If there is some kind of punishment for defectors then defection will become more costly than cooperation and no one will defect. It is easy to say but these conditions are not as easy to create. Punishment for defection is possible if there is agreement or contract between parties. Then a third party (mediator) will decide the level of defection/violation and suggest punishment. In construction projects the subcontractors do not have any contract with one another. Subcontractors only have contract with main contractor. In relationships among subcontractors there are two possibilities, one is short term benefit of defection and the other is benefits of a long term cooperative relationships.

It has been discussed earlier that short term incentive of defecting today are actually less beneficent than long term effect of cooperation. So the realization of this

reality of benefit can make the parties to understand that cooperation is more beneficent than defection.

Strategic thrusts 3: Teach and motivate contractors to cooperate:

From the payoffs in table 15.1 it is clear that the best strategy for a player in any situation is to defect. The reason is that there are chances that other may defect because defection is safer in any situation than cooperation. Defection is more attractive if continuity of relations is not clear. If there is continuity in relations and it is assured that other player will cooperate then the chances of a party to cooperate, will increase. More over if the party is also realized that short term benefit of defections is less than overall benefit of cooperation then it is sure that the party will cooperate because overall there is loss in defection. Therefore teaching and training of organizations' management as well as staff is necessary to promote cooperation.

Due to the unique nature of construction projects one can realize that there should be some kind of working practices for all the participating organizations. So that by adopting these working practices, each party involved can create a helpful and progressive atmosphere for other participants. These practices or norms should include responsibilities, sharing of risks, compromises, cooperation, working style, sharing of limited resources and space. Better cooperation among the critical members of construction project can be achieved in this way. Naturally it is difficult to achieve satisfactory cooperation if there are not many chances of continuity of relations among these firms in recent future.

Generally there are different construction firms involve in a project as main contractor outsources some activities to different subcontractors. These different subcontractors have to share same space and there activities also depend or affect one another. Therefore their issues with one another can not be managed by contract because they are only contractually bound with main contractor but not with one another. This strategic thrust suggests introducing and encouraging practices to increase better cooperative relationships among these firms that often have to work in large projects with other small and medium scale companies.

Strategic thrusts 4: Improve reciprocity in construction industry:

In Axelrod tournament the winner strategy "tit for tat" is a reciprocity strategy. It plays defection against defector and cooperation against cooperator. It gives punishment to defectors. In construction projects when different construction companies interact with one another then playing "tit for tat" has many complications. It creates hostility among construction firms. Some times a small unintentional incident can create never ending hostility. If the defection receives no punishment then it will pay to defector, more over it will encourage other parties to defect.

The punishment from a third party is important to reduce retaliation similar to the role of police in a society. The use of balanced construction contracts and effective dispute resolution methods can serve this purpose to some extent. The problem is that all the parties in a construction project are not bound in a construction contract. Therefore there should be some rules or ethics to act as guidelines for measuring cooperative behaviors. There should be also some kind of central authority to decide about the level of non cooperative behavior and enforce necessary punishment.

Strategic thrusts 5: Improve conditions and abilities for formation and recognition of reputations:

We have seen that the best strategy has two basic characteristics. It is cooperative initially and it reciprocates accordingly. For reciprocating reaction there should be recognition ability. For reciprocation the parties should distinguish between those who respond to the cooperative behaviors and those who do not respond positively. Effective information and communication system in construction industry can help in this regard.

Although information and communication system plays important role in post construction stage as it has helped in accelerating the modification, review and approval processes. The use of information and communication system may be very beneficial for main contractors in managing the subcontractors' activities and their performances in project. The objective of this strategic thrust is to develop information system in construction industry so that reputations could be recorded and available to main contractors, subcontractors and other related player.

4. Recommendations

Now in view of the above strategic thrusts and conditions in construction industry, some recommendations to improve cooperation among participants of construction projects are described in next sections. These are few general recommendations that may vary according to conditions in construction industry. However in any condition strategic thrusts will be the same that provide guidelines and directions towards cooperation.

4.1 Recommendations for Strategic Thrust 1: Increase the probability of future interactions:

Construction projects are short term in nature and all the participating parties cannot continue their relations with one another during their next projects. A contractor engages different subcontractors and suppliers in its different projects due to location and nature of the project. Therefore subcontractors involved in a project are not expected to work again with same partners in their next projects. So generally there is not much continuity in relations of subcontractors with one another.

Now consider a single construction project which is normally has duration of several months or years. So if every participant is continuously evaluated then there may be several interactions in a single project. In this way a single interaction can be changed to several small duration interactions. For example a weekly meeting of participants to discuss performance and behaviors means the evaluation of a week long relations. Next week these participants will work again with same partners, in this way there will be continuity in relations and in other terms the shadow of future is enlarged.

To achieve this situation main contractor should mark the instant performance of subcontractors during a project. The recorded performance by periodic evaluation process should be displayed in a visual manner on a chart. This chart should be installed in its office to have a single glance understanding about the performance of every participant. A simple chart showing this type of performance detail as suggested by Nazir R. (2010) is shown in table 3. It will not only help the main contractor's managerial staff about the necessary efforts to be done but also motivate subcontractors to perform better and go for cooperation.

The performance record made by continuous monitoring will help the subcontractors to overcome their week points. This type of performance record will become a data base for main contractors to be used in prequalification of subcontractors and suppliers in their future projects. If we consider the details of all the subcontractors and suppliers involved in a project then there will be some participants which worked for

Table 3: A Simple Performance Chart of Subcontractors during a Project

Good (✓) : Satisfactory (–) : Poor (✗)

Sub Contractor Firm	Progress according to Schedule	Quality	Site installations	Site Cleanliness	General behavior	Over All
SC A (Earth work)	–	✓	✗	✓	✗	–
SC B (Concreting)	✓	–	✗	–	–	–
SC C (Steel Fixer)	✗	✓	–	–	–	–
SC D (Sanitary)	–	–	✗	✓	✓	✓
SC E (Tile fixer)	✗	✓	–	–	–	–
SC F (Painter)	–	–	–	✗	✗	✗

very short span of time. Some have very insignificant impact on project or on others through their performance. So these subcontractors need not to be included in the performance monitoring list. Only the critical subcontractors and suppliers should be closely monitored and invited in regularly arranged meetings. Regular meetings of all key participants will help to inform the subcontractors about their performance and further

instructions. A continuous feed back will help the subcontractors to improve their performance according to the expectations of main contractor. In this way some of the project uncertainties caused by subcontractors can be avoided. Monitoring and evaluation practice will also encourage the subcontractors to seek for different innovative means in order to become more productive. Therefore it will motivate them to develop cooperative relations with one another to improve their performance.

4.2 Recommendations for Strategic Thrust 2: Make cooperation more beneficent than defection:

Incentive can change the traditional approaches in construction projects. Some incentive like new procurement approaches such as “target cost contracting” and “guaranteed maximum price” approaches. These kinds of approaches may be selected and explored according to the requirements of each construction project. The initiative of introduction of these kinds of new approaches should be started by public sector and also private developers should be encouraged to adopt new contacting approaches. It is easier for private developers because they are more flexible in administrative and financial matters than public sector.

Subcontractors often complain about the exploitations of main contractors in form of payments, risk transfer and deserved credit. Therefore Murdoch J., Hughes W., (2008) describes that, it is much important to balance the powers between main contractor and subcontractors so legal and contractual reforms in this regards should be done. In this way the temptation in defection (generally practiced my main contractors) could be minimized.

4.3 Recommendations for Strategic Thrust 3: Teach and motivate contractors to cooperate:

The leading stakeholders of construction industry should provide opportunities of training and learning to main contractors and subcontractors according to the current demand. Training and education should be continuous phenomena in construction firms. Practice of in house training should be introduces in construction firms. In-house training and learning opportunities should be part of evaluation criteria for construction firms.

The teaching staff of technical institutions should also be provided the facility of practical experience in construction industry. Professionals in construction industry should also teach in technical institutions so that the training and education in these institutions should meet the current requirement of the construction industry.

Commitment of leadership and special interest of senior members plays key role in pushing forward the relationship management efforts. All parties big and small should know the benefits of relationship management and also clearly understand the approach to move forward in this regard. The approach toward relationship management requires

special emphasis on “interest of top management”, “training and motivation of staff”, “understanding the long term benefits” and special role assigned to effective members to develop and amend company’s policy.

4.4 Recommendations for Strategic Thrust 4: Improve reciprocity in construction industry:

It is much important for major developers to prepare document for subcontract conditions and main contractors should be forced to adopt these subcontract conditions in all of their subcontracts. Sufficient guidelines in this regard are available by standard subcontract documents for example FIDIC and JCT (Joint Contracts Tribunal, UK).

Since in each major construction project several construction firms are involved (contractors, subcontractors, suppliers) so there are often disputes and litigation took place. These disputes not only are financial burden for contractors but also it delays the construction process. Although the arbitration system is defined in contract document but it should be more effective and rapid. Reforms need to be done in disputes resolution processes in view of the nature of disputes in construction projects. These reforms should address the following aspects:

i. Criteria for nomination of arbitrators
ii. Code of ethics (transparency, fees, confidentiality) for arbitrators and mechanism for nomination of arbitrators.
iii. The time to time improved arbitration mechanism should regularly be included in standard contract conditions.
iv. Introduction of new and improved dispute resolution processes such as adjudication and dispute review boards.

To ensure reciprocation, contract conditions should be fair and dispute resolution should be cheap and fast.

4.5 Recommendations for Strategic Thrust 5: Improve conditions and abilities for formation and recognition of reputation:

In construction industry it is important to improve data base (registration and grading) of subcontractors according to their skill and capabilities. Reforms are also required in subcontract conditions to avoid adverse effects of subletting such as total or excessive subletting. Obligations of main contractors and subcontractors should be defined in contracts and practiced.

In most of the public sector organizations the only criteria for awarding contract is price competition. There is significant need to give due credit to good reputation such as quality, safety, and other added values of the contractors. Rules and regulations need to

be revised to take care of these factors. Performance should be significant factor than the price, in awarding contracts.

5. Conclusions

Analyses of cooperation conditions by “game theory” give solution about two main issues. 1st it describes the outcome of a strategy, when a player adopt it to play with other players. 2nd it helps in deciding which strategy, a player should adopt in certain conditions. In “iterated Prisoner’s Dilemma” game the different strategies are combinations of two actions, cooperate and defect (do not cooperate). In this analysis it is supposed that when a player adopts a strategy then it sticks to it in whole tournament which does not describe realistic behavior. Generally analyses by game theory give important solutions in many social and economic problems. The strategies defined in game theory analyses are generally simple and hypothetical as in case of iterated Prisoner’s Dilemma game. These strategies some times can not depict the actual behaviors especially behaviors and strategies of groups of individuals. Although competitive analyses by game theory give fundamental conditions for cooperation but real solution also needs detail behavioral study.

The strategies generally adopted by subcontractors in construction industry or in other industries, are not as simple to define and then analyze by game theory. These small construction firms change their strategies according to the conditions. Competitive and economic conditions in construction industry and social and cultural values of staff are major factors to shape their behaviors. Some times individual behaviors are totally contradictory to the strategy of its organization.

References

Akiyama E., Kaneko K. (1995). Evolution of Cooperation, Differentiation, Complexity, and Diversity in an Iterated Three-Person Game. Artificial Life, 2, 293-304.

Asgari S. M., Afshar A. (2008). Modeling Subcontractors Cooperation in Time; cooperative Game Theory Approach. First International Conference on Construction in Developing Countries (ICCIDE-I), August 2008, Karachi, Pakistan, 312-319.

Axelrod R. (1984), The Evolution of Cooperation. Revised edition published by Basic Books, Cambridge MA.

Beach R., Webster M., Campbell K.M. (2005). An evaluation of partnership development in the construction industry. International Journal of Project Management, 23(8), 611–621.

Cheung Y. K. F., Rowlinson S. (2007). Supply Chain Engagement through Relationship Management. Symposium Proceedings CIB W092 Interdisciplinary in Built Environment Procurement Newcastle, New South Wales, 119-126.

Conley A. M., Gregory A. R. (1999). Partnering on Small Construction Projects. Journal of Construction Engineering and Management. 125 (5), 320-324.

Dainty R. J. A., Briscoe H. G., Millet F. S. (2001). New perspectives on Construction Supply Chain Integration. Supply Chain management: An International Journal, 6(4), 163-173.

Eriksson E., Dickinson M., Khalfan M. M. A (2007). The influence of partnering and procurement on subcontractor involvement and innovation. Facilities. 25(5/6), 203-214

Hinze J., Tracey A. (1994). The contractor-subcontractor relationship: The subcontractor's view. Journal of Construction Engineering and Management, 120(2), 274-287.

Hovi N. (1995). Outcomes of Inter-firm Co-operation – A Case study of Four Subcontractors. Publications of the Turku School of Economics and Business Administration; Series D-3.

Lehtinen U. (1997). Long-term Subcontracting Relations - Case Study Experiences. 6th International IPSERA Conference, University of Naples Federico II – Italy.

Matthews J., Pellew L., Phua F., Rowlinson S. (2000). Quality relationships: partnering in the construction supply chain. International Journal of Quality & Reliability Management, 17(4/5), 493-510

Morris P. (1994), Introduction to Game Theory. Published by Springer-Verlag, New York, US.

Murdoch J., Hughes W., (2008). Construction Contracts- Law and management, fourth edition. Published by Taylor & Francis Group Ltd. 2 Park Square, Milton Park, Abingdon, Oxford OX14 4RN UK.

Nazir R. (2009). Development of productive relationships among construction parties for effective 'construction supply chain management'. Proceedings of the XIX International Conference on Material Handling, Constructions and Logistics (MHCL'09). October 15-16, 2009, Belgrade, Serbia.

Nazir R. (2010). Managing Small and Medium sized Enterprises in Construction Industry. Presented in 7th Annual International conference on Small and Medium Sized Enterprises: Management – Marketing – Economic & Social Aspects", Athens, Greece 2 - 5 Aug. 2010.

Nowak A. M. (2006). Five Rules for the Evolution of Cooperation. Science, 314, 1560-1563.

Thomas L.C. (1984). Games Theory and Applications. Published by Ellis Horwood Ltd. West Sussex, England.

ANALYSIS OF A 3-DIMENSIONAL LEADERSHIP MODEL

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Abstract

In the 1920s, early studies of leadership were largely based on the assertion that leaders possessed certain traits that non-leaders did not have. Subsequent research revealed that leadership was more than merely the possession of specific traits and that situational circumstances related to the interaction between leaders and followers comprised a significant factor in leadership research and development. Throughout the years, additional studies have provided information through which numerous multidimensional leadership models have been developed.

The purpose of this paper was to analyze a 3-dimensional leadership model that explores the leadership decisions in dynamic environments and application of the models in organizational dynamics. Being a leader is a function and leadership is a process that can originate from model creation. This analysis paper reviewed prior studies on leadership models to determine the inter-relationship between models. Considering that model creation occurs in all facets of an organization, the integration of model concepts helps to enhance organizational processes and decision-making strategies. The paper concluded that the technology, organization, and people leadership model is extremely innovative and provides ways to meet organizational objectives by integrating and measuring technology, organization, and people. The three identified initiatives relating to leadership decisions in dynamic environments are: a decision for special tasks and tactics, a communication team, and a decision management team. These teams focus on communication, cultures, human resources, and business ethics that are imperative to sustaining competitive advantage and consistent organizational success.

Introduction

In the 1920s, early studies of leadership were largely based on the assertion that leaders possessed certain traits that non-leaders did not have (Kest, 2006). Subsequent research revealed that leadership was more than merely the possession of specific traits and that situational circumstances related to the interaction between leaders and followers

comprised a significant factor in leadership research and development. Throughout the years, additional studies have provided information through which numerous multidimensional leadership models have been developed. Such research can be traced back to the University of Iowa where leaders were classified as "autocratic, democratic, or laissez-faire" (Kest, 2006, p. 52) in terms of the traits they possessed and how they interacted with followers.

The purpose of this paper was to analyze a 3-dimensional leadership model that explores the leadership decisions in dynamic environments and application of the models in organizational dynamics. Being a leader is a function and leadership is a process that can originate from model creation. The success of a leader depends on numerous external and internal environmental factors (Konorti, 2008). Kast and Rosenzweig (1979) suggested that there is "no one best way to lead; it all depends" (p. 329). Considering that model creation occurs in all facets of an organization, the integration of model concepts helps to enhance organizational processes and decision-making strategies.

Literature Review

Barrett (2006) discussed the competent leadership model as a model that creates and maintains a focus on both productivity and people. The model illustrates what leadership looks like in terms of effective leadership that enables task completion while treating employees with respect. The underlining factors of the model depend on the organizational culture and its value on people.

Krug and Weinberg (2004) analyzed the dynamic, three-dimensional model that tracks individual programs in an organization's portfolio regarding their contribution to mission, money, and merit. The first dimension measures whether the organization is doing the right things. The second dimension, whether it is doing things right financially. The third dimension, whether it is doing things right in terms of quality (Krug & Weinberg, 2004). Following the organizational portfolio, processes, and checklists determines what is right and what is not. Integration of the model elements helps to improve leadership and managerial understanding of the organization's current situation and strategic decision making.

In Locke and Tarantino (2006) leadership development model, the 4A Model goes beyond traditional leadership development. The model promotes continuous learning and focuses on future needs and long-term results. The 4A model provides coaching support in small groups and helps participants deepen their knowledge and skills. The leadership model has four components: assessment, alignment, application, and achievement. The model links leadership competencies to organizational goals by measuring direct impact of leadership development on practice outcomes (Locke & Tarantino, 2006).

Masood, Dan, Burns, and Backhouse's (2006) study examined the transformational leadership model with the concepts of situational strength and

organizational culture. The study stems from the assumption that transformational leadership behavior can significantly influence the freedom of workers and how followers work in organizations (Masood et al. 2006). The high degree of acceptance of leadership as a transformational process helps organizations to adapt to changes, innovations, and performance enhancements. This model is useful when the human resources departments of companies relate assessments to motivation, job satisfaction, employee morale, and employee training.

Moore (2007) explained the link between leaders and managers and the need to mix the responsibilities. Leaders challenge the status quo, build trust, innovate and develop, ask what and why, do the right things, and watch the horizon. In contrast, managers accept the status quo, control, administer and maintain, ask how and when, do things right, and watch the bottom line. The integration of both duties makes management and leadership model a mixture of behaviors.

Figure 1 shows the 3D conceptual leadership model that depicts leaders who operate in a 3-dimensional environment, using the three traits of wisdom, courage, and vision (WCV) (Konorti, 2008). For example, an individual who displays no wisdom, courage, or vision is less likely to succeed than an individual who displays one or more of the proposed traits. Ideally, an individual can achieve the ultimate in leadership through the combination of the three traits (Konorti, 2008). Transformational leadership occurs when the WCV traits are present and simultaneously used in the leadership process.

Figure 1: The 3 D Conceptual Leadership Model (Konorti, 2008).

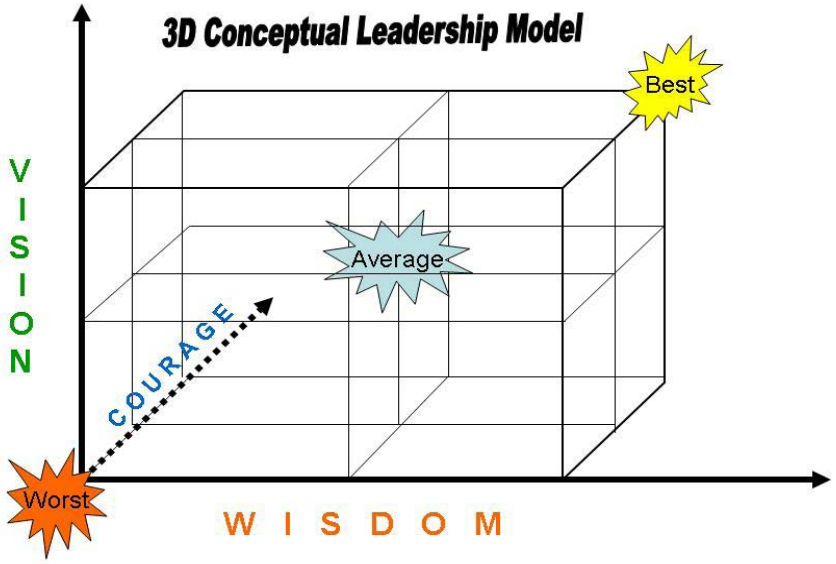
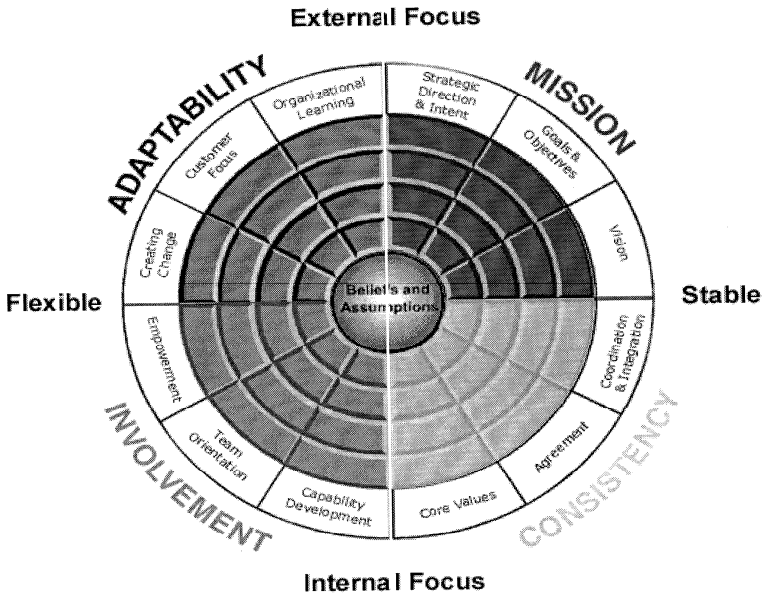


Figure 2 depicts an organizational culture model that integrates the four cultural traits (Denison & Neale, 1998). Okoro (2010) used the organizational culture model and transformational leadership model to analyze the relationship between organizational culture and performance in a merged Nigerian bank. The study results indicated that a measure of the combination of cultural traits (mission, involvement, consistency, and adaptability) had a significant relationship with each of the organizational performance measures (employee commitment, job satisfaction, and employee retention). The study revealed that the lack of leadership decisions that promotes employee motivation and involvement during organizational mergers contributes to a decrease in employee commitment and organizational performance.

Figure 2: Denison organization culture model (Denison & Neale, 1998)



Leadership Model Comparisons

Comparing the reviewed literatures showed that different leadership models inter-link and relate to technology, organization, and people. Companies that desire to succeed in the 21st century require true leaders and not just accomplished managers. The similarities of the models reveal the following: a competent leadership model focuses on both productivity and people. Krug and Weinberg's (2004) three-dimensional model tracks individual programs in an organization's portfolio regarding their contribution to mission, money, and merit. Measuring mission, money and merits relates both to the

organization and to people who use technology to get the job done and produce quality service.

Locke and Tarantino's (2006) 4A leadership model focuses on promoting continuous learning, future needs, and long-term results. Continuous employee development and training helps organizations to be ready for future challenges. Konorti's (2008) 3D conceptual leadership model showed that an individual can achieve ultimate leadership through possession of the three traits: vision, wisdom, and courage. These traits are similar to the cultural traits of mission, involvement, consistency, and adaptability that affect organizational performance (Denison & Neale, 1998; Okoro, 2010).

Inasmuch as leadership models have similarities, they also have contrasting attributes. For example, Locke and Tarantino (2006) 4A leadership model provides coaching for participants to deepen their knowledge and skills toward promoting continuous learning, focus on future needs, and long-term results. In contrast, Krug and Weinberg (2004) three-dimensional model tracks individual programs in an organization's portfolio regarding their contribution to mission, money, and merit. This shows that Krug and Weinberg main focus centers on return on investment to the organization rather than long-term results and continuous learning.

Furthermore, Moore (2007) model focused on mixing responsibilities between leaders and managers whereas, Konorti (2008) study used the three traits of wisdom, courage, and vision to access leadership effectiveness. According to Konorti, an individual can achieve the ultimate in leadership through the combination of the three traits; this contradicts Locke and Tarantino (2006) thinking that effective leadership goes beyond traditional leadership development. The need to combine the four leadership components: assessment, alignment, application, and achievement are imperative to competency in organizational goals and leadership outcomes.

Practical Implications of the Leadership Model

Among the significant outcomes of 3-dimensional and transformational leadership models include better communication flow and enabling leaders and followers to concentrate their efforts to achieve similar organizational goals. The two-way communication system and individualized consideration allows the leader to act as a mentor to many of the followers. As such, the leader can supervise follower tasks and provide guidance and correction. The above outcomes have further implications that result in higher employee productivity and improved financial results. As such, transformational leadership model stems higher levels of employee commitment, motivation, cohesion, trust, and performance within organizational environments (Avolio et al., 1999).

Invariably, organizations that have applied competent and transformational leadership models effectively have greater chances of higher performance and business

sustainability. Empirical research finds that outstanding firms are more innovative than others by laying more emphasis on technology, organization, and people (Krug & Weinberg, 2004). Often, the firm under the guidance of the transformational leader has the vision, courage, and wisdom (Konorti, 2008) to embark on steps that he or she formed to become best practice or the highest breed among competitors. This 3-dimensional leadership TOP model should narrow the understanding of transformational leadership thinking vis-à-vis leadership traits and traits that are hard to quantify and measure.

The 3-Dimensional Leadership TOP Model

Organizations integrate different technologies that relate to processes, people, and promotional mechanisms to improve organizational performance and effectiveness (McNurlin & Sprague, 2006). Information Systems (IS) leadership is a function of technology, organization, and people. Besides the specific skills and knowledge required for effective leadership, Mendonca (2004) identified five components of IS leadership: (a) strategic value and use of IS, (b) IS as an integration enabler, (c) effects on organization structure, (d) effects on processes, and (e) effects on work and knowledge workers. The TOP model is the 3-dimensional IS leadership model that tracks individual solutions in a corporate portfolio to contribute to technology (T), organizations (O), and people (P).

Figure 3: The 3-Dimensional Leadership TOP Model

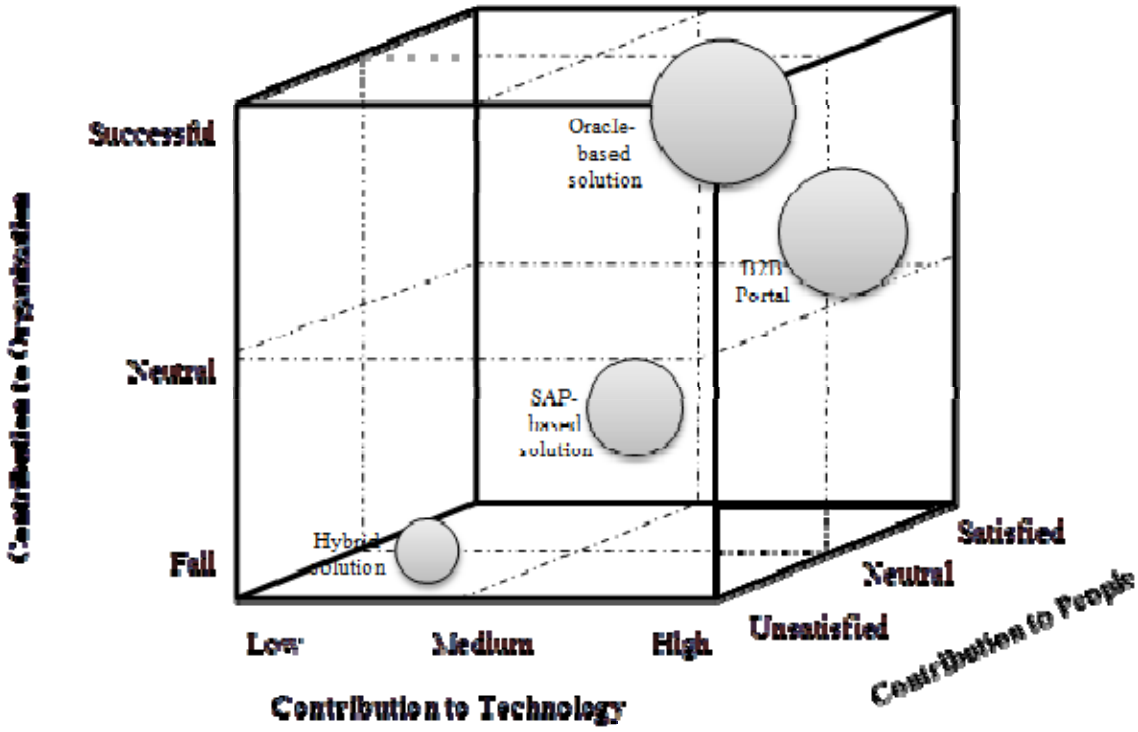


Figure 3 depicts the technology, organization, and people (TOP) model. The first dimension assesses the contribution of a solution for technological change and innovation in an organization. Technological change refers to the development of an organization's technology over time. Schilling (2008) identified two types of technological change: continual or incremental change, and discontinuous or breakthrough change. Incremental technological change refers to gradual, often indiscernible technological flows that improve on existing products or processes. In contrast, breakthrough change involves revolutionary technological advances because of the invention of new products or processes.

The second dimension measures the contribution of a solution for the organization by measuring information technology (IT) efficiency and effectiveness of IT investments. Organizational performance and effectiveness have a multi-disciplinary nature and combined financial and non-financial perspectives (Rouse & Putterill, 2003). Even though the performance of the IS function might be difficult to conceptualize and measure, Chang and King (2005) advised to distinguish two approaches (variance and process) in research into the IT business value. The variance approach focused on the relationship of IT investments-organizational performance by considering financial measures such as lower costs, higher revenues, and improved market share. The process approach analyzes the impact of IT on organizations from the standpoints of efficiency, effectiveness, and strategic IT alignment. An integration of variance approach (IT investments outcome) and process approach (organization efficiency and effectiveness) helps to dilute complications of multinational businesses challenges within the IS domain.

Williams and Miller (2008) pointed out the limitation of IT efficiency measurements to assess IT effectiveness. According to Silvius (2006), the influence of IT on organizations moves steadily from an efficiency production factor toward the maximization of the IT investments' business value. Williams and Miller argued that generally enterprises invest in IT for two reasons: (a) to capture information to support corporate processes, and (b) to enable business change. They advised that the contribution of IT relates to supporting defined business processes and enabling undefined business change.

The third dimension measures the contribution of a solution for people at both operational and strategic levels. The operational and strategic roles of the knowledge worker undoubtedly influence the corporate financial, technological, and structural aspects. Henard and McFadyen (2008) posited that the operational and strategic capabilities of knowledge workers stimulate corporate innovation individually and collectively. Henard and McFadyen added that these capabilities are a hierarchy of three knowledge utilizations: acquired, unique, and creative knowledge.

TOP Leadership Model Elements

The TOP leadership model draws upon Krug and Weinberg's (2004) three-dimensional cubic diagram. The model has four elements: (a) the solution and its cost, (b) organization, (c) technology, and (d) people. The solution is the system's basic building block (Krug & Weinberg). For example, in the case of global enterprise, various solutions can serve as a potential strategic path. Such solutions include (a) Oracle-based solution, (b) SAP-based solution, (c) B2B portal, and (d) hybrid solution encompassing Oracle, SAP, and legacy systems.

Krug and Weinberg (2004) advised that each solution requires its total annual cost. Solution cost is an estimate of the organization's investment in a solution. Researchers and practitioners usually apply the following traditional budgeting models to evaluate capital projects: (a) payback method, (b) return on investment, (c) cost-benefit ratio, (d) profitability index, (e) net present value, (f) added economic value, and (g) internal rate of return (Silvius, 2006). The TOP leadership model displays cost as the size of solution bubbles that provide the level of resources allocation management and the potential impact of the solution on technology, organization, and people. Krug and Weinberg advised to build the TOP leadership model by converting all elements to numbers, and creating and positioning bubbles.

TOP Leadership Model Solutions

Some model solutions identified in the TOP Leadership include Oracle E-Business Solution, Systems, Applications, and Products (SAP) Solution, and Hybrid Solutions. Oracle E-Business suite provides an Enterprise Resource Planning (ERP) implementation solution that focuses on the entire organization. The Oracle solution integrates accounting, customer relations, inventory, and supply chain management features. Oracle products have a history of complexity, often requiring experienced installers during installation and initial setup. The Oracle ERP solution requires extensive planning prior to organizational implementation because Oracle is a large, complex, and technical software system designed to encompass an entire enterprise. This solution includes elements from transformational and operational strategies. Global IS implementation requires the integration of the Oracle E-Business Suite and management to focus on building exceptional internal capabilities to elevate operational strategies and market-based opportunities (Aspesi & Vardhan, 1999).

The Oracle E-Business solution for organizational problems requires the assessment and evaluation of the internal elements within the organization that need leadership governance and oversight. ERP systems are primarily developed to synchronize the flow of information. ERP information can correspond with the tangible flow of raw materials to tangible products, user perceptions, and inputs. The user inputs will be critical in the developmental phases of the organization's ERP systems integration (Subramanian & Peslak, 2010, p. 130). User perception will optimize the organization's internal value system that ensures connectivity of business processes through real-time

interchange and information-sharing of common data in the global organizational integrated infrastructure (Subramanian & Peslak).

SAP in data processing solution helps to create competitive advantages for firms by allowing them to compress business process cycle times (Carbone, Querns, Hartzell, & Boothe, 1999). Today's global businesses require real-time operations and the ability to respond speedily to dynamic changing situations. The use of SAP will enable an organization's structure to create and modify new business processes and the functional areas. Application of an effective leadership model and commitment of resources provides opportunity for SAP implementations. Hence, SAP requires collaboration of leaders, managers, and employees to work knowledgeably for successful integration in the global environment.

Hybrid Solution encompasses Oracle, SAP, and legacy systems that integrate on an existing conventional structure. The hybrid system allows collaboration across conventional units to leverage the technology, organization, and people effectively toward maximal benefits to the organization. Mahesh and Suresh (2009) noted that hybrid structures can be effective in both product and service organizations.

The Rationale for the TOP Leadership Model Dimensions

The dimensions of the TOP leadership model are represented by x, y, and z axes. The x axis represents the first dimension (contribution to organization), y axis represents the second dimension (contribution to technology), and z axis represents the third dimension (contribution to people). The rationale for the global IS leadership model is that when people participate, they are more willing to engage in organizational activities, and are more collaborative in a joint effort and less competitive (Yukl, 2009). When people participate in the decision-making process, their commitment to the achievement of organizational goals is stronger.

A decision-making paradigm is an important element of the TOP leadership model. The fundamental principle of transformational leadership relates to the followers' active participation in the organizational decision-making process regarding technology, organization, and people (Yukl, 2009). Hence, participative leadership allows people to involve themselves in a decision-making process (Kouzes & Posner, 2007).

Leadership Decisions in Dynamic Environments

Many leadership scholars have defined leadership as an effort to influence the behavior and attitude of the followers to accomplish set goals (Crosby & Bryson, 2005; Kouzes & Posner, 2007; Yukl, 2009). Crosby and Bryson defined leadership as "inspiring and mobilizing others to undertake collective action in pursuit of the common good" (p. xix). Historically, leadership has been "one of the most observed and least understood phenomena on earth" (Kouzes & Posner, 2007, p. 2). The theoretical

framework of the TOP leadership model uses the theories and concepts of Bass's (2006) transformational leadership. The transformational leadership model, like many postmodern leadership models, embraces the concept of motivation, mutually beneficial goals, leader-follower emotional bond, and value-laden and assimilated vision (Bass & Riggio, 2006).

The transformational leadership theory has four fundamental components: "idealized influence or charisma, inspiration, intellectual stimulation, and individualized consideration" (Bass & Riggio, 2006, p. 7). For global businesses, idealized influence is important because it develops a strong emotional connection between followers and leaders in a multicultural environment and induces excitement about the shared mission (Bass, 2006). The follower will be more willing to accept the challenges if the leader earns his or her trust and respect (Bass & Avolio, 2004).

The second component of transformational leadership is inspiration (Bass & Riggio, 2006). Global leaders inspire their followers by clearly communicating organizational visions with enthusiasm and optimism. Intellectual stimulation is the third component through which global leaders provide their followers the opportunity to perform their work with autonomy. The followers analyze problems with creativity and innovation from their perspective and experience. The fourth component is individual consideration in which the global leaders pay close attention to the followers' needs, skills, and abilities and then assign tasks to them with guidance, mentoring, and coaching (Bass & Avolio, 2004).

One important responsibility of a global leader is to consider the employee's effort, performance, and the attainment of individual goals (Senge, 2006). Leaders also need to create a linkage between managerial actions and motivational considerations. Leaders who follow the common principles of leadership to create opportunities for their employees and to give unwavering commitment and dedication will succeed (Senge). Leaders who exercise their authority to draw out their employee's effort will fail because the employee will find a way to work at about 65% of his or her capacity (Drucker, 2007).

Additionally, one common characteristic of high-achieving employees is self-determination (LaRue, Childs, & Larson, 2004). When employees choose what to do, they will volunteer their affective commitment. LaRue et al. (2006) articulated that command compliance in an organization; often not achieved as commitment is voluntary by participants. To gain participants commitment and sustain competitive advantage, the global leaders must involve their employees in the decision-making process. The design of the decision-making paradigm in the TOP model consists of the following components: (a) a decision STAT team (special tasks and tactics), (b) a communication team, and (c) a decision management team. The responsibilities of each team are as follows:

STAT Team

Members of this team are organizational members who make decisions on behalf of the entire organization. The team's authority to make decisions can be centralized or decentralized depending upon the situation, the issue, and the decision-making ability of the employees. The ultimate missions of the STAT team include, to: (a) assign decision-making authority to the next level in a cost-effective manner, (b) define the specialization level appropriate for the complexity of the situation, and (c) maintain dual structure flexibility level to handle simple and complex decisions.

Communication Team

Members of this team are to provide the STAT team with data and information about the internal conditions and external environments of the organization. They communicate and coordinate the central activities for making decisions to ensure that the STAT team can make informed decisions in an effective and timely manner. This team is also responsible for minimizing the number of contacts in communication chains because any delays and distortions in communication will affect the quality of decisions. The use of communication technologies will facilitate the team's activities.

Decision Management Team

As the decision-making processes are essentially a consequence of loosely connected routines, as they are in most situations, they are difficult to anticipate (Mintzberg, Lampel, Quinn, & Ghoshal, 2003). Coordination and management of these processes are critical. Members of this team are responsible for the proactive management of the decision-making processes as they are the central activity of the organization. The decision management team needs to review and select the most urgent and important processes among candidate problems and assign priority accordingly. In a global organization, managing the decision-selection process is critical to the performance of the organization.

Application of the TOP Leadership Model to Organizational Dynamics

Leaders can use models to provide a blueprint regarding how to approach a situation and provide the perspective necessary to understand how to make the best decisions for the organization. The elements of the TOP model will enable global leaders to make important decisions and enhance organizational success. By understanding the solutions proposed and the costs associated, leaders can correctly analyze the existing options and costs. From the Oracle, SAP, and hybrid solutions identified, the model will help leaders to focus on selecting a solution that meets the specific organizational perspective.

From an organizational perspective, managers are looking at factors that will help technologically focused projects to be a success. Organizations initially put a strategy in place and then look to put in place a structure that will help facilitate a defined strategy (Hult, Cavusgil, Deligonul, Kiyak, & Lagerström, 2007). With the TOP leadership model, the individuals responsible for defining strategy can use the matrix to

ascertain properly where the organization wants to go, how the enterprise vision can be reached, and the status of the process. The leaders need to understand that the strategy developed must guarantee that a sufficient balance exists between technological brilliance and existing organizational objectives. The IT strategy can drive business renovation in addition to making transformation possible.

The ultimate goal of the TOP leadership model is to provide leaders with a framework which they can use to gain a meta-cognitive understanding of the organizational dynamics inherent in leadership decisions. The model can analyze various situations and help with determining which will work best for the organization. Applegate, Austin, and McFarlan (2003) affirm that when an organization puts the correct IT solution in place, organizational success will not necessarily be guaranteed; however, whenever an incorrect structure is implemented, a chance exists that the initiative could be a failure. A situational approach and model refinement help to develop an organizational structure to meet the challenges of a dynamic workplace.

Conclusion

This paper analyzed the three-dimensional TOP leadership model that explored leadership decisions in dynamic environments and application of the models in organizational dynamics. The literature review suggested that different leadership models inter-link and relate to technology, organization, and people. Companies that desire to succeed in the 21st century require true leaders and not just accomplished managers. The TOP leadership model is extremely innovative and provides ways to meet organizational objectives by measuring and integrating technology, organization, and people.

The application of the TOP leadership model will enable leaders to develop new and refined IS capabilities in both the national and multi-national environments. As competitive advantage requires challenges, considerations and initiatives in the global terrain, the need to explore, identify, and implement such initiatives becomes paramount. Such initiatives relate to leadership decisions in dynamic environments that include a decision for special tasks and tactics, a communication team, and a decision management team. Each member of this team will focus on communication, culture, human resources, and business ethics that are imperative to sustaining competitive advantage and consistent organizational success. The intent of this model analysis is to expand the understanding of leadership and provide future leaders with the opportunity to create a roadmap to achieve the status of a transformational leader.

References

Applegate, L.M., Austin, R. D., McFarlan, F. W. (2003). *Corporate information strategy and management, text and cases* (6 ed.). Boston: McGraw-Hill Irwin.

Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the multi-trait leadership questionnaire. *Journal of Occupational and Organizational Psychology, 72*(4), 441-462.

Aspesi, C., & Vardhan, D. (1999). Brilliant strategy, but can you execute? *The McKinsey Quarterly, 1*(5), 89-99.

Barrett, D. A. (2006). Leadership perspective [Electronic Version]. *Leadership Excellence , 24* (10), 10.

Bass, B. M. (2006). *Transformational leadership* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Bass, B. M., & Avolio, B. (2004). *The multifactor leadership questionnaire: Sampler set.* Mendo Park, CA: Mind Garden, Inc.

Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Carbone, T., Querns, D., Hartzell, K., & Boothe, J. (1999). SAP: A Literature and Implementation Study. *Allied Academies International Conference. Academy of Information and Management Sciences*. Proceedings, 3(1), 89-100.

Chang, J. C., & King, W. R. (2005). Measuring the performance of information systems: A functional scorecard. *Journal of Management Information Systems, 22*(1), 85-115.

Crosby, B. C., & Bryson, J. M. (2005). *Leadership for the common good: Tackling public problems in a shared-power world*. San Francisco: Jossey-Bass.

Denison, D. R., & Neale, W. S. (1998). *Denison organizational cultural model survey.* Ann Arbor, MI: Aviat.

Drucker, P. F. (2007). *Management: Tasks, responsibilities, practices*. New Brunswick, NJ: Transaction.

Henard, D. H., & McFadyen, M. A. (2008). Making knowledge workers more creative. *Research Technology Management, 51*(2), 40-46.

Hult, G.T.M., Cavusgil, S.T., Deligonul, S., Kiyak, T., & Lagerström, K. (2007). What drives performance in globally focused marketing organizations? A three-country study. *Journal of International Marketing. 15* (2), 58-85. Retrieved May 23 from EBSCO Host database.

Kast, F. E., & Rosenzweig, J. E. (1979). *Organization and management: A systems and contingency approach* (3rd ed.). New York: McGraw-Hill. Kouzes, J. M., & Posner, B. Z. (2007). *The leadership challenge: How to get extraordinary things done in organizations* (4th ed.). San Francisco: Jossey-Bass.

Kest, R. (2006). Principles of leadership: Leadership management. *Futures, 30*(1/2), 52-71.

Konorti, E. (2008, September). The 3D transformational leadership model. *Journal of American Academy of Business, Cambridge, 14*(1), 10-20. Retrieved from ABI/INFORM Complete.

Krug, K., & Weinberg, C. (2004). Mission, money, and merit: Strategic decision making by nonprofit managers. *Nonprofit Management & Leadership , 14* (3), 325-342.

LaRue, B., Childs, P., & Larson, K. (2006). *Leading organizations from the inside out: Unleashing the collaborative genius of action-learning teams* (2nd ed.). New York: Wiley.

Locke, A., & Tarantino, A. (2006). Strategic leadership development. *T+D , 60* (12), 53-55.

Mahesh, K. & Suresh, J. K. (2009). Knowledge criteria for organization design. *Journal of Knowledge Management*, 13(4), 41-51.

Masood, S. A., Dan, S. D., Burns, N. D., & Backhouse, C. J. (2006). Transformational leadership and organizational culture: The situational strength perspective [Electronic Version]. *Proceedings of the Institution of Mechanical Engineers -- Part B -- Engineering Manufacture , 220* (6), 941-949.

McNurlin, B. C., & Sprague, R. H. Jr. (2006). *Information systems management in practice* (7th ed.). Upper Saddle River, NJ: Pearson.

Mendonca, J. (2004). Organizational impact of information technology: A leadership course for IT. *Proceedings of the CITC5*, USA, 244-247.

Mintzberg, H., Lampel, J., Quinn, J. B., & Ghoshal, S. (Eds.). (2003). *The strategy process: Concepts, context, cases*, (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Moore, R. (2007). Lead your organization with a higher purpose. *Plant Engineering , 61* (3), 23-24.

Okoro, H. (2010). *The relationship between organizational culture and performance: Merger in the Nigerian banking industry*. Doctoral dissertation. University of Phoenix. United States -- Arizona. ProQuest Dissertations and Theses database. (AAT 3424825).

Rouse, P., & Putterill, M. (2003). An integral framework for performance measurement. *Management Decision, 41*(8), 791-805.

Schilling, M. A. (2008). *Strategic management of technological innovation* (2nd ed.). New York: McGraw-Hill.

Senge, P. M. (2006). *The fifth discipline: The art & practice of the learning organization*. New York: Doubleday.

Silvius, A. J. G. (2006). Does ROI matter? Insights into the true business value of IT. *Electronic Journal of Information Systems Evaluation, 9*(2), 93-104.

Subramanian, G. H., & Peslak, A. R. (2010). User perception differences in enterprise resource planning implementations. *The Journal of Computer Information Systems, 50*(3), 130-138.

Williams, R., & Miller, G. (2008). Beyond IT performance. Measuring true IT effectiveness. *IT Solutions, 7*(4), 1-4.

Yukl, G. A. (2009). *Leadership in organizations* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

RELATIONSHIP BETWEEN BRICK-AND-MORTAR FILMS' INTANGIBLES AND THEIR FINANCIAL PERFORMACE

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Abstract

This study adopted an empirical research approach to explore the relationship between the firms' intangibles and their financial performance of the brick-and-mortar industry. Statistical analyses including descriptive statistics, ANOVA (Analysis of Variance), Pearson Correlation and linear regressions were conducted on the data of the selected firms in the sectors of energy, mining and chemicals. The analyses have confirmed positive relationships between firms' intangible values and their financial performance. The correlations among the size-based variables are stronger than those among ratio-based variables, and very weak correlations exist between a ratio-based variable and a size-based variable. Both Tobin *q* and market-to-book ratio have a reasonably close relationship with ROE, ROIC, and to a less extent with ROA. In general, ROA is less closely related to the firms' ratio-based intangible value than ROE and ROIC. Future studies involving the data of companies from more industries, such as high tech, services industries, are required to determine if the results of this study are generalizable.

Introduction

With the rapid advance of technology, we have entered a knowledge society (Drucker, 1988, 1994). Today, intangible assets are the most important assets in many companies. What makes a company prosper is not tangible assets, which anyone can obtain for a price, but the effectiveness with which intangible assets are put to use. According to Chio (2007), until the 1980s, the value of a company depended largely on the value of its tangible assets (e.g., buildings and machines) and increasing sales were directly related to building new factories. However, since the mid-1980s, the value of a company has significantly related to the value of its intangible assets such as innovation, technology, human resources and skills (Cloninger, 2004).

Intellectual capital exploded onto the business scene in the later 1980s. When *Fortune* magazine published Tom Stewart's article, "Brainpower," in 1991, it was the first article on the topic to appear in a national business magazine (Stewart, 1991). After that, many researchers (e.g., Bohn, 1994; Brooking 1997; Edvinsson & Malone, 1997; Hunter, Webster, & Wyatt, 2005; Kaplan & Norton, 1992 & 2004; Lev, 2001; Phillips, 2003; Pulic, 20001a & 2000b; Stewart, 2001; Sveiby, 1997; Ulrich & Smallwood, 2003) have been actively searching for intangible asset valuation tools. Their work in this area has been extensive and offered much in terms of insights. There are some simple approaches to value the intangible assets, including the Intellectual Capital Index, the technology broker, the market value added (MVA) method, and citation-weighted patents. The previous paper presented by this author (Qiu, 2010) gave a comprehensive literature review on the intangible asset valuation. It reviewed and evaluated some key and popular intangible valuation methods one by one. It then discussed the approaches and techniques that researchers have adopted when they developed these methods. The paper finally compared the strengths and weaknesses of each method.

This study is to explore the relationship of a brick-and-mortar firm's intangible assets with its financial performance in the brick-and-mortar industry. More specifically, it is to explore the relationships between intangible indicators of Tobin *q*, market-to-book ratio, and EVA and financial indicators such as the return on the asset (ROA), the return on the equity (ROE), the return on the invested capital (ROIC) and the net income. The study also determines the relationships between firms' intellectual property, such as the number of patents, trademarks and copyrights owned and their intangible indicators. There are a number of measures of intangible asset measurements like profit per employee, profit per customer, organizational knowledge quotient, etc. However, common measures, like market-over-book value, Tobin *q*, and EVA, were selected as intangible indicators in this paper because they are simply easier to use as the information is direct and unambiguous. Regardless of a manager's education and experience, he or she can compare common data because of its ease and lack of ambiguity.

The return on assets (ROA), return on equity (ROE), and return on invested capital (ROIC) were used as ratio-based measures of a firm's overall financial performance from different perspectives. The return on assets (ROA) is a measure for the average profitability relative to a firm's total assets. It is an indicator of the efficiency of a firm's overall asset management. The return on equity (ROE) is a measure of how well a firm uses shareholders' equity to generate earnings. The return on invested capital (ROIC) is a measure for the average profitability of the firm's invested capital. It is designed to indicate the efficiency at allocating the capital under its control to profitable investments. The data of net income, ROA, ROE, and ROIC all are readily available in the financial statements of publicly traded companies.

The brick-and-mortar industry is a fundamental to the modern society. They provide the physical, brick and mortar type of infrastructure to the economy. Most manufacturing sectors belong to the brick-and-mortar industry. To frame the study to a

reasonable scope, this study limited the brick-and-mortar industry to three main sectors: mining, energy and chemicals.

There is no lack of studies on the intangibles and their valuation related to brick-and-mortar industries (Braunerhjelm, 1996; Hall, 1993a; Hall, 1993b; Kim, 2000; Petrash, 1996). Braunerhjelm (1996) conducted a quantitative study on the relation between firm-specific intangibles and exports. The data were collected directly from Swedish firms through surveys and interviews in 1990 and contained information on sales, costs, skill-structures, and assets for firms in the whole manufacturing sector. The database covered 250 firms, representing approximately 40% of employment in the Swedish manufacturing industry. Kim (2000) in his dissertation proposed a simple method of R&D capital valuation and presented a model for valuing the publicly traded U.S. manufacturing firms. However, there are very limited quantitative studies specifically on the relationship of a brick-and-mortar firm's intangible with its financial performance. This study is to close the gap.

Research Questions and Hypotheses

The study was to determine whether there is a positive linear relationship between the firms' intangibles and their financial performance. There were several fundamental research questions that this author tried to answer in the study.

R1. Is there a statistically significant interaction between firms' economic value added (EVA) and net income?
R2. Is there a statistically significant interaction between firms' market-over-book value and net income (or EVA)?
R3. Is there a statistically significant interaction between firms' intangible value and net income (or EVA)?
R4. Is there a statistically significant interaction between firms' intellectual property (i.e., the number of patents, trademarks, and copyrights) and their net income (or EVA)?
R5. Is there a statistically significant interaction between firms' Tobin *q* and their return on asset (ROA), return on equity (ROE) and return on invested capital (ROIC)?
R6. Is there a statistically significant interaction between firms' market-to-book ratio and their return on asset (ROA), return on equity (ROE) and return on invested capital (ROIC)?
R7. Is there a statistically significant interaction between firms' intangibles-to-total-asset ratio and their return on asset (ROA), return on equity (ROE) and return on invested capital (ROIC)?
R8. Is there a statistically significant interaction between firms' intellectual property (i.e., the number of patents, trademarks, and copyrights) and their intangible assets (i.e., market-to-book ratio, Tobin *q*, intangible-to-total asset, intangible value, EVA, and market-over-book value)?

Based on these research questions, the null and alternate hypotheses for this study are as follows:

H01: There is no relationship between a firm's net income and its EVA.
H02: There is no relationship between a firm's net income and market-over-book value.
H03: There is no relationship between a firm's net income and its intangible asset.
H04: There is no relationship between a firm's net income and its intellectual property.
H05: There is no relationship between a firm's ROE and its Tobin *q*.
H06: There is no relationship between a firm's ROE and its market-to-book ratio.
H07: There is no relationship between a firm's ROE and its intangible-to-total-asset ratio.
H08: There is no relationship between a firm's ROIC and its Tobin *q*.
H09: There is no relationship between a firm's ROIC and its market-to-book ratio.
H010: There is no relationship between a firm's ROIC and its intangible-to-total-asset ratio.
H011: There is no relationship between a firm's ROA and its Tobin *q*.
H012: There is no relationship between a firm's ROA and its market-to-book ratio.
H013: There is no relationship between a firm's ROA and its intangible-to-total-asset ratio.
H014: There is no relationship between a firm's EVA and its market-over-book value.
H015: There is no relationship between a firm's EVA and its intangible value.
H016: There is no relationship between a firm's EVA and its intellectual property.
H017: There is no relationship between a firm's market-over-book value and its intellectual property.
H018: There is no relationship between a firm's intangible value and its intellectual property.
H019: There is no relationship between a firm's Tobin *q* and its intellectual property.
H020: There is no relationship between a firm's market-to-book ratio and its intellectual property.
H021: There is no relationship between a firm's intangible-to-total-asset ratio and its intellectual property.

The Study Methodology

This quantitative study adopted an empirical research approach. The independent variables in this study include ratio-based intangible indicators: market-to-book ratio, Tobin *q*, and intangible-to-total-asset ratio, and size-based indicators: economic value added (EVA), market-over-book value, intangible value, and intellectual property (i.e. the

total number of patents, trademarks and copyright). The dependent variables include ratio-based financial performance indicators: return on asset (ROA), return on equity (ROE), return on invested capital (ROIC), and a size-based performance indicator: net-income. The definitions and calculations of these variables are detailed in the author's dissertation (Qiu, 2009).

Data Sources

Primary data sources such as internal company reports and management accounting data are generally not accessible to the public, especially in the case of intangible asset measures due to the privacy policy of most organizations (Roth & Marrison, 1990). Therefore, secondary data sources were used in this study. The data of financial statements from different companies were collected and the statistical analyses were used to determine the relationship between firms' intangible values and their financial performance.

The data were drawn from the LexisNexis Academic database. For each company, the LexisNexis Academic database contains the financial statements and the intellectual property information. Patents include those applied in the United States, Europe and Japan. Trademarks include those registered in the states, the federal government of the United States, and international trademarks. Copyrights are those registered in the United States.

This study used a firm's annually averaged total number of filed patents, registered trademarks and copyrights as an indicator of its intellectual property. Although the data were taken from the same database to avoid potential data inconsistency, missing data or misinterpretation might still exist. Every effort was taken to screen the data to ensure data consistency, completeness, and reliability.

Overall Data Analysis Process

The overall data analyses process adopted in this study involved five steps. The first step was to review the financial data from LexisNexis database with a scope limited to a sample population of 123 companies from energy, mining and chemical sectors.

The second step was to screen out the disqualified companies for various reasons. The third step was to collect the raw data of all remaining qualified companies from the database. The raw data included total asset, current asset, revenue, operating cost, income tax, net income, earning per share, stock close price, total asset per share, intangible as a percentage of book value, book value per share, ROE, ROIC, ROA, and number of patents, trademarks and copyrights. The fourth step was to calculate all intangible values used in this study. The calculated intangibles included EVA, intangible value, market-over-book value, Tobin *q*, market-to-book ratio and intangible-to-total ratio. The last step was statistics analyses, including descriptive statistics, ANOVA, Pearson correlation,

linear regressions, and linear relationship assumption confirmation (Histograms, Q-Q plots, Scatter plots & Sequence charts). This study used the Statistical Package for Social Science (SPSS) for all statistics analyses.

Data Screening

The use of the secondary sources such as industry reports might suffer from accounting scandals in the cases of Enron, World.com, and Arthur Andersen (Castellano, Young, & Roehm, 2004). Furthermore, the problems could aggregate due to different accounting practices across the different business units of multi-national corporations, leading to data inconsistency (Nourayi & Daroka, 1996). To overcome such problems, only publicly traded companies that were listed on New York Stock Exchange were considered and no private companies were be included in this study. To avoid the complication of currency exchange, all companies were the U.S. based companies. In order to ensure that the data was suitable for the research purposes, only the reports containing a complete set of financial data were used. The financial data were screened on the company-by-company basis by following the guidelines:

Content consistency: Companies should report the same set of financial data.

Report completeness: The reports should contain the financial data required for calculating the financial performance and intangible value indicators in this study.

Meaningful data: The data should be meaningful. For example, companies should not have a negative intangible value.

Any company under the following conditions was excluded in this study:

1. Overly simplified financial statements
2. Missing ratio analysis section
3. Key variables are omitted or data values are misreported
4. With a negative intangible asset value

The number of companies before and after screening is shown in Table 3. The overall screening-passing rate is 72%, that is, about 28% of the sampled companies were excluded from the study as a result of the data screening for various reasons. The data from chemical sectors had the highest passing rate (over 90 percent). On the other hand, the mining sectors had the lowest screening-passing rate (less than 50 percent). Many junior or small mining companies (e.g., Little Squaw Gold Mining, Sterling Mining CO. and New Gold Inc.) were screened out, as they did not provide some key ratio data, such as the intangible as a percentage of the book value.

Table 1. Number of Companies Before and After Screening

Sector	Before screening	After screening	% of passed screening
Energy	68	49	72
Mining	22	10	46
Chemical	33	30	91
Total	123	89	72

Intangible Value Calculations

The financial performance indicators: return on asset (ROA), return on equity (ROE), return on invested capital (ROIC), and net-income are readily available from the financial statements. However, the values of intangible indicators: economic value added (EVA), intangible value, market-over-book value, Tobin *q*, market-to-book ratio and intangible-to-total ratio, were calculated from raw data of the financial statement. The calculation equations are detailed in the author's dissertation (Qiu, 2009). The data of the cost of capital is required in the EVA calculation. For the brick-and-mortar industry had an average cost of capital at 8 percent (Qiu, 2009).

All calculated data of 89 companies' dependable variables (financial performance indicators) and independent variables (intangible indicators) were documented in Appendix A. These data were used in the statistics analyses, including data description, Pearson's correlation analysis, ANOVA and linear regression analyses.

Statistics Analysis Procedures

As there were more than two sets of observations involved, ANOVA (Analysis Of Variance) were conducted to test the hypotheses. A typical value of the significance level of 0.05 was used in the test. If the p-value is less than 0.05, the test rejects the null hypothesis. On the other hand, if the p-value is greater than 0.05, there is insufficient evidence for rejecting the null hypothesis. However, lack of evidence for rejecting the null hypothesis is not evidence for accepting the null hypothesis.

All data were analyzed using the Statistical Package for Social Science (SPSS). Prior to any hypothesis tests, basic descriptive statistics was run to assess the outputs including the identification of outliers. The outcomes derived from descriptive statistics include means and standard deviations. ANOVA statistics was conducted to test the hypotheses. Since the variables are continuous, the Pearson Correlation Coefficient was applied. To estimate the expected change of one variable per unit of change in the other variable, a linear regression analysis was conducted to establish the relationship between intangible assets and financial performance. The assumption for the linear regression is normality, linearity and independence. Histograms and Q-Q plots, Scatter plots and Sequence charts were used to check for the normality for all statistical runs.

The Study Results

Statistical Data Descriptions

Statistical analyses were conducted on the 89 sets of the qualified data. The descriptive statistics results showed the number of data collections, minimum, maximum, means and standard deviation of each variable. Table 2 summarized the analyses results.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROE	89	2.1	52.93	18.19	9.79
ROIC	89	1.7	43.07	11.81	8.287
ROA	89	1.4	30.1	7.18	5.28
Intangible	89	1354	70373695	2911762	8199837
M_over_B	89	4573.4	326726012	13349040	38264680
q	89	0	3	1.51	0.645
EVA	89	3842	97268831	3216783	11062487
Net_income	89	514	39951106	1715672	4845575
Int2Asset_ratio	89	0.001	0.69	0.126	0.131
M2B_ratio	89	1.17	6.05	2.71	1.256
Int_property	89	0	928.5	34.624	114.34
Valid N (listwise)	89				

Hypotheses Test

ANOVA (Analysis of Variance) was conducted to test the hypotheses. A typical value of the significance level of 0.05 was used in the test. If the p-value is less than 0.05, the test rejects the null hypothesis. On the other hand, if the p-value is greater than 0.05, there is insufficient evidence for rejecting the null hypothesis. However, lack of evidence for rejecting the null hypothesis is not an evidence for accepting the null hypothesis.

Table 3 summarized the hypothesis test results. The tests rejected all null hypotheses except the null hypothesis H012. There is no sufficient evidence for rejecting the null hypothesis of no relationship between a brick-and-mortar firm's ROA and its market-to-book ratio. Based on these test results, the answers to the research questions are as follows:

R1. There is a statistically significant interaction between brick-and-mortar firms' economic value added (EVA) and net income.

R2. There is a statistically significant interaction between brick-and-mortar firms' market-over-book value and net income (or EVA).

R3. There is a statistically significant interaction between brick-and-mortar firms' intangible value and net income (or EVA).

R4. There is a statistically significant interaction between brick-and-mortar firms' intellectual property (i.e., the number of patents, trademarks, and copyrights) and their net income (or EVA).

R5. There is a statistically significant interaction between brick-and-mortar firms' Tobin *q* and their return on asset (ROA), return on equity (ROE) and return on invested capital (ROIC).

R6. There is a statistically significant interaction between brick-and-mortar firms' market-to-book ratio and their return on equity (ROE) and return on invested capital (ROIC). However, there may not be a statistically significant interaction between market-to-book ratio and their return on asset (ROA).

R7. There is a statistically significant interaction between brick-and-mortar firms' intangibles-to-total-asset ratio and their return on asset (ROA), return on equity (ROE) and return on invested capital (ROIC).

R8. There is a statistically significant interaction between brick-and-mortar firms' intellectual property (i.e., the number of patents, trademarks, and copyrights) and their intangible assets (i.e., market-to-book ratio, Tobin *q*, intangible-to-total asset ratio, intangible value, EVA, and market-over-book value).

Table 3. Summary of Hypothesis Test Results

Null hypothesis	Variables	The p-value	Reject hypothesis?
H01	Net income vs. EVA	0	Yes
H02	Net income vs. market-over-book	0	Yes
H03	Net income vs. intangible value	0	Yes
H04	Net income vs. intellectual property	0.035	Yes
H05	ROE vs. Tobin *q*	0.001	Yes
H06	ROE vs. market-to-book ratio	0	Yes
H07	ROE vs. intangible-to-asset ratio	0.018	Yes
H08	ROIC vs. Tobin *q*	0.006	Yes
H09	ROIC vs. market-to-book ratio	0.038	Yes
H010	ROIC vs. intangible-to-asset ratio	0.015	Yes
H011	ROA vs. Tobin *q*	0.001	Yes
H012	ROA vs. market-to-book ratio	0.06	
H013	ROA vs. intangible-to-asset ratio	0.02	Yes
H014	EVA vs. market-over-book	0	Yes
H015	EVA vs. intangible value	0	Yes
H016	EVA vs. intellectual property	0.009	Yes
H017	Market-over-book vs. intellectual property	0	Yes
H018	Intangible vs. intellectual property	0	Yes
H019	Tobin *q* vs. intellectual property	0.029	Yes
H020	Market-to-book vs. intellectual property	0.011	Yes
H021	Intangible-to-asset vs. intellectual property	0	Yes

Correlation Analyses

Prior to regression analyses, the correlation analyses among the variables were performed. Since the variables were continuous, the Pearson Correlation was applied to reflect the degree of linear relationship between two variables. Table 4 showed the correlations among the size-based variables. With all sig. values being less than 0.05, all correlations are statistically significant. In other words, the firms' sized based financial performance indicator net income has a strong and positive correlation with EVA, market-over-book, and intangible value at the 0.01 level, as expected. Intellectual property is positively correlated with the net income at the 0.05 level. Furthermore, EVA, market-over-book, intangible value, and intellectual property are strongly and positively correlated to each other. These results are reflected in the hypotheses tests. Positive linear relationships between the net income and other variables are anticipated.

Table 4. Correlations among Size-Based Variables

		Net_income	EVA	M_over_B	Intangible	Int_prop
Net_income	Pearson Correlation	1	.975(**)	.946(**)	.453(**)	.224(*)
	Sig. (2-tailed)		0	0	0	0.035
	N	89	89	89	89	89
EVA	Pearson Correlation	.975(**)	1	.983(**)	.458(**)	.274(**)
	Sig. (2-tailed)	0		0	0	0.009
	N	89	89	89	89	89
M_over_B	Pearson Correlation	.946(**)	.983(**)	1	.549(**)	.387(**)
	Sig. (2-tailed)	0	0		0	0
	N	89	89	89	89	89
Intangible	Pearson Correlation	.453(**)	.458(**)	.549(**)	1	.820(**)
	Sig. (2-tailed)	0	0	0		0
	N	89	89	89	89	89
Int_prop	Pearson Correlation	.224(*)	.274(**)	.387(**)	.820(**)	1
	Sig. (2-tailed)	0.035	0.009	0	0	
	N	89	89	89	89	89

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 5 showed the correlations among the ratio-based variables. With significance at the 0.01 level, the firms' ratio-based financial performance indicators ROE, ROIC, and ROA all have a strong and positive correlation with Tobin *q*. Furthermore, Tobin *q* and the market-to-book ratio are strongly and positively correlated. Although the market-to-book ratio has a strong and positive correlation with ROE and ROIC, but has a very weak correlation with ROA. Interestingly, ROE, ROIC, and ROA all have a good correlation with the intangible-to-total-asset ratio, but negatively, indicating a negative linear relationship between firms' ratio-based financial performance indicators and their intangible-to-total-asset ratio.

Table 5. Correlations among Ratio-Based Variables

		ROE	ROIC	ROA	*q*	M2B_ ratio	Int2Asset_ ratio	Int_prop
ROE	Pearson Correlation	1	.858(**)	.815(**)	.348(**)	.488(**)	-.250(*)	0.09
	Sig. (2-tailed)		0	0	0.001	0	0.018	0.404
	N	89	89	89	89	89	89	89
ROIC	Pearson Correlation	.858(**)	1	.944(**)	.287(**)	.220(*)	-.258(*)	0.062
	Sig. (2-tailed)	0		0	0.006	0.038	0.015	0.563
	N	89	89	89	89	89	89	89
ROA	Pearson Correlation	.815(**)	.944(**)	1	.335(**)	0.2	-.247(*)	0.014
	Sig. (2-tailed)	0	0		0.001	0.06	0.02	0.894
	N	89	89	89	89	89	89	89
q	Pearson Correlation	.348(**)	.287(**)	.335(**)	1	.744(**)	0.099	.232(*)
	Sig. (2-tailed)	0.001	0.006	0.001		0	0.356	0.029
	N	89	89	89	89	89	89	89
M2B_Ratio	Pearson Correlation	.488(**)	.220(*)	0.2	.744(**)	1	0.116	.268(*)
	Sig. (2-tailed)	0	0.038	0.06	0		0.28	0.011
	N	89	89	89	89	89	89	89
Int2Asset_ratio	Pearson Correlation	-.250(*)	-.258(*)	-.247(*)	0.099	0.116	1	.411(**)
	Sig. (2-tailed)	0.018	0.015	0.02	0.356	0.28		0
	N	89	89	89	89	89	89	89
Int_prop	Pearson Correlation	0.09	0.062	0.014	.232(*)	.268(*)	.411(**)	1
	Sig. (2-tailed)	0.404	0.563	0.894	0.029	0.011	0	
	N	89	89	89	89	89	89	89

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Figure 1 illustrated the overall correlations among all variables. The top section of the figure showed correlations among size-based variables and the bottom section illustrated those among ratio-based variables. From the figure, the size-based variables tend to have larger correlation coefficients, compared to the ratio-based variables.

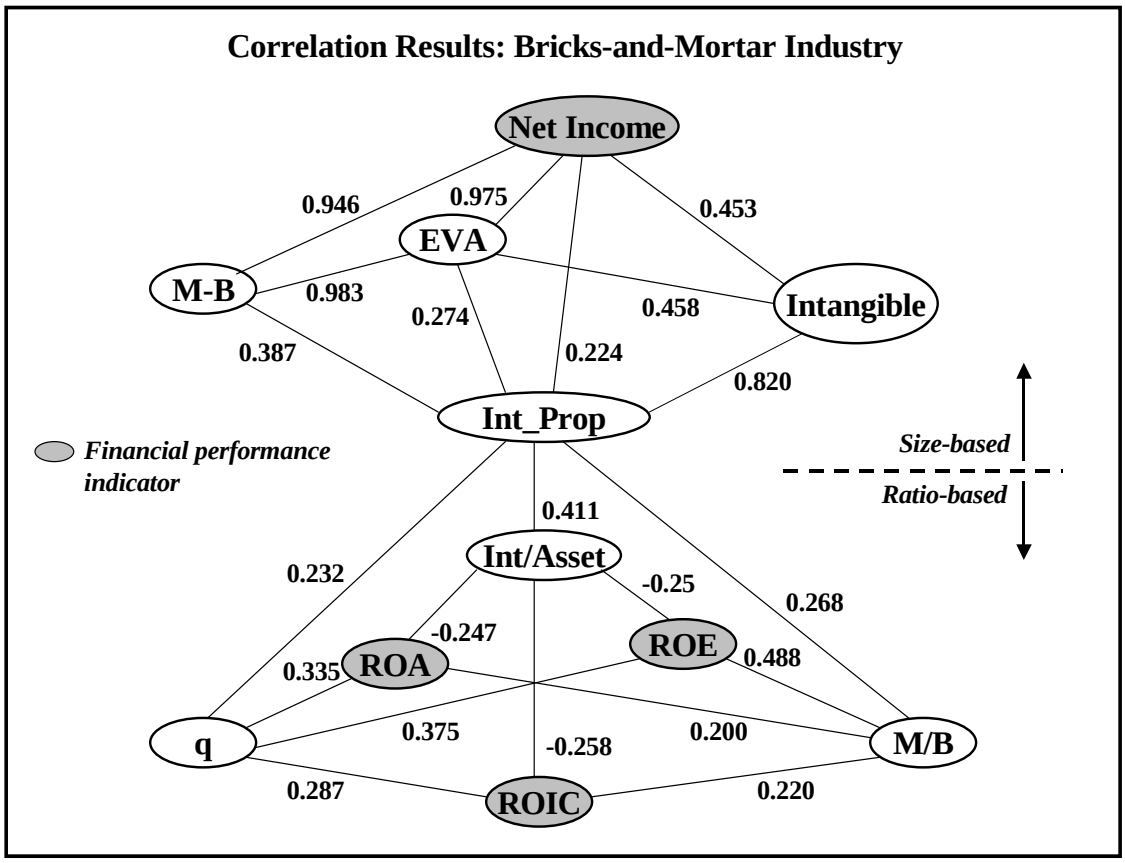

Figure 1. Correlation results

Regression Results

Linear regressions were performed on all rejected null hypotheses to establish a linear relationship between a dependent variable and an independent variable. The model of a linear relationship is as follows:

$$Dependent\,Variable = A + B \times Independant\ variable$$

where *A* is a constant, representing the intercept of a linear relationship. *B* is a regression coefficient, representing the slope of a linear relationship. It account for the change in a dependent variable with unit change in an independent variable.

As one of important outcomes of a regression analysis, a value of the R-squared represents a percentage of the variability in a dependent variable that can be explained by an independent variable. A higher value of the R-squared suggests a stronger linear relationship. This study categorized the regression relationships into four groups: a very strong relationship with a value of the R-squared >0.75, a strong relationship with a value of the R-squared = 0.5 – 0.75, weak with a value of the R-squared = 0.25 – 0.5 and a very weak relationship with a value of the R-squared <0.25.

Table 6 summarizes the results of statistical analyses with linear regressions. Twenty linear relationships between the firms' financial performance indicators and their intangible indicators were established. In general, size-based linear relationships have higher values of the R-squared compared to ratio-based linear relationships. Three very strong linear relationships were observed for net income versus EVA, net income versus market-over-book value, and EVA versus market-over-book value, where over 90% of the variability in a dependent variable can be explained by an independent variable. A strong relationship between intangible value and intellectual property was observed and about 67% of variability in intangible value can be explained by intellectual property. With a value of R-squared less than 0.25, there remain sixteen very weak linear relationships. For the relationship of net income versus intellectual property, ROIC versus market-to-book ratio and Tobin *q* versus intellectual property, less than 5% of the variability in a dependent variable can be explained by an independent variable. Negative linear relationships were observed for ROE, ROIC and ROA versus intangible-to-total-asset ratio, which is a surprise as the results are in contrary to general expectation of positive relationships of ROE, ROIC and ROA versus intangible-to-total-asset ratio.

Table 6. Result Summary of Regression Analyses

Dependent variable	Independent variable	*A*	*B*	R- Squared	Relationship
Net income	EVA	341,440	0.427	0.971	V strong
Net income	Market-over-book	115,737	0.12	0.895	V strong
Net income	Intangible value	939,349	0.268	0.196	V weak
Net income	Intellectual property	13,864,227	9,509	0.039	V weak
ROE	Market-to-book	7.86	3.8	0.229	V weak
ROE	Tobin *q*	10.23	5.28	0.111	V weak
ROE	Intangible-to-asset	20.55	-18.73	0.052	V weak
ROIC	Tobin *q*	6.26	3.69	0.072	V weak
ROIC	Intangible-to-asset	13.87	-16.32	0.056	V weak
ROIC	Market-to-book	7.87	1.45	0.038	V weak
ROA	Tobin *q*	3.05	2.74	0.102	V weak
ROA	Intangible-to-asset	8.44	-9.97	0.05	V weak
EVA	Market-over-book	-576,135	0.284	0.966	V strong
EVA	Intangible value	1,418,406	0.618	0.2	V weak
EVA	Intellectual property	2,298,716	26,516	0.064	V weak
Intangible value	Intellectual property	875,729	58,804	0.669	Strong
Intangible-to-asset	Intellectual property	0.11	0.0001	0.159	V weak
Market-over-book	Intellectual property	8,861,973	129,596	0.14	V weak
Market-to-book	Intellectual property	2.61	0.003	0.061	V weak
Tobin *q*	Intellectual property	1.46	0.001	0.043	V weak

It is very interesting to see such weak relationship between many variables and intellectual property for the brick-and-mortar industry. The future studies may include other industries, such as high-tech industry where patents, copyrights, trademarks, etc. are very important to the firms' success.

Discussions

Hypothesis Test

Of twenty-one hypotheses were tested on the data of all three sectors, only one null hypothesis was rejected. Ninety-five percent of null hypotheses rejection rate strongly confirms that there is a relationship between firms' financial performance and their intangibles.

Regression Coefficients

The slope *B* of a line obtained from a regression is called the regression coefficient, representing the slope of a linear relationship. It represents rate of change in a dependent variable as a function of change in an independent variable. For the same kind of linear regression equations for different industries in this study, the regression coefficient is a measure of the degree of impact of an independent variable on a dependent variable.

No positive impacts of intangible-to-total-asset ratio on the ratio-based financial performance indicators (ROE, ROIC, and ROA) was observed. On the other hand, a positive impact of market-to-book ratio on ROA for service industry existed. Small values of the regression coefficients for relationships between ratio-based variables and size-based variables indicate a minimal impact of firms' intellectual property on their intangible-to-total asset ratio, market-to-book ratio, and Tobin *q*.

Linear Regression Relationships

This session discusses linear regression relationships that link to the firms' financial performance indicators such as net income and the returns on equity, invested capital and asset. To facilitate the discussions, structural diagrams were built to show the different levels of variables that eventually link to the firms' key financial performance indicators.

Net income. Figures 2 is the structural linear relationships of net income. In this structure, there are three levels of relationships, which eventually link to net income. The bottom level shows relationships between size-based intangible indicators (i.e., market-over-book and intangible value) and intellectual property. The middle level demonstrates relationships between EVA and size-based intangible indicators (i.e., market-over-book value, intellectual property, and intangible value). The top level links relationships

between net income and size-based intangible indicators (i.e., intellectual property, market-over-book value, EVA, and intangible value).

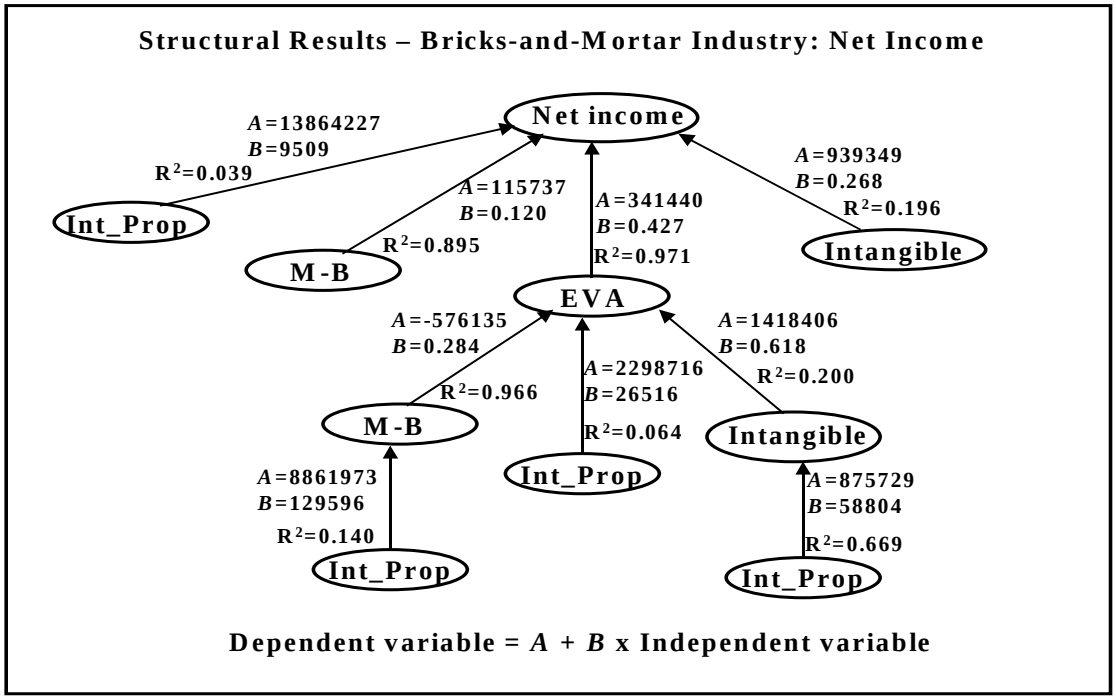

Figure 2. Structural results: Net income

Based on R-squared value, the predictability order of firms' net income by their intangible indicators is EVA, market-over-book value, then intangible value and intellectual property. Similarly, the predictability order of firms' EVA by their intangible indicators is market-over-book value, then intangible value and intellectual property.

Return on equity. Figure 3 is the structural linear relationships of the return on equity (ROE). In this structure, there are two levels of linear relationships that eventually link to the return on the equity. The lower level shows the relationship between ratio-based intangible indicators (market-to-book ratio, Tobin q, and intangible-to-total-asset ratio) and intellectual property. The upper level demonstrates relationships between return on equity and ratio-based intangible indicators (market-to-book ratio, Tobin q, and intangible-to-total-asset ratio). A small value of R-squared at the lower level suggested very weak relationships between intangible indicators (market-to-book ratio, Tobin *q*, and intangible-to-total-asset ratio) and intellectual property. The implication is the intellectual property can not be used for predicting ratio-based intangible values.

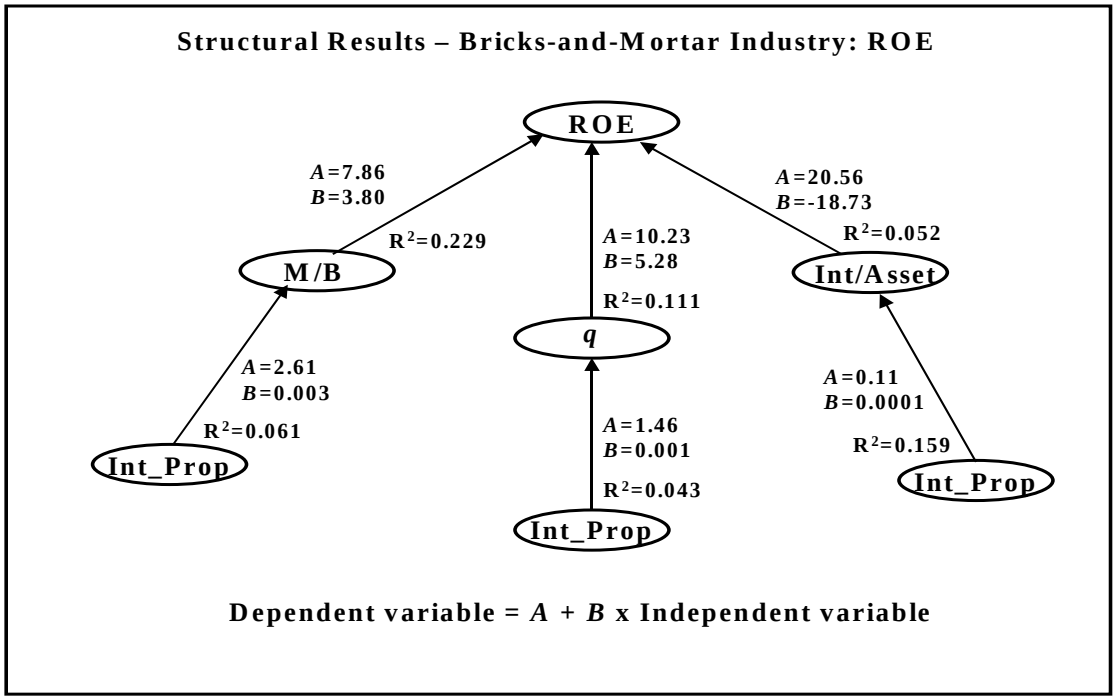

Figure 3. Structural results: ROE

At the upper level, reasonably good positive linear relationships exist between ROE and market-to-book ratio or Tobin *q*. Although relationships exist between ROE and intangible-to-total-asset ratio, the sign for regression coefficients (the slope *B*) suggests a negative relationship, that is, a higher intangible-to-total-asset ratio would lead to a lower ROE. This contrasts with the expectation and the current theory about intangible assets. Unlike other financial data, the intangible values reported in company's financial statements were not well defined. Different companies might have different definitions of intangibles, which could lead to inconsistency in reported data. This insinuates a potential foundation for part of the reasons contributing to the observed results. A further study is definitely required to further explore this phenomena. Therefore, it is not recommended to use the intangible-to-total-asset ratio to predict the ROE.

Return on invested capital. Figure 4 shows structural linear relationships of return on invested capital (ROIC). The structures are very similar to those shown in Figure 4. They also have two levels of linear relationships which eventually link to the return on invested capital (ROIC). The lower level has exactly the same relationships as shown in Figures 4.

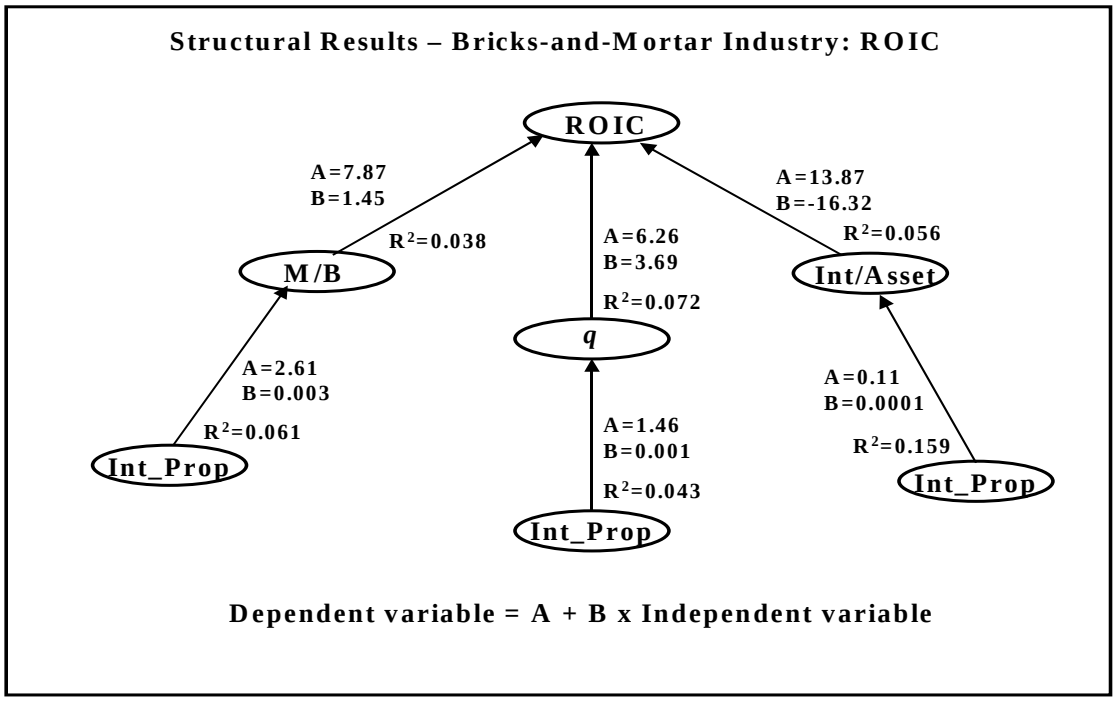

Figure 4. Structural results: ROIC

The upper level demonstrates relationships between return on invested capital and ratio-based intangible indicators (market-to-book ratio, Tobin *q*, and intangible-to-total-asset ratio). Although positive linear relationships exist between ROIC and market-to-book ratio or Tobin *q*, based on the value of R-squared such relationships in general tend to be weaker as compared to their relations to ROE. Similar to the ROE results, the sign of regression coefficients (the slope *B*) suggests a negative relationship between ROIC and intangible-to-total-asset ratio, which requires further study to understand. Again, it is not recommended to use the intangible-to-total-asset ratio to predict ROIC.

Return on asset. **Figures 5 shows structural relationships of the return on asset (ROA), similar to those of ROE and ROIC. Again, the lower level has exactly the same relationships as shown in Figures 3 and 4. The upper level shows a positive linear relationship between ROA and Tobin *q* consistently across all three industries and the overall of three industries combined. However, based on the hypothesis test results, there are no established relationships between ROA and market-to-book ratio.**

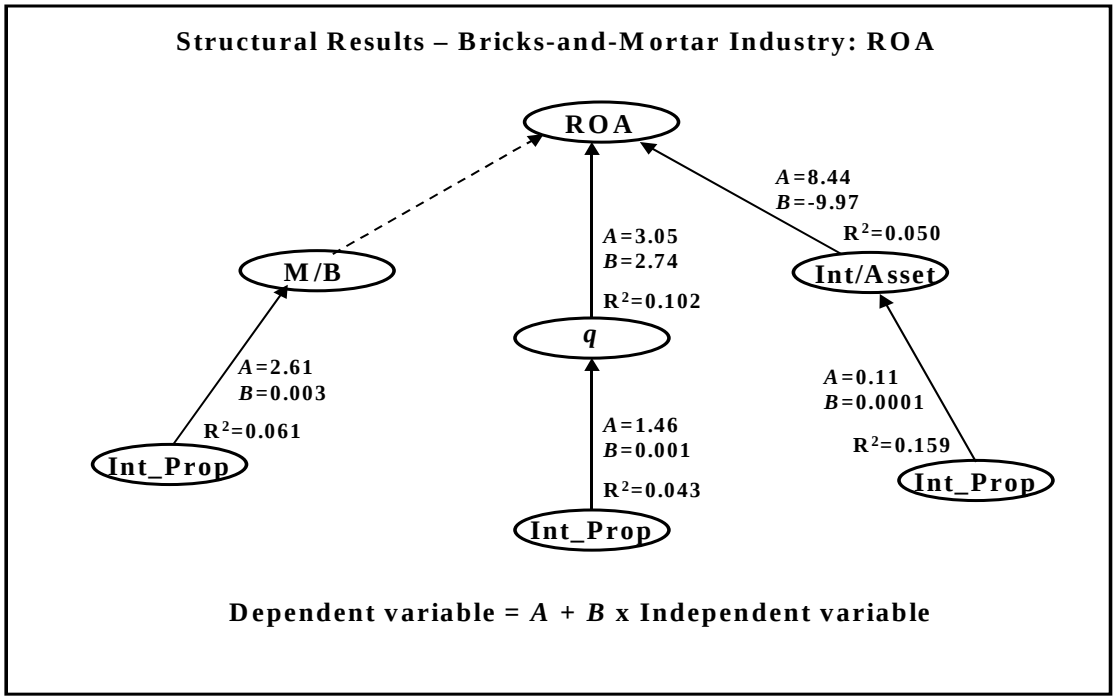

Figure 5. Structural results: ROA

Overall, the order of independent variables for net income predictability is EVA, market-over-book value, intangible value, and intellectual property. Similarly, the order of independent variables for EVA predictability is market-over-book value, intangible value, and intellectual property. Furthermore, the order of independent variables for ROE, ROIC and ROA predictability tends to be Tobin *q*, market-to-book ratio, and intangible-to-total-asset ratio. However, the reliability of using the size-based variable intellectual property for predicting the ratio-based intangible variables, such as Tobin *q*, market-to-book ratio, and intangible-to-total-asset ratio, is very low. In the future, researchers may evaluate three sectors separately to see if one sector has different from the others. For instance, the chemical industry where patents on the drugs & composition are more highly pronounced to add to the brand recognition may has a more correlation to the intellectual properties, compared to the mining industry.

Conclusions

The results of this study have successfully answered all research questions. In general, there is a statistically significant interaction between firms' intangibles and their financial performance to a certain extent. With rejections to 20 of 21 null hypotheses, the study has confirmed that there are relationships between firms' financial performance indicators and their intangible indicators. A firm with more patents, trademarks and copyrights seem to have a higher size-based intangible asset value and in turn has a better financial performance measured in net income.

The study revealed that compared to the ratio-based financial variables, the size-based financial variables (net income or EVA) have better correlations with intangible indicators. This study has also confirmed weakly positive relationships between firms' intellectual property and their intangible asset value, and also positive relationships between firms' intangible asset values and their financial performance.

Overall, the order of independent variables for net income predictability is EVA, market-over-book, intangible value, and then intellectual property. Similarly, the order of independent variables for EVA predictability is market-over-book, intangible value, and then intellectual property. Furthermore, the order of independent variables for ROE, ROIC and ROA predictability tends to be Tobin *q*, market-to-book ratio, and then intangible-to-total-asset ratio. However, the reliability of using the size-based variable intellectual property to predict the ratio-based intangible variables, such as Tobin *q*, market-to-book ratio, and intangible-to-total-asset ratio, is very low.

The empirical research design selected by this study allowed for limited generalization of the study results. Furthermore, The data from only three sectors were used in this study. The results cannot be generalized beyond the sectors used in the study because of instrument limitations. The author recommends future studies involving the more companies and from more industries, such as high-tech industry and service industry, to determine if the results of this study are further generalizable.

Acknowledgments

As this paper was extracted from the author's Ph. D. dissertation, the author would like to express grateful to Dr. Lynn Szostek (as the dissertation mentor), for her guidance, and encouragements. The author would also like to thank Dr. Raj Singh and Dr. Zhenhu Jin (as dissertation committee members) for their valuable comments and inputs.

References

Bohn, R.E. (1994). Measuring and managing technological knowledge. *Sloan Management Review, 31*(1), 61–73.

Braunerhjelm, P. (1996). The relation between firm-specific intangibles and exports. *Economics Letters, 53,* 213-219.

Brooking, A. (1997). The management of intellectual capital. *Long Range Planning, 3*(3), 365-366.

Castellano, J. F., Young, S., & Roehm, H. A. (2004). The seven fatal flaws of performance measurement. *The CPA Journal, 74*(6), 32-35.

Cho, H-J., & Pucik, V. (2005). Relationship between innovativeness, quality, growth, profitability, and market value. *Strategic Management Journal, 26*(6), 555-575

Choi, G-A. (2007). *The effect of intangible capital on lodging firms' foreign market entry mode* (Ph.D. dissertation, The Ohio State University, 2007). Retrieved February 10, 2009, from ProQuest Digital Dissertations database (AAT 3279760).

Ciccolo, J., Jr., & Fromm, G. (1980). 'q', corporate investment, and balance sheet behavior. *Journal of Money, Credit, and Banking, 12,* 294-307.

Cloninger, P.A. (2004), The effect of service intangibility on revenue from foreign markets, *Journal of International Management, 1,* 125– 146.

DeSarbo, W. S., Di Benedetto, C. A., Song, M., & Sinda, I. (2005). Revisiting the Miles and Snow strategic framework: uncertainty interrelationships between strategic types, capabilities, environmental uncertainty, and firm performance. *Strategic Management Journal, 26*(1), 47-74.

Dess, G. G., & Robinson Jr., R. B. (1984). Measuring organizational performance in the absence of measures: the case of the privately held firm and conglomerate business unit. *Strategic Management Journal, 5*(3), 265-273.

Drucker, P. F. (1988). The coming of the new organization. *Harvard Business Review, 66*(1), 45-54.

Drucker, P. F. (1994): Post-capitalist society, New York: Harper Business.

Edvinnsson, L., & Malone, M. S. (1997). Intellectual capital: Realizing your company's true value by finding its hidden brainpower. New York: Harper Business.

Gebhardt, J. A. (2002). *Correlates of return on investment and organizational factors: A study of high and low ROI strategic business units and intangibles* (Ph.D. dissertation, Alliant International University in Los Angeles, CA, 2002). Retrieved March 22, 2009, from ProQuest Digital Dissertations database (AAT 3030131).

Hall, B. H. (1993a). The stock market valuation of R&D investment during the 1980s. *American Economic Review, 83*(2), 259-264.

Hall, B. H. (1993b). Industrial research during the 1980s: Did the rate of return fall? *Brookings Papers on Economic Activity, (2),* 289 -330.

Hunter, L. C., Webster, E., & Wyatt, A. (2005). *Measuring intangible investment.* Intellectual Property Research Institute of Australia, the University of Melbourne.

Kaplan, R., & Norton, D. (1992). The balanced scorecard measures: That drive performance. *Harvard Business Review, 70*(1), 71-79.

Kaplan, R., & Norton, D. (2004). Measuring the strategic readiness of intangible assets. *Harvard Business Review, 82*(2), 52-63.

Kim, D. (2000). *The stock market value of research and development assets (Ph.D. dissertation,* Harvard University, 2000). Retrieved March 17, 2009, from ProQuest Digital Dissertations database (AAT 9972350).

Lev, B. (2001). *Intangibles, management, measurement and reporting.* Washington, DC: Brookings Institution Press.

Muller, A., Valikangas, L., & Merlyn, P. (2005). Metrics for innovation: guidelines developing a customized suite of innovation metrics. *Strategy & Leadership, 33*(1), 37-45.

Nourayi, M. M., & Daroca, F. P. (1996). Performance evaluation and measurement issues. *Journal of Managerial Issues, 8*(2), 206-217.

Petrash, G. (1996). Dow's journey to a knowledge value management culture. *European Management Journal, 14*(4), 365-373.

Phillips, J. (2003). *Return on investment in training and performance improvement programs.* New York: Butterworth-Heinemann.

Pulic, A. (2000a). MVA and VAIC™ analysis of randomly selected companies from FTSE 250. *Graz*, London, April 2000.

Pulic, A. (2000b). VAIC – an accounting tool for IC management. *International Journal of Technology Management, 20*(5), 702-714.

Qiu, D. (2009). *Relationships between firms' intangible assets and their financial performance (Ph.D.* dissertation, Capella University, United States – Minnesota, 2009). Retrieved February 1, 2010, from ProQuest Digital Dissertations database (AAT 3373472).

Qiu, D. (2010). *Intangible Valuation Methodology,* Global Mindset Development in Leadership and Management Proceedings, University of Riverside Fall 2010 Conference, September 2010.

Roth, K., & Morrison, A. J. (1990). An empirical analysis of the integration-responsiveness framework in global industries. *Journal of International Business Studies, 21*(4), 541-564.

Shangguan, Z. (2005). *Intangible investments and the cost of equity capital* (Ph.D. dissertation, The University of Connecticut, 2005). Retrieved March 20, 2009, from ProQuest Digital Dissertations database (AAT 3167601).

Stewart, T. A. (2001). *The wealth of knowledge: intellectual capital and the twenty-first century organization.* New York: Currency Doubleday.

Sveiby, K. E. (1997). *The new organizational wealth: Managing and measuring intangible assets.* San Francisco, CA: Berrett Koehler.

Ulrich, D., & Smallwood, N. (2003). *Why the bottom line isn't: How to build value through people and organization.* Hoboken, NJ: Wiley.

APPENDIX A. DATA FOR STATISTICS ANALYSES

Table A1. Data for Statistics Analyses: Chemical Sector

Companies	ROE	ROIC	ROA	intangible	M_over_B	*q*	EVA	net_income	int_ov_asset	M2B	Int_Prop
Aceto	8.5	8.4	5.9	6253	80929	0.7	41519	10298	0.04	1.7	5
Air_Products	16.4	11.0	7.2	1253580	11681889	2.1	1550116	853403	0.11	3.2	106
Albany	2.9	2.7	2.4	38995	93052	0.8	30894	9524	0.10	1.3	7
Albemarle	14.7	8.9	6.1	425694	2074548	1.5	370045	166523	0.16	2.8	12
Ashland	24.7	24.1	13.2	467282	834817	0.6	1143069	935806	0.07	1.2	9
Cabot	9.2	6.5	4.3	39467	1424594	1.0	214893	76215	0.01	2.1	19
Calgon_Carbon	8.9	8.3	4.4	35616	632240	2.2	86291	15287	0.10	4.7	8
Celanese	40.1	10.0	5.2	1335790	4792179	1.4	942836	422496	0.16	6.0	27
Colonial Comm Co	22.6	18.5	5.2	1716	4573	0.4	21304	1515	0.06	1.7	0
Cytec_Industries	9.3	6.0	3.9	1590132	1126340	1.0	441710	156434	0.40	1.7	6
Dow	22.1	14.7	8.0	4000526	23166402	1.1	4286077	3846250	0.08	2.3	71
Dupont	28.5	17.0	8.3	4924283	32972822	1.9	5305860	2807743	0.14	4.4	208
Eastman Chemical	23.1	12.3	7.1	324675	2933682	1.2	859741	438435	0.05	2.5	51
Fisher	4.8	4.1	3.2	11662867	6196912	1.2	1152599	382212	0.69	1.6	22
Honeywell	20.9	14.6	6.4	10296540	28560162	1.7	5490921	2118757	0.31	3.8	500
Huntsman	12.0	3.3	2.1	287265	4495799	1.2	1064414	237154	0.03	4.0	43
Lubrizol	10.9	6.0	4.3	1546035	1729724	1.0	705544	197996	0.34	2.0	28
Millipore	10.8	5.3	4.4	1045236	2857601	2.1	475292	107313	0.38	3.9	111
Monsanto	9.5	7.9	5.3	3178659	21818559	2.3	2802213	665424	0.26	4.1	126
Mosaic	7.6	5.0	3.3	2540888	7151769	1.8	155312	319379	0.25	2.7	69
Nalco	9.8	2.2	1.6	3603238	2184391	1.4	1276129	93991	0.61	3.4	1
OM_group	19.5	18.4	11.0	218285	460866	0.7	80237	170424	0.15	1.5	1
PPG_industries	20.5	15.3	6.9	1965361	7346938	1.2	3605378	734169	0.18	3.1	82
Praxair	21.1	12.5	8.2	1858363	17631958	3.2	2483515	989941	0.15	4.7	58
P&G	25.1	14.7	8.6	70373695	134627505	2.8	26173717	9153285	0.57	4.9	
Quaker	8.0	4.8	2.6	49104	98666	0.7	129850	9770	0.13	1.8	2
Rohm&HASS	18.5	11.3	6.9	3237440	7443605	1.5	1786909	699313	0.32	3.0	2
Sherwin_Williams	35.4	25.2	11.6	1281064	6066235	2.0	3030334	567817	0.26	4.8	4
Tetra_Tech	14.7	8.6	5.6	138428	1060168	1.9	110561	58149	0.13	3.7	13
Westlake_Chem	16.1	12.7	8.7	47286	603823	0.8	174305	185693	0.02	1.5	2

Table A2. Data for Statistics Analyses: Energy Sector

Companies	ROE	ROIC	ROA	intangible	M_over_B	*q*	EVA	net_income	int_ov_asset	M2B	Int_Prop
AES	23.1	2.5	1.5	1648231	11560224	1.6	1536061	470159	0.05	5.88	11
AGL_resource	12.9	6.4	3.3	434640	1333675	0.8	277737	211778	0.07	1.81	8
Ameren	9.1	5.0	3.1	1135899	4409922	1.3	1066861	609303	0.06	1.65	5
Anadarko	26.1	16.3	9.0	3734156	10712005	1.4	5546372	3807334	0.08	1.76	9
Apache	21.0	17.3	11.3	190891	14456401	1.7	4247869	2746941	0.01	2.08	4
Arch_Coal	11.2	6.3	4.7	41192	4283192	2.8	315257	161604	0.01	4.08	0
Baker_Hughes	29.6	24.7	18.2	1564783	18693016	2.3	1836826	1640171	0.17	4.37	2
Centerpoint	22.3	3.6	2.0	1779967	3985852	1.2	1096572	361485	0.10	3.52	5
Chevron	23.9	21.2	12.2	4777430	93809820	1.5	30722159	17130063	0.03	2.30	133
Cimarex	11.6	10.1	7.2	722202	551571	1.0	612904	350975	0.15	1.19	0
Conoco	19.3	15.7	9.6	27098457	41108083	1.2	15699587	14155176	0.17	1.54	30
Constellation	16.2	8.4	3.6	193485	9014518	1.0	1089865	817160	0.01	2.76	47
Devon	17.5	13.2	8.8	6041321	15107264	1.5	5488640	3221197	0.17	1.82	3
Dominion	16.5	7.0	3.9	4580396	16934243	1.4	1597193	1687777	0.10	2.53	6
DTE	11.1	5.0	2.7	2150321	2095820	0.8	763106	663258	0.09	1.35	3
Duke	8.4	5.0	3.0	6255342	10584339	1.1	1530072	1788407	0.10	1.48	10
Energy East	8.6	3.8	2.2	1575418	841186	0.8	526174	264326	0.13	1.27	0
Entergy	13.4	6.1	3.3	390202	11440602	1.6	1341690	1095840	0.01	2.41	7
Enterprise	8.5	4.4	3.6	1551483	5897613	1.4	369664	533617	0.11	1.94	0
Exelon	17.9	8.1	4.0	3035920	34684495	3.0	3720410	1787320	0.07	4.44	6
Frontier	52.9	43.1	24.9	1354	2651696	2.0	400582	393597	0.00	4.63	0
Hess	20.7	14.0	7.4	1184302	13332817	1.4	3311886	1710691	0.05	2.53	48
Integrys	10.2	5.9	2.5	630735	1679863	0.7	133643	209192	0.06	1.94	2
Kinder Morgan	23.4	10.3	7.4	1078186	5703091	1.9	1167894	934146	0.09	2.41	0
Marathon	23.9	21.2	12.2	1185272	12788090	1.1	5356390	4195547	0.03	1.71	10
MDU_resources	15.5	10.1	6.8	326131	2448971	1.4	494930	350317	0.06	2.10	3

Table A2. Data for Statistics Analyses: Energy Sector *(continued)*

Companies	ROE	ROIC	ROA	intangible	M_over_B	*q*	EVA	net_income	int_ov_asset	M2B	Int_Prop
Mirant	39.8	24.4	18.7	213571	4116055	0.7	1207991	1959324	0.02	1.84	4
Murphy	18.4	15.1	9.7	48190	8135806	1.9	988157	772540	0.01	2.87	3
Newfield	15.5	11.6	7.4	63318	3677773	1.8	960566	476847	0.01	2.24	3
NiSource	6.0	2.9	1.7	4261269	878680	0.8	819650	313020	0.23	1.17	0
Noble	19.0	12.8	7.7	828388	6027986	1.8	1225851	777238	0.08	2.44	1
NRG	23.1	2.5	1.5	1648231	11560224	1.6	1536061	470159	0.05	5.88	3
Nustar	7.1	4.2	3.9	855365	652992	1.2	59021	140969	0.23	1.33	0
Oge	15.4	8.2	4.8	11722	1655931	1.4	341224	218145	0.00	2.02	3
Oneok	22.2	9.6	4.2	906116	1919566	0.7	314954	449099	0.08	1.89	2
Parker_Drilling	25.1	12.5	10.3	106408	548681	1.4	165791	97670	0.11	2.57	0
Patterson_UTI	31.1	29.9	23.1	101063	2687460	1.9	623915	510138	0.05	2.73	0
Pepco	8.5	4.0	2.2	1462332	1375136	0.9	714440	328594	0.10	1.36	4
Petrohawk	4.3	2.6	1.9	951736	530046	1.1	331373	89366	0.21	1.26	0
Plains_E&P	28.9	23.2	13.0	350394	2711885	2.1	256642	400106	0.06	2.46	1
Progress	7.2	3.3	2.2	3902455	3958128	1.0	1353840	611865	0.14	1.47	3
Questar	20.6	13.4	8.2	80160	5318235	2.7	764234	402585	0.02	3.79	9
Rowan_CO	17.3	13.9	9.8	43247	2160743	1.3	276026	352324	0.01	2.10	0
Teppco	17.0	7.7	5.2	268782	1957006	1.3	232125	220272	0.07	2.50	0
Tesoro	25.8	17.3	10.2	271695	2805664	1.0	951363	644200	0.04	2.11	19
Valero	27.2	20.8	12.6	4861818	18293044	1.2	5403579	4898417	0.13	2.04	1
Wisconsin	11.1	5.3	2.9	456767	2524326	1.2	360903	328489	0.04	1.85	1
XOM	33.5	31.7	17.4	17709673	326726012	2.2	97268831	39951106	0.08	3.74	55
XTO_energy	26.8	15.9	11.7	346073	13773860	2.7	2292701	1612476	0.03	3.28	1

Table A3. Data for Statistics Analyses: Mining Sector

Companies	ROE	ROIC	ROA	intangible	M_over_B	*q*	EVA	net_income	int_ov_asset	M2B	Int_Prop
Alcoa	13.6	9.7	5.4	6487668	13366202	1.2	3695274	2065704	0.17	1.9	90
Amcol	16.5	12.6	9.9	64831	586279	1.6	123056	50768	0.12	2.9	0
Asarcollc	51.8	37.9	30.1	121369	16305256	3.2	2012593	1936802	0.02	5.3	1
Brush Eng	13.5	12.6	8.0	19323	312947	1.0	130558	41153	0.04	2.0	0
Cleveland_Cliff	34.2	32.1	12.9	18389	2682846	2.1	262887	283343	0.01	4.0	1
Foundation_Coal	15.5	5.3	2.6	691164	1611239	3.3	285053	53238	0.35	5.8	0
Freeport_McMoran	20.9	11.7	7.3	6573719	28348561	2.1	2585444	2977000	0.16	3.0	0
Newmont	6.2	5.2	3.7	3085926	12344667	1.8	886705	579625	0.20	2.3	0
Tor_Mineral	2.1	1.7	1.4	1831	8500	0.9	3842	514	0.05	1.3	4
United States Steel	22.6	14.8	7.5	1252371	6241690	1.1	1617092	953657	0.08	2.3	15

A DIAGNOSTIC STUDY OF HAND TOOLS INDUSTRY

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Abstract

The paper gives an insight into the difficulties faced by the Hand Tools Industry at Jalandhar. The industry is facing a staff competition from various other countries. The han tool industry is losing out in terms of market share to the players from Countries like China, United States of America, United Kingdom, etc,. The share of Indian Hand tool Industry has decreased in last couple of years. Among the major reasons (for the decreasing menhet chart) are Technology, Power, Capital, etc,.

A diagonistic study was conducted at Jalandhar. The study evaluates the factors the influence the growth of Hand Tools Industry. The study highlights major constraints being faced by the cluster enterprises with regard to forging operations, technology up gradation, services and infrastructure.

Introduction

A **hand tool** is a device for doing a particular job that does not use a motor, but is powered solely by the person using it. Examples are almost endless, from general tools like the hammer to specific tools like callipers. Some hand tools are mounted to walls, such as pencil sharpeners.

Virtually every type of tool can be a hand tool, although many have also been adapted as power tools, which get their motive power from engines rather than from people. Some hand tools cannot be easily or safely converted to power tools, for example chisels. Other examples are used by labourers such as hammer and saw.

There are two categories of users 'DO IT YOURSELF' (DIY) and 'PROFESSIONAL'.

Indian Hand Tools Industry
The three major clusters involved in manufacturing hand tools in India. 95% of the hand tools produced in the country emanate from these clusters. While the cluster in Nagaur has been in existence before the 20th century, **the one in Jalandhar is as old as 50 years**.
The process of manufacturing hand tools in Ludhiana started only in the year 1974.

Jalandhar is specialized in making spanner, hammer, vices, etc. and Ludhiana's competitive advantage stands in manufacturing range of spanners, etc.

The key products manufactured in these clusters can be categorized as follows:

- Carpentry tools
- Engineering tools
- Electrical tools
- Tools used in garage and workshop
- Agricultural tools
- Plumbing tools
- Tools having household applications

Jalandhar Hand Tools Cluster

Jalandhar is a district of Punjab and it is on the GT road. It is one of the fast growing business centre in Punjab. jalandharis situated at a distance of 60 km from Ludhiana and 90 km form maritsar. Jalandhar is known for is known for its Hand Tools Industry and sports Industry all over India and world.

The prevalent forging technology involved in manufacturing hand tools dates back to 1960, when the enterprises in the organized sector namely Jhalani Tools (P) Ltd., which acquired technical know-how through foreign collaboration with Gedore Tools Germany, imported forging hammers. These hammers were later indigenized in Mumbai and Ludhiana and most of the units in Jalandhar and Ludhiana are using this forging technology.

Jalandhar Hand Tools Cluster

The manufacturing process of hand tool industry in Jalandhar is vertically integrated. A large number of job working units do specialize in jobs like cutting, drilling, milling, threading, riveting, setting, tapering, grinding, polishing and plating. It is a kind of stage-production in which various processes involved in manufacturing hand tools could be divided into stages. These stages could be integrated in a particular unit. However, this is not in vogue and there is predominance of sub contracting and job working arrangements among enterprises. This not only provides flexibility but also helps in diffusion of knowledge and information. Moreover, this inter-firms vertical linkages help in keeping cost of production low. In Jalandhar, more number of operations are carried out within firms however, examples of complete vertically integrated enterprises are limited.

In Jalandhar, the factors providing competitive edge as indicated by the entrepreneurs are production efficiency , location of the enterprise , supporting network and sources of cheap material. In Jalandhar location, supporting network, production efficiency and cheap source of raw material are main factors providing competitive edge to the entrepreneurs. The location of Mandi Gobindgarh, which is a principal source of raw material, is not very far off and there are rolling mills available in Ludhiana a nearby town. The support institutions are also available and more active in Jalandhar. Moreover, the level of networking among the cluster actors is more stronger in Jalandhar.

Product profile of Jalandhar hand tools manufacturing cluster
The units in the cluster are predominantly in the small-scale sector. These enterprises are producing a large variety of products. The various hand tools being manufactured at Jalandhar are:

1. Pliers, pincers, tweezers	2. Hand-operated spaners, non adjustable
3. Hand-operated wrenchs non-adjustable	4. Hand-operated spanners - adjustable
5. Interchangeable spanner sockets, with or without handles	6. Hammers & sledge hammers,
7. Planes, chisels, gauges and similar cutting tools for working wood	8. Screwdrivers
9. Can or cork openers	10.Grease guns
11.Metal working hand tools	12.Hand tools for specified uses such as, watch making tools, goldsmith tools
13.Blow lamps	14.Vices, clamps
15.Garage tools in sets	

Primary Stakeholders

Hand Tool Exporters

The Jalandhar Hand tool Export industry currently consists of 123 (source EEPC) hand tool manufacturing units.

Broadly we can segregate the Hand tool Export units into following four types

Unit Size(Rs)	Number of Units
About 50crores	6*
25-50 crores	15 to 20*
10 to 25 crores	25 to 30*
1 to 10 crores	70 to 75*

*Estimates are based on the information from the industry.
The hand tools industry is very important to the National Economy . The **Share of Production and Exports** and Export Performance is given below:

Share of Production and Exports

Clusters	Total Production (Rs Million)	Domestic Sales	Exports
Jalandhar	5250	750	4500

Export Performance (Hand Tools ,Jalandhar Cluster)
Value in Rs. Lakh

Commodity Code	Commodity Name	2004-05	2005-06	% growth	2006-07	% growth
82032000	Pliers, pincers, tweezers & similar tools, of base metal	5003.1	4288.62	-14.28	5025.32	17.18
82041110	Hand-operated spaners, non adjustable, of base metal	20937.04	21953.81	4.86	22582.88	2.87
82041120	Hand-operated wrenchs (excl. tap wrenchs) non-adjustable, of base metal	701.56	1099.16	56.67	2652.14	141.29
82041210	Hand-operated spanners - adjustable, of base metal	8548.92	11603.19	35.73	8265.33	-28.77
82041220	Hand-operated wrenchs (excluding tape wrenchs) adjustable, of base metal	838.31	1041.78	24.27	1313.34	26.07
82042000	Interchangeable spanner sockets, with or without handles, of base metal	994.92	1210.96	21.71	2419.29	99.78
82052000	Hammers & sledge hammers, of base metal	1544.35	2732.98	76.97	3779.89	38.31
82053000	Planes, chisels, gauges and similar cutting tools for working wood, of base metal	3227.84	1912.64	-40.75	3395.09	77.51
82054000	Screwdrivers, of base metal	557.44	589.52	5.75	589.39	-0.02
82055110	Can or cork openers	56.81	41.55	-26.86	90.74	118.39
82055190	Other household hand tools	2495.67	5530.06	121.59	4995.79	-9.66
82055910	Grease guns (excl. compressed air type), of base metal	2327.09	2183.31	-6.18	3404.8	55.95
82055920	Metal working hand tools, of base metal	5611.97	7703.7	37.27	1553.42	-79.84
82055930	Hand tools for specified uses, of base metal, such as, watch making tools, goldsmith tools	2415.31	3060.52	26.71	3575.19	16.82
82055990	Other hand tools (incl glaziers' diamonds), nes	3016.13	5329.74	76.71	1858.64	-65.13
82056000	Blow lamps, of base metal	165.06	49.68	-69.90	48.1	-3.18
82057000	Vices, clamps & the like, of base metal	15415.94	18794.57	21.92	16429.25	-12.59
82059000	Sets of two or more subhdngs of 8205	2301.42	1348.18	-41.42	534.17	-60.38
82060010	Garage tools in sets	17.91	67.63	277.61	32.03	-52.64
82060090	Other tools of two or more of hdn no. 8202to 8205 put up in sets for retail sale	1675.55	390.31	-76.71	298.72	-23.47
	Total	77852.34	90931.91	16.80	82843.52	-8.89

The overall growth for the year 2006-07 on YOY bases has been negative as we are losing out to China and other Countries primarily because of Technology and Power related problems. As per the discussions with the opinion leader there is a dire need of better Technology and adequate Power in quantity and quality.

Manufacturers Catering to Domestic Market

The Jalandhar Hand tool manufacturing industry Catering to Domestic Market currently consists of around 400 hand tool manufacturing units. The domestic market is presently getting lot of imports from countries like China. Industry is finding it difficult to compete.
Broadly we can segregate the Hand tool Export units into following four types

Unit Size(Rs) Turnover	Number of Units
Below 10 Lac	100*
10-20 Lac	90*
10 to 25	90*
1 to 10	120*

*Estimates are based on the information from the industry.

Ancillary units catering to Hand Tools Exporters:

The ancillary hand Hand tool manufacturing industry at Jalandhar **Catering to Hand Tools Exporters** currently consists of around 180 hand tool manufacturing units.
Broadly we can segregate the Hand tool Export units into following three types:

Unit Size(Rs) Turnover	%age of Units
1crore to 3 crore	30%*
About 1crore	20%*
Below 50 Lac	50%*

*Estimates are based on the information from the industry.

Ancillary units engaged in Job work:

The ancillary units engaged in the job work catering to the Hand tool manufacturing industry currently consists of around 250 hand tool manufacturing units. The job work units are mainly engaged in electroplating, phosphating finish, zinc plating, powder coating ,heat treatment (like induction hardening,case hardening,tempering),drawing ,forging,etc.,. At present CIHT is also engaged in the job work of induction hardening, case hardening (gas carburising).
Broadly we can segregate the Ancillary units engaged in Job work units into following three types

Unit Size(Rs) Turnover	%age of Units
4 to 8 Lac	50%*
8 to 12 Lac	30%*
12 to 20 Lac	20%*

*Estimates are based on the information from the industry.

Raw Material Suppliers

The basic metal industry that covers melting and re-rolling is the basic raw material supplier or

the key backward linkage for the hand tools industry.. The rolling and re-rolling mills cluster in Punjab is located at Mandi Gobindgarh and Ludhiana. Mandi Gobindgarh is rightly called the Steel Town of Punjab. About 275 rolling and re-rolling mills, five arc furnaces and 100 induction furnaces are in operation in Punjab. The steel melting and re-rolling sector consists of small and medium scale units producing several thousand tonnes annually of different types of structural, rods, plates, flats, etc.

Casting suppliers : The casting required by the Hand tools industry for the Vices is mainly sourced form Batala. Some small units in Jalandhar arealso making the casting as per the requirements of the hand tools industry.

Backward Linkages of Primary Stakeholders

Gas suppliers : The LPG required for the gas based furnaces is sourced from LPG outlets of different public sector in and around Jalandhar. It is carried in cylinders which is not a economical method. There is need for the pipeline of the LPG for continuous supply.

Furnace oil Suppliers: Furnace oil required for the oil based furnace being largely used by the Industry is sourced from the oil outlets of the public sector units like Indian oil,bharat petroleum.

Coal Suppliers

Coal is being supplied to the Industry through dealers only. The suppliers of coal work on a commission.

Powder suppliers

Powder required for the powder coating of the hand tools which is finishing process is supplied mainly by the company KRIPTON Ltd.

Forward Linkages

The Jalandhar Hand Tools manufacturers sell their products all over India and in the international markets. Jalandhar Hand tools clusters did establish its strong market network within the country and outside. Jalandhar Hand Tools are sold all over the country wherever the mechanical and engineering industries are established. Government establishments, defence workshops, training institutes as also repair shops are some of the main customers for the Jalandhar Hand Tools cluster. The industry sells locally directly or through traders.
Jalandhar Hand tools exporters did establish its strong market network . This has been established over the years. There are enterprises which are supplying hand tools to their fixed clientele abroad for the last ten-fifteen years.
Most of the exports from Jalandhar are direct export. Major export destination for hand tools manufacturer within the country are USA, Brazil, Poland, Portugal, Chille, Morocco, Nigeria, Dubai, Egypt and Turkey.

Market potential

Demand for Hand tools depends on the primary users in the DIY i.e. Do it yourself and professional sector which includes industry,servive station,etc. The demand is shiting form individual tools to set of Hand tools . India is lacking in this area because of very few industry manufacturing sockets and almost no facilty for blow moulding of packing cases.The set of hand tools industry has grown around 40% wolrwide but Indias share has decreased . the over all hand industry in 2006 was around **US$ 4276036000 and is growing at an average of 15 to 20%. The share of Indian hand tools industry in the world market is about 1%.**

Support Infrastructure in Jalandhar Hand tools Cluster
District Industries Center- Jalandhar:

The District Industries Centre was established with the intention to promote small- scale enterprises in the cluster. The Center provides SSI registration, which is very much helpful while dealing with banks and other government departments.

Central Institute of Hand Tools, Jalandhar: The Government of India set up the Central Institute of Hand Tools, Jalandhar, with UNDP assistance and the active participation of Punjab Government. It provides comprehensive support in the field of design and development of the latest hand tools, training and consultancy, and common facility services to small-scale entrepreneurs. CIHT played an important role in capacity building of the cluster and accounts for many significant contributions.

National Small Industries Corporation:
NSIC was established in the year 1955 with a view to promote, aid and foster growth of small industries in the country. NSIC provides diverse support services to the SMEs.

Engineering Export Promotion Council (EEPC)
The Engineering Export Promotion Council was set up in the year 1955 as a non-profit organization promoted by the Ministry of Commerce, Government of India. It was established to promote international trade in Engineering goods and projects.

Cluster Need Assessment
During discussions with the cluster stakeholders in the course of the study, it was indicated that in order to remain competitive in the markets (both domestic and international), it was imperative that technology up gradation in machining and forging practices would have to be undertaken.

The following need assessment highlights major constraints being faced by the cluster enterprises with regard to forging operations, technology up gradation, services and infrastructure.

FINDINGS OF DIAGONSTIC STUDY

BLANKING OR METAL CUTTING

After inspection of the raw material there is a process of blanking where material is cut according to shape the final product. There is wastage of around 2 to 3% of the material in this process. The raw materials are in the form of hot rolled strips / plates and this causes a higher flash.

HEATING

Most of the hand tools units have oil fired furnaces for heating the raw material. The oil air ratio is normally in the range of 1:15 to 1:19. if excess air is used it will lead to higher oxidation of the material. The temperature control is difficult in oil fired furnaces. Further, oil fired furnaces cause lot of oxidation which causes loss of material. If the volume of air is reduced the oxidation will decrease but the amount of oil used will increase thus increasing the cost. This causes high-energy waste and therefore increases in the cost of production. The atmosphere of forging furnaces are not controlled and this causes higher scale and more metal losses. Besides this increases the belt grinding, polishing and cleaning cost The design of the furnace is not as per the best practices.There is no insulation on the outside of the furnace. It is generally observed that cluster losses about 1-2 % of material due to oxidation losses. The causes of these oxidation losses are generally higher process temperature and absence of proper atmosphere. The atmosphere of forging furnaces are not controlled and this causes higher scale and more metal losses. Besides this increases the belt grinding, polishing and cleaning cost.

FORGING

The industry uses open drop forging. Carbon steel and sometimes micro alloyed steels are used by the cluster (e.g. for spanners C38,31CRV3). The steels are readily forged in to a vide variety of shapes using hot forging processes. The forging is done at temperature range of 950-1150°C. There is no provision for the microstructure control of the forged parts. The open drop forging process cause very high degree of flashes on parting lines. This increase cost of production.

DIE MAKING

During the D.S. it was found that though the design of forging dies are good but improvement can save cost; the selection of die material, its heat treatment and lubrication is not in tune with the best practices of the industry. The most common die material is **DB6**. The industry is using numerically controlled machines for die making. The forging dies has relatively less life because of improper selection of material and their heat treatment. Sometimes the brittle failure of the dies cause production problem.

MACHINING

The cluster adopts generally the machining process of broaching. Generally, the machine tool used for a particular operation has been modified for improving productivity. The entrepreneurs are eager to modify their machine tools with hydraulic system and other mechanical gadgets. The tools are quenched in water inspite of the fact that the water is very hot. This causes lower hardness. The quality of tools are inferior because of improper descaling, radiousing, burnishing etc. The tools after hardening are not be checked for their hardness and micro structure.

BARRELING / ROTO FINISHING TECHNOLOGY

The barreling technology is one of the finest processes for improving the surface characteristics of components. The functions of barreling are (i) deburring (ii) radiousing (iii) cleaning (iv) burnishing (v) shine rolling (vi) descaling & preparatory to plating. This particular technology is

known in the cluster as “dhol” and being practiced without any awareness on technology parameters like chips, compound, type of machine and parameters of machine operations. A general practice in the cluster is to use an octagonal barrel & load the components with stone chips & rotate the drums for hours together. This unnecessarily increases the power consumption without much advantage of the barrelling technology.

Heat treatment

The cluster is engaged in heat treatment processes like hardening and tempering . For heat treatment the furnace used has normally no proper control of temperature. The atmosphere is not also controlled. The temperature varies within the chamber. A good heat-treated part based on materials of construction, ruling sections, correct hardening temperature, correct tempering procedure are not common occurrences in the cluster and therefore the consistency level of quality is not achievable.

Surface Finishing:

The surface finishing process consists of smoothening the burs and sharp corners produced in the trimming operation and removal of scale and oxide formed during heating for forging and heat treatment. To knock off scales and oxides tumbling and shot blasting is done. For blending and removal of small amounts of material hand grinding, finishing and buffing or polishing is done. Few of the manufacturers of hand tools are doing the coining operation also before electroplating and painting. Precision cutting edges wherever required are ground finished.

Surface treatment against corrosion, resistance consists of electroplating, painting, phosphating and fitting of insulating sleeves / handles as per the surface finish agreed to with the end user or the buyer. Insulating sleeves are either pre-moulded or are made by dipping the handles in plastic emulsion which is baked in a temperature controlled electric oven. Screw drivers are fitted with cellulose acetate handles. Some of the hand tools like pliers, pipe wrenches etc. require assembly of a number of parts. This operation is the final operation prior to packing. The equipment used for the finishing operation are invariably labour intensive. Automatic machines with automatic feeding and conveying are not being used.

SHOT PEENING TECHNOLOGY

The shot penning technology is generally known, as shot blasting is available in the cluster particularly for cleaning of castings. However this technology has several other applications and one such important application is improving the fatigue strength.

PLATING

The particular technology is again far behind than the normal practices followed all over the world. The D.S. reveals that the plated component are highly defective in terms of salt sprey test, plating, thickness, blisters, adherence, glossiness, peal off, scratch resistance, burning& several other technological requirements. The cluster has processes like phosphating, zinc plating, nickel plating & blackening. The practice of proper pickling, degreasing and preparatory cleaning is missing

The parts are never checked for quality aspects. Quality of plating is not as per international standard because of poor corrosion resistant, poor adhesion, non-uniform plating thickness, tarnishes and blemishes, glossiness etc.

PACKAGING

The industry depend upon the outside agencies for the for the prevalent packaging technique. Industry is not having Blow molding set up for making the desired packaging cases. The industry may not be able to position the product properly due to this.

The following table summarises loss due to poor heat treatment and forging practices followed in Jalandhar cluster:

Reason	% loss	Remarks
Metal Oxidation in heating furnace	2-5%	Induction furnace can eliminate this loss
Flash formation during Forging	35-40%	Cold forging can reduce the flash formation but as per the version of industry it is difficult to get raw material for cold forging at the prevailing prices.

The local industry has very little know how of cold forging technology. Secondly , industry feels it is difficult to get raw material for cold forging at the prevailing prices.

Other Findings:

Market Related

India's Share in Exports

Product	Value of exports in 2002 (US$ ' 000)		Share in world exports %	
	India	World Leader	India	World Leader
Wrenches (non adjustable jaws)	21,611	117,354 (Taiwan)	5	27
Wrenches (adjustable jaws)	15,924	43,164 (China)	7	21
Vices, Clamps, etc	22,856	60,310 (USA)	8	22
Pliers	10,066	118,345 (China)	1	21
Planes, Chisels, etc	8,751	28, 553 (UK)	8	26
Hammers and Sledge Hammers	1,655	73,714 (China)	1	45
Sets of Hand Tools	**7,228**	**64,656 (China)**	**2**	**23**
Screwdrivers	311	76, 420 (China)	<1	26
	88402	477543		

Note: Countries given in the parenthesis are world market leaders.

Source: ITC calculations based on COMTRADE statistics

India's Share in Exports

Product	Value of exports in 2006 (US$ ' 000)		Share in world exports %	
	India	World Leader	India	World Leader
Wrenches (non adjustable jaws)	68,800	211,225 (Taiwan, Province of China)	8	26
Wrenches (adjustable jaws)	4,921	69,157 (China)	2	26
Vices, Clamps, etc	15,334	97,252 (USA)	4	25

Pliers	14,026	231,259 (China)	2	25
Planes, Chisels, etc	4,431	43,817 (China)	3	33
Hammers and Sledge Hammers	8,136	134,445 (China)	3	45
Sets of Hand Tools	**1,941**	**97,971 (China)**	**1**	**25**
Screwdrivers	4,295	183,883 (China)	1	36
	121884	1069009		

Note: Countries given in the parenthesis are world market leaders.

India's Share in Imports

Product	**Value of imports in 2006 (US$ ' 000)**		**Share in world imports %**	
	India	**World Leader**	**India**	**World Leader**
Wrenches (non adjustable jaws)	4,025	152,505 (USA)	<1	18
Wrenches (adjustable jaws)	876	52,028 (USA)	<1	17
Vices, Clamps, etc	913	117,780 (USA)	<1	24
Pliers	2,041	147,440 (USA)	<1	16
Planes, Chisels, etc	214	28,964 (USA)	<1	23
Hammers and Sledge Hammers	783	70,222 (USA)	<1	25
Sets of Hand Tools	3,677	39,651 (Malaysia)	1	11
Screwdrivers	1,036	88,142 (USA)	<1	17

Note: Countries given in the parenthesis are world market leaders.
Source: ITC calculations based on COMTRADE statistics

As per the data given above, indias export share in Set of hand tools has reduced from US$ 7,228, 000 in 2002 to US$ 1,941, 000. The opinion leaders attribute this to the Industry being not able to produce good quality sockets at the competititve prices. The overall share of India in the world market has reduced form 2002 to 2006 which is suppoted by the above mentioned data

Capacity Utilization:

While trying to analyse the reasons of low capacity utilization in the hand tools cluster Jalandhar, it was observed that lack of market demand, shortage of power supply, lack of working capital, large number of suppliers, machines frequent breakdown and increased import are some of the important reasons. However, the market demand did not match the increase in supply as a result cost cutting (even sometimes at the expense of quality) is a wide spread phenomena.

Reasons For Low Capacity Utilization (Jalandhar)

Reasons	**Five years back**	**%**	**Present**	**%**
Shortage of power supply	4	10.0	1	2.5
Lack of demand	5	12.5	6	15.0
Shortage of skilled labourers	5	12.5	10	25.0
Shortage of Raw Material	8	20.0	3	7.5
Shortage of Working Capital	13	32.5	8	20.0
Seasonality of market	5	12.5	12	30.0

Labour problems	10	25.0	6	15.0
Large no of suppliers manufacturing similar products	3	7.5	5	12.5
Machine Frequent break down	4	10.0	2	5.0
Limited Capacity of other machine	15	37.5	13	32.5
Increased import	-	-	7	17.5

Cost Sheet (Spanner/ wrench matt finished):

Stage	**% age cost**
Raw material	28.13
forging	21.38
Tooling	7.03
Stone Grinding	4.22
Belt grinding	6.75
Broaching	5.06
Soft barreling	1.13
Heat Treatment	1.41
Shot blasting	0.28
Gauging & straightening	1.27
Electroplating	10.69
Rework	5.63
Overhead Expenses	7.03

Cost sheet for the various inputs for a sample Organisation:

Input	**Cost per Kg of Finished product**
Steel	Rs.60
Furnace oil	Rs.12
Electricity	Rs.9
Diesel for Power generation	Rs.2
Nickel	Rs.15
Labour	Rs.20
Die block	Rs.9

Skilled labour:

Cluster-Specific Human Resources, especially skilled labour, is a critical factor in maintaining competitiveness of the clusters especially because the technology employed is mostly labour intensive. Availability of highly skilled workers is a problem cited by entrepreneurs in Jalandhar and Ludhiana. The fact remains that not only the technologies used in the clusters need to be up-graded but also the manpower has to be trained on those lines in order to make the enterprises competitive in the world market.

Training

In industrial districts of developed countries, SMEs invest significantly in human resource development by training and retaining their workers in new technologies, to firmly remain on the high road to competitiveness. As a result there are a large number of institutions which organise

need-based training programmes for their clients to find co-ordinated solutions to local problems in developed countries.

The specialised courses to strengthen their technical and managerial competencies are offered by CII but industry feels that the cost is prohibitive.
Industry is starved of training facilities and appropriate methodologies of skill formation. Retraining of workers is rare. This may be because hardly any technological change has taken place in these clusters and secondly it is difficult to find the skilled workers who can be trained. Similarly, entrepreneurs also do not feel any need to undergo training to update themselves; especially so if the courses are fee based. They are blissfully ignorant about their ignorance levels. There is no training culture at the enterprise level in the clusters. Industry should jointly develop specialized vocational and technical curricula and develop courses for managers on regulatory, quality, and managerial issues.

Not only entrepreneurs and workers but the officials involved in policy making need to be oriented towards latest technologies, management practices, developments in international business, and in cluster development methodology. Field level officials can also serve as cluster change facilitators.

There is probably a need to review the entire training policy of the government and reorient the same to the needs of the clusters. Similarly, there is a need for private participation in these initiatives.

SWOT Analysis:
A SWOT Analysis is givenbelow:

Strength:

- The clusters are some of the oldest in the Indian hand tools industry
- Cluster is receptive to new technology.
- Enterprises here have the ability to copy products once they get the samples.
- Some enterprises are catering to the niche market demand.
- Entrepreneurs and their employees are trying to learn and improve their manufacturing and quality control practices.
- Plant and machinery, inputs, consumables are easily available in the clusters.
- Most of the entrepreneurs have developed good market network with their clientele.

Weakness:

- There is hardly any technology upgradation took place over the years.
- Incomplete range of hand tools.
- Good quality sockets are not being manufactured. Sockets are important part of the ‘set if hand tools’ and cluster is loosing out on the overall export market due to sockets.
- Cost effective and good quality wood is not available.
- Majority of the enterprises in the clusters are working in isolation. They generally do not visit each other’s factory and instances of joint initiatives are rare.
- Hi-tech products are generally not produced in the clusters.
- Cluster is at a growing stage and needs professional help for better networking.

Opportunity:

- The business is growing and enterprises are trying to take expanded market opportunities.
- The cluster needs to shift from 'Do it Yourself' to professional segment.
- There is huge market for good quality sockets
- Globalisation of the economy has ushered tremendous business opportunity for the enterprising firm.
- There is an expanding market for high end products.

Threat:

- Poor quality of power and less availability of power.
- Low production capacities of the industry.
- High raw material prices.
- Unavailability of skilled/ unskilled labour.
- Competition is increasing; causing a problem for some enterprises. Cost cutting is omnipresent.
- Those who can optimize on production, quality, marketing and management fronts will survive.

Cluster Vision:

The Cluster Vision portrays the position of the cluster in the future.. The cluster vision so developed is as follows;

To produce world class tools, expand capacities, move towards cleaner technologies, achieve more automation and standardization, strive for Brand Building and explore use of new materials for hand tools.

In order to achieve this Vision it is important that the cluster development programme is implemented as per the proposed action plan, details of which are given in the abovementioned section of the report.

Conclusion:

The overall growth for the year 2006-07 on YOY bases has been negative as we are losing out to China and other Countries primarily because of Technology and Power related problems. As per the discussions with the opinion leader there is a dire need of better Technology and adequate Power in quantity and quality.

As per the data given above, india's export share in Set of hand tools has reduced from US$ 7,228, 000 in 2002 to US$ 1,941, 000. The opinion leaders attribute this to the Industry being not able to produce good quality sockets at the competititve prices. The overall share of India in the world market has reduced from 2002 to 2006 which is supported by the above mentioned data

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References:

1. Albright,T.L. and Roth, H.P.(1992), “The Measurement of quality cost : Alternative Paradigm”, Accounting Horizons, June,p.15
2. Angus Jeang and Chien-ping Chung (2008), “ Process capability analysis based on minimum production cost and quality cost”.
3. Jai-chi Tsou (2007), “Economic order quantity model and Taguchi’s cost of poor Quality”
4. T.F.Burgess (1994), “Managing Quality- cost dynamics”