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Editor's Preface

The Journal of Business Leadership [JBL] is the official journal of the American National Business Hall of Fame [ANBHF]. The ANBHF conducts an active research program with three primary objectives. The first objective is to collect and analyze information regarding the leadership skills of Hall of Fame members. The Hall believes that business success stories are an important part of American history and strives to document and preserve these stories.

The second objective of the research program is to support the research objectives of the associated academic journal, *JBL*, through support of certain areas of business leadership, ethical practices and management academic research.

The third objective is to evaluate the effectiveness of Hall of Fame classroom presentations. Evaluation instruments are developed and administered in classes following Hall of Fame presentations.

In support of the ANBHF mission, *The Journal of Business Leadership* is a multidisciplinary journal of interest to scholars, professionals, students, and practitioners in a broad range of management thinking. The purpose of the journal is to encourage the publication of case studies of business leadership. In keeping with the Hall's longitudinal study, The Ethical Views of Business Leaders, University Faculty and Students in the United States, submissions highlighting ethical leadership practices are encouraged.

JBL offers both peer-reviewed and non-peer-reviewed articles. All peer-reviewed articles must meet the highest and most rigorous standards and are anonymously reviewed by at least two scholars in the field. Non-peer-reviewed materials can be essay, research-in-progress, pilot studies, or commentary on some topic relevant to the field of business leadership. All non-peer-reviewed materials will be reviewed by the Editorial Board for quality and appropriateness, but are not guaranteed publication.

Welcome to this issue of *The Journal of Business Leadership.*

Robyn Hulsart, Ed.D.
Contributing Editor

EXPLORING THE USE OF A COMPRESSED LIVE CASE STUDY MODEL (CLCS) TO ENHANCE STUDENT LEARNING AND ORGANIZATIONAL EFFECTIVENESS

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ABSTRACT

This work details the preliminary results of an effort to develop a model to conduct live case studies, a type of experiential learning, in a highly compressed format spanning less than one week. The Compressed Live Case Study (CLCS) model is designed to afford executive Master of Business Administration (EMBA) students the opportunity to work as consultants to actual organizations while delivering value-added strategic analyses to participating client organizations. It substantially reduces the commitment typically required of the hosting university program and of the client organization. CLCS evolved in response to the requirements of an Executive Master of Business Administration (EMBA) program offered by a German university which incorporates a 2-week international experience.

Keywords: Experiential learning, action learning, case study, live case study, executive MBA, management simulation, strategic analysis, international and cultural leadership

INTRODUCTION

Executive Master of Business Administration (EMBA) programming involves unique challenges, particularly with respect to the time constraints of the typical, modern executive MBA student: an employed mid-career, middle or top manager, shouldering the demands of a rigorous academic program while continuing to manage important responsibilities at work. EMBA programs are adjusting to a new, internationally focused student demographic in response to the forces of globalization and technology (Shinn, 2004). Such programs increasingly incorporate international and cultural leadership (ICL) components to better prepare graduates to assume high-level positions in global organizations.

Crossman notes that ICL "relates to the development of knowledge and understanding to inform organizational decision making and practices in international or cultural contexts where leadership is required" (2010, p. 33). One way of delivering ICL is to immerse students in an international experience, typically by incorporating a "study abroad" component into the required coursework. According to Michael Vande Berg (Beal, 1998), director of the office of Study Abroad at Michigan State University, students who study abroad develop inner resources, hidden aptitudes, new attitudes, coping skills, and cultural sensitivities that give them a global world view, and change them personally. Study abroad also allows students to develop extracurricular skills such as foreign language fluency that give them an edge in today's global marketplace (p.16).

Due to the associated financial expense and the difficulty in separating students from their personal and professional lives, study abroad experiences incorporated into EMBA programs often are relatively brief – from one to four weeks duration. According to a survey of American business schools conducted by Porcano & Shull (2007), 73% of graduate study abroad programs are four weeks or less in length. As a result, educators involved in such initiatives face the significant challenge of constructing meaningful educational activities which 1) support program content through experiential learning, 2) enhance ICL, and 3) can be completed in a relatively short period of time.

The compressed live case study (CLCS) model evolved in response to this three-fold challenge. This paper discusses the benefits and limitations of experiential learning and live case studies. It details the CLCS model, presents preliminary results of its effectiveness toward supporting EMBA program content and enhancing ICL in a highly compressed time frame. Finally, it provides recommendations toward comprehensively testing the adequacy of the model.

EXPERIENTIAL LEARNING AND LIVE CASE STUDIES

It is generally acknowledged that the 20th century brought a paradigm shift in higher education from instruction-based learning toward more engaging models (Bobbitt, 2000). The contemporary paradigm promotes the creation of a learning environment where students are active participants in the learning process, not limited to inefficiently absorbing information by taking notes during a lecture. Feinstein defines experiential learning as "a participatory method of learning that involves a variety of a person's mental capabilities. It exists when a learner processes information in an active and immersive learning environment" (2002, p.733). A more simple definition could be – learning by doing (Razzouk, 2003). The successful application of experiential learning theory potentially can increase learning effectiveness while adding realism to the process (Elam, 2004). The benefits of this pedagogical method can be traced back to Confucius, who wrote: "Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand" (Circa 450 B.C.).

Case studies have long been an important component of undergraduate and graduate-level experiential learning. The traditional case method has been used to engage learners since its inception at Harvard Business School in the early 20th century (Jennings, 1996). Although an improvement over less interactive formats, the use of the case study method as an experiential learning tool is not without flaw. Case study quality relies upon the writing skills of the study author and on the completeness of the presented information. They often are excessively long and detailed and quickly become outdated. Further, traditional case studies typically depict situations which previously occurred in actual organizations or in fictional organizations which mask actual ones (Lincoln, 2006). As such, student learning and creativity can be constrained by their knowledge of the "solution" – i.e. – what actions were taken by management of the actual or masked organization subsequent to the timeframe of the depicted case. In this sense, "case studies are unlike the business world in that the essential facts are preassembled and the reasonable alternative courses of action are often implied" (Kennedy, Lawton, & Walker, 2001, p.147).

Live case studies are one form of experiential learning which has gained popularity in recent years. Live case studies involve using individual or groups of students who act as consultants to an organization/client. A distinguishing feature of the live case method is that it enables students to work with current problems and opportunities challenging real firms in contrast to the traditional case method's use of summaries and analyses of past decisions (LeClair, 1999).

The live case study method gained popularity with the formation of the Small Business Institute (SBI) in 1976. The SBI was first created by the U.S. Small Business Administration as a federal outreach program. It originally had over 500 participating colleges and universities that worked on consulting projects for small businesses. The schools' business faculties recruited clients and assigned teams of undergraduate and graduate students to work as consultants for these clients as part of their course work (Heriot, 2008).

Live cases are more realistic than traditional written cases because they involve real time decisions and student interaction with managers of real companies. They offer benefits to students which are not realized by using written cases in a classroom setting. Heriot (2008) details three benefits to students acting as consultants:

1. The students gain confidence in showcasing their abilities to businesses.
2. The students learn how to apply specific concepts to actual organizations.
3. The students benefit from offering professional opinions on current problems.

Students also may develop experience in working in groups, hone their interpersonal skills, integrate material from other courses, and gain insight into how businesses really do business. This method also helps the students become "problem definers as well as problem solvers." Since they're trying to help identify problem sources, students learn to ask the right questions as opposed to determining solutions simply by following some set of instructions (Richardson, 1998). Live cases and student consultancy projects "appear to be particularly promising in terms of their realism and the range of skills involved" (Jennings, 1996).

The live case study method can offer benefits for client participants as well. Noted benefits include significant cost-savings as compared to the expense of hiring outside consultants (Banjo, 2009), access to cutting-edge theory as taught in today's business schools (Ahire, 2001), exposure to fresh and innovative insights resulting from student analysis and recommendations (Heriot, 2008; Komarjaya J., 2004), and the ability to leverage the experience and expertise of the faculty members involved (Horowitz, 2007).

Multiple schools have embraced the live case study method by implementing their own student consultant programs (Banjo, 2009, Carlson, 2011, & Zwahlen, 2009). Yet Razzouk (2003) notes that the live case study method still is under-utilized by educators. This under-utilization likely results from some inherent limitations in the live case study method.

Possibly the greatest limitation of live case studies is the time necessary to execute. Programs using this method often allocate a full semester, consisting of both in-class and out-of-class work, to complete a project for a client. Students at Oklahoma State University's Spears School of Business, for example, log more than 200 hours throughout a semester working on their student consulting projects – and much of this time occurs outside the classroom (US State News, 2010). Further, the faculty involved must dedicate a substantial amount of time to set up and monitor the projects to ensure the client receives worthwhile results (Kennedy, 2001).

Even the front-end client identification and selection can be time-consuming. To ensure that student learning is maximized, faculty must carefully research clients and select only those with well-defined problems. Time involved can be an even bigger constraint for the client. Clients already immersed in running their organizations need to set aside significant blocks of time to meet with the students during different stages of a project. Concerns that time spent on student interaction might adversely impact organizational efficiency may create a deterrent to participation (Roth, 2009).

Another limitation relates to client disclosure. Some clients may be hesitant to disclose the financial and strategic information necessary for comprehensive student analysis. Additionally, clients may question the treatment of proprietary or confidential information, concerned that students would use the information to start similar businesses or leak information to competitors (Roth, 2009). These concerns can be somewhat allayed by employing confidentiality agreements or non-disclosure statements as part the selection process (Razzouk, 2003, Schlee and Van Duzer, 2005), or by structuring live cases studies which can be completed by examining readily available public data (Bruner & Gup, 1999).

A final limitation relates to students' experience and maturity, or lack thereof. Although clients might benefit from a free or low-cost student analysis, organizations may be doubtful of the return they receive in exchange for the investment of their time and energy. Paul Kedrosky, a senior fellow at the Ewing Marion Kauffman Foundation, a Kansas City based non-profit, discusses student limitations, noting that students are "often tail-waggingly agreeable to do all sorts of stuff that they often have no business doing", and, that while a "strategic analysis of your industry is sexy and fun, they might not have the chops to do it" (Banjo, 2009).

The success of a student consultant project partly depends on the degree or nature of the assigned problem. Some business problems are beyond the abilities of student consultants and value-added results are not always produced (Sonfield, 1981). Poor quality may be evident in simplistic, superficial analyses and presentations which add no value; those which are overly critical of management or paint inaccurate disheartening scenarios; and those filled with wild, idealized, and impractical recommendations that no sane manager could consider implementing (Elam & Spotts, 2004).

THE CLCS MODEL

Given the noted benefits of experiential learning and live case studies but mindful of the limitations, the CLCS model was developed to be completed within a single work week. It was designed to deliver a meaningful ICL experience to students while providing value-added results to client. Detailed here are the components of the CLCS model including ICL, student composition, client selection and participation requirements, tools, preparation, and schedule.

INTERNATIONAL AND CULTURAL LEADERSHIP (ICL)

The CLCS model evolved in the context of ICL programming in an EMBA program offered by a German university. ICL is enhanced through a robust 2-week study abroad experience at the national university of a small Mediterranean island nation. While in country, EMBA participants engage in traditional lecture and experiential learning activities led by a multi-national faculty. Program components include international perspectives in culture, leadership, problem-solving and decision-making, marketing, economics, finance and accounting, strategic management, change management, human resource management, and meeting management. These components are augmented with facility visits to several of the multi-national corporations operating in the host country. The facility visits expose EMBA participants to operations in industries other than their own, illustrate the best practices they've been taught, and enable multi-cultural exchange through open dialogue with the management teams of the host organizations.

STUDENT PARTCIPANTS

The student participating in CLCS are enrolled in the EMBA program of a university located in southern Germany. The students hail from a variety of organizations, industries, and cultures. Each cohort group typically includes 15 – 25 student participants from a diverse sampling of organizational functions including engineering, research, operations, human resource management, supply chain management, accounting and finance, and marketing. The Executive MBA Council (emba.org) annually publishes student demographics of the council's member programs. In 2011, EMBA students:

1. averaged 8.5 years of managerial experience
2. averaged 13.3 years of work experience
3. averaged 37.1 years of age
4. were predominantly male; only 25 percent of EMBA participants are female
5. were organized into cohorts averaging 42 students
6. participated in programs with an average length of 20 months (http://emba.org/research_prog_results.htm)

With the exception of cohort size, the EMBA students participating in CLCS are similar demographically to 2011 EMBA students world-wide.

CLIENT PARTICIPANTS

The study abroad experience is hosted by the national university of small Mediterranean island nation. Due to its strategic central-Mediterranean location and stable political and economic conditions, the island has attracted a variety of multi-national organizations. The national university traditionally enjoys a collaborative relationship with many of the organizations located on the island. This relationship enables the selection and cooperation of suitable client partners.

THE PROCESS

The entire CLCS process is completed in less than one week. For each CLCS, a client participant is selected and approached several months in advance through the joint efforts of the host university program director, the EMBA program director, and the CLCS facilitator. Upon securing client interest and participation, the CLCS facilitator provides necessary background information about the CLCS, its goals, and benefits to the client participant. To date, all client participants had previously participated in the EMBA study abroad experience, typically by providing facility tours. For the CLCS, the client participants are additionally asked to prepare brief strategic overviews of their organizations, and to provide for a question and answer session as part of the facility tour.

On Day 1 of the CLCS, the EMBA students are provided with an overview of strategy and a strategic framework to guide their efforts. Rashford & Neiva de Figueiredo note the benefit of using a strategic framework to focus student learning (2011). The strategic framework used for CLCS evolved from the "How's of Strategy" (Gamble, Thompson, & Peteraf, 2013). According to Gamble et al., a comprehensive strategy should address growth, pleasing customers, outcompeting rivals, managing functional areas, responding to changing market conditions, and achieving performance targets. One component, "responding to changing market conditions" was modified to "anticipating, and reacting to, changing market conditions" to better emphasize the critical role of environmental scanning in proactively determining potential changes in the competitive environment. In addition to these core components, "framing the organization through its vision and mission statements" and "embracing Corporate Social Responsibility (CSR) were added. In total, the CLCS model uses the following as a framework for comprehensive strategic analysis:

1. Framing the organization through its vision and mission statements
2. Growing

3. Pleasing customers
4. Outcompeting rivals
5. Managing functional areas
6. Anticipating, and reacting to, changing market conditions
7. Achieving performance targets
8. Embracing Corporate Social Responsibility (CSR)

The EMBA students further receive instruction on performing structured analyses. They are encouraged to utilize an analysis model developed by the CLCS facilitator (see Figure 1).

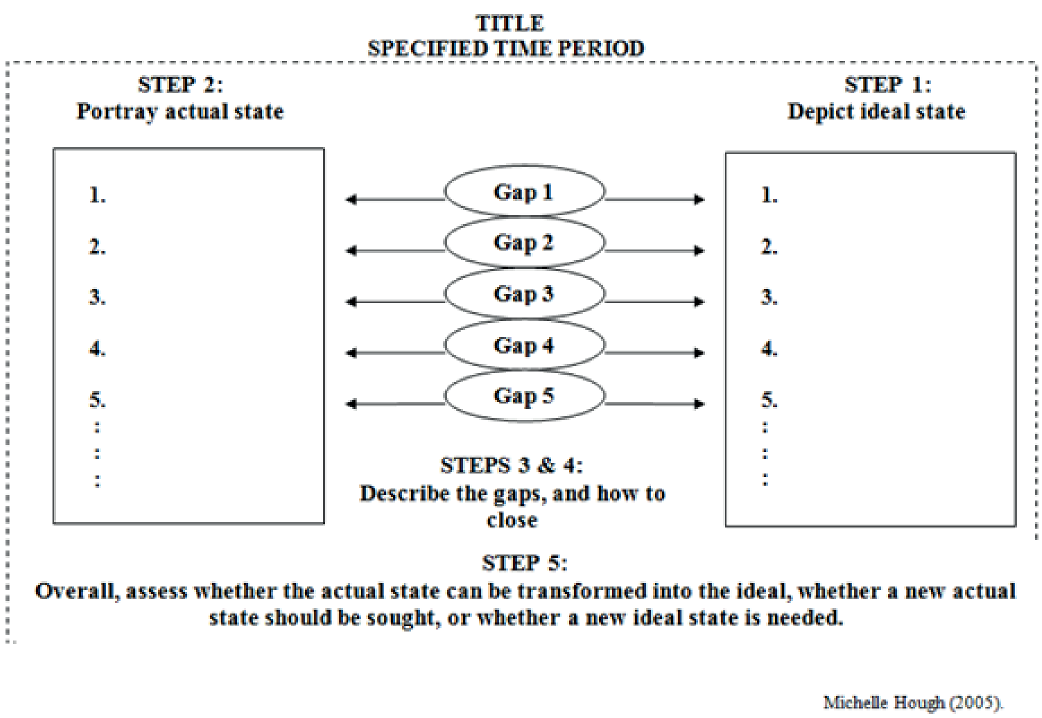

FIGURE 1 – STRUCTURED ANALYSIS MODEL

Later on Day 1, after completing the preparatory instruction, the EMBA students tour the client participant's facility and participate in the client's strategic overview and question and answer session. On Day 2, the EMBA students meet with the CLCS facilitator to reflect on the client visit, determine areas of investigation, divide into work teams, and make broad assignments for each work team.

In the intervening days, the students work to develop and fine-tune their strategic analysis with instructor guidance. Depending upon client scheduling constraints, the EMBA students meet again on Day 4 or 5 to polish, rehearse, and ultimately deliver their analysis to the management team of the client participant. They also are expected to defend their efforts and address any questions which arise.

DISCUSSION AND RECOMMENDATIONS

The client organizations of the CLCS initiatives conducted to date have included a North African airline with a secondary hub on the island, a European injection-mold plastic toy manufacturer with a global presence, a manufacturer of generic pharmaceuticals with operations in North America, Europe, and Asia, and a European food and beverage conglomerate with distribution rights to several multi-national and global brands. During the period in which the CLCSs were conducted, EMBA program enrollment was steadily declining, likely in relation to economic conditions experienced in the European Union at the time. After the fourth CLCS was completed, the decision was made to suspend the studies as a mechanism to trim costs from the ICL portion of the experience.

Because the program had until that point been conducted on a trial basis, formal metrics have not yet been developed and no objective data collected. As a result, it is not possible to provide empirical evidence of the value of the CLCS experience. Anecdotal comments from client and student participants, as well as from the EMBA director, were generally enthusiastic and categorized the experience as value-added.

To fully determine the effectiveness of CLCS, the following must be accomplished:

1. Reinstitute the studies at the original university, or find a new host university and

EMBA partner.

2. Develop an assessment for student learning.
3. Develop a determination of value added to the client participants. This should include a mechanism to return, after some period of time, to determine the extent to which strategic recommendations have been considered or implemented.

It further would be beneficial to test CLCS with different types of student participants. Could CLCS add value in a traditional MBA experience? Could it be adapted to fit the constraints of under-graduate programming?

CONCLUSION

Experiential learning, case studies, and ICL all have a critical place in the contemporary educational environment. Yet each have flaws, primarily with respect to time, money, and needed commitment. CLCS was developed to address such issues and provide an innovative, value-added experience to both student and client participants. While the initial CLCS trials showed promise, more investigation is needed to determine whether and how CLCS can be employed to enhance student learning and increase organizational effectiveness.

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ESTIMATING US HOME FORECLOSURE RATES USING THE "DISTANCE TO DEFAULT" AS CALCULATED BY THE BLACK-SCHOLES-MERTON MODEL

By Fred Hebein
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ABSTRACT

The Black-Scholes-Merton (BSM) model is widely used by financial analysts to estimate default risk for firms, including bank holding companies and government sponsored firms such as FNMA and Freddie Mac (Black and Scholes, 1973; and Merton, 1973). Assessment of credit risk is important to the financial markets and there is an extensive body of literature on the evaluation of default risk for public firms. Many rating firms, such as Moody's KMV have developed acknowledged expertise in the application of models such as BSM to assess credit risk. While the application of the BSM model and credit risk research is extensive, it has been primarily concentrated on public firms (Vassalou, Xing, 2003) and quasi-government firms such as Freddie Mac and FNMA (Fannie Mae Papers, 2004.) A review of the literature by the author for credit pricing and credit value-at-risk (VaR) models (Onmus-Baykal, 2010) found little application of the BSM model to forecast home foreclosures from the perspective of the household borrower.

Household borrowers accept risk in the purchase of their home. As in the case of firms, the default risk is the uncertainty surrounding the household's ability to service its debts and obligations. There is a non-zero probability of default. We can define the distance to default as the market value of assets less the default point divided by the market values of assets multiplied by volatility of assets (Crosbie, Bohn, 2003). More simply, the distance to default is the number of standard deviations that the firm (or household) is away from default. In the BSM model, the exponential term serves as the measure of the distance to default and includes the three main elements that determine default probability.

The first element which determines default probability is the value of assets. For most households, their home is their single largest asset and the market value of their home is an essential element influencing default probability. The second element is asset risk—the uncertainty of asset value. In the empirical work in this paper, the uncertainty will be estimated by the standard deviation of home value. The third element that determines default probability is leverage. Leverage is the book value of liabilities relative to the market value of assets.

In this paper, the BSM model is used to calculate distance to default for the US housing market using the three elements noted above. A set of distance to default estimates are developed and evaluated using alternative values for the three elements of default probability. In particular, leverage and the standard deviation of home values are altered and compared for different lengths of default periods. The distance to default values are calculated for each default risk period and compared to historical foreclosure rates. The comparisons are computed for four different historical periods.

The analytical work establishes a positive and significant correlation between distance to default as calculated by the BSM model and the rate of US housing foreclosures. In particular, the default risk period of four years is shown to have the highest correlation with foreclosure start rates. The variance in home prices and the average rate of increase of home prices appears to substantially *influence the distance to default. While the asset to liability ratio does influence the distance to default (as loan to value ratios increase), the correlation of the distance to default is statistical significant even across periods in which the value to loan ratios varied substantially.*

The positive and significant correlation between distance to default and US home foreclosures leads to a second area of empirical investigation. While the distance to default measure includes the three elements of credit risk, not all information is contained in the measure of distance to default. If additional information important to the performance of the US housing market--such as the unemployment rate and the spread between the fixed rate and the adjustable mortgage rate (a measure of credit availability) --is included, an econometric model can be specified that provides an excellent fit across the estimation period of 1991-2012. The paper concludes with presentation of an econometric model that offers ease of use while accurately predicting the start rate of foreclosures in the US housing market.

INTRODUCTION AND BACKGROUND

The 2007-2009 financial crisis and Great Recession has led to reexamination and evaluation of the modeling and managing of credit risk assessment, particularly for government sponsored enterprises (GSE's) such as FNMA and FHLMC. While the object of this paper is not to add to the literature on credit risk or to develop new theories about the underlying issues in the crisis, a brief introduction to a few of the important aspects of the crisis will motivate understanding of the need for greater assessment of home price trajectories and forecasts of foreclosure.

Prior to the crisis, numerous studies of credit risk for the GSE's were undertaken (Stiglitz et al, 2002; Lucas, McDonald, 2005, e.g.). Comparing the pre-crisis studies provides (at the higher end of the calculated value at risk) numbers of $89 billion for FNMA and $60 billion for FHLMC. However, very early in the crisis, as noted by Murphy (2009), Congress approved $700 billion for the GSE's and the Federal Reserve provided another $1.3 trillion to shore up bankrupt institutions and prevent default on collateralized debt obligations.

Including the $2 trillion of support to GSE's and bankrupt institutions noted above, underpriced credit swaps raised the cost of the bailouts arising from the financial crisis to an estimated $5 trillion as the underpriced credit swaps are worked off. Murphy (2009) provides a "back of the envelope" estimate of $852 billion per year based upon an underpricing of default swaps at 1.42% per year on $60 trillion of credit default swaps (0.0142 X 60 = .852.) Furthermore, if the economic costs of unemployment and lost production because of the recession are included, the total cost could rise to $10 trillion. It is quite a distance from $89 billion and $60 billion to $10 trillion. How did the estimates of financial risk based upon sophisticated mathematical models operated by brilliant model managers get so far off?

In their analysis of events, Foote et al (2013) offers 12 facts about the crisis. Of particular interest to this paper, Foote et al found that lenders "were not concerned about losses because they thought house prices would continue to rise…" Also, lenders "knew that lower-rated tranches of subprime asset backed securities would be wiped out if the (home) price decline was especially large." To analyze the risk, the analysts specializing in collateralized debt obligations "looked at past financial market data (which) implied that default correlations among the BBB tranches were low." Unfortunately, home prices had risen consistently since WWII and the historical data did not contain periods of high foreclosure rates caused by home price declines.

In regards to home price trajectories, Löffler (2008) found that use of the "tails" (consistent with Basel II) of simple autoregressive forecasting techniques for prices would have provided lenders with home price trajectories that would have alerted them to the risk of declining prices. In fact, "Predictions made in 2005 or earlier would not only include housing price levels that are lower than the actual ones at the end of 2008, they also would include scenarios in which housing prices continue to increase until 2006 and then fall sharply—much as they did in reality." That is, the models could have been used to provide scenarios of home price declines, which were important for accurate risk assessment, but the assumption remained that home prices would continue to increase.

MODEL AND OBJECTIVES

From the above, it is clear that home price levels and their relation to default and foreclosure are important parameters for accurate risk assessment. To model the risk of home owner default and foreclosure, this paper will utilize the BSM structural model as presented in Moody's KMV method, which is based upon the work of Black, Scholes and Merton.

For our purposes, the BSM model offers a number of advantages. First, for the model's application to home prices, relatively few variables need to be known—the asset value (home price), the amount of debt, the time period, and the model parameters of mean and standard deviation. Second, the structure of the model mirrors the economic choice of home ownership as an option. That is, the home owner can be viewed as having purchased a "put" option on the property. If the property value falls below some threshold (say, sufficient negative equity), the home owner can chose to walk away from the property, thereby "putting" the house back to the lender. Using the variables and parameters of the model, it can predict and measure default points and thereby provide estimates of distance to default. Third, by analyzing the default choice from the home owner's perspective, the model does not need to become overly complicated with portfolio issues which add complexity to risk assessment in the case of large institutions because the home is usually the largest asset in the home owner's portfolio. In summary, by changing the perspective of the analysis from a "call" on the firm's assets to a "put" on the home owner's dwelling, the calculations are greatly simplified and the risks can be more readily evaluated because current asset values can be observed and the distance to default can be calculated for various home price trajectories.

BLACK SCHOLES MERTON MODEL

The BSM model will be introduced in its traditional role as a "call" on the firm's assets. In the Black and Sholes (1973) option pricing formula, the underlying asset is the value of the firm's assets, V_A, the strike price is the book value of the firm's debt, X, and the value of the call is the value of the firm's equity. In his application, Merton (1974) derived a method of calculation of the default likelihood indicator (DLI) of a firm, and therefore views the equity of the firm as a call option on the firm's assets.

The pair of equations below summarizes the model. In the equations, V_E is the equity value of the firm; V_A is the asset value of the firm; and X is the value of debt. Also, T is the length of the period, σ_A is the standard deviation of the assets, r is the risk free rate of return, and N is the cumulative density function of the standard normal distribution.

$$V_E = V_A N(d_1) - Xe^{-rT} N(d_2)$$

$$\text{where } d_1 = \frac{\ln(V_A / X) + \left(r + \frac{1}{2}\sigma_A{}^2\right)T}{\sigma_A \sqrt{T}}, \; d_2 = d_1 - \sigma_A \sqrt{T}$$

Note that the BSM model has only two financial variables: assets and debt. (When applied to housing, the BSM model relies only on housing asset prices and associated debt). To continue, the BSM model assumes the values of the firm's assets flows according to a stochastic process of geometric Brownian movement,

$dV_A = \mu V_A \, dt = \sigma_A \, V_A \, dz$

where

V_A, dV_A are the value and change in value of the firm's assets
μ, σ_A are the asset mean return and standard deviation, and
dz is a stochastic term following a Wiener process.

Given the above relationships, the calculation of the probability of default depends upon the probability that the market value of the firm's assets will be less than the book value of the firm's liabilities by the time the debt matures. Recombining the equations and letting μ be the expected return on the firm's assets, the distance to default is defined as:

$$DD_t = \frac{\ln(V_{A,t} / X_t) + (\mu - \frac{1}{2}\sigma_A{}^2)T}{\sigma_A \sqrt{T}} \qquad \text{(Equation 1)}$$

The probability of default can be written as:

$$P_{def} = N(-DD) = N\left(-\frac{\ln(V_{A,t} / X_t) + (\mu - \frac{1}{2}\sigma_A{}^2)T}{\sigma_A \sqrt{T}} \right) \qquad \text{(Equation 2)}$$

The models are solved iteratively in a Bayesian manner. Suffice it to say, that the solution is not a trivial exercise. The difficulty arises from the fact that the firm's asset value and volatility are not directly observable, requiring a solution of simultaneous equation systems. In fact, the literature notes that the solution of the model and the calculation of the probability of default is a major exercise in complex iterative methods.

The above is a rather standard development of the Black Scholes Morten model and for more complete discussion the reader is referred to Crosbie and Bohn (2003), Vassalou and Xing (2003), and FNMA Technical Appendix D (2004). Another interesting summary of the Distance-to-Default model used by KMV is provided by Tetereva Anastasija, Humboldt-Universität zu Berlin, http://www.wiwi.hu-berlin.de.

Clearly the solution for a firm, with a complex portfolio of assets, is a difficult exercise. However, when the option is structured from the perspective of the home owner, the calculations become routine as the asset value (home price) and amount of debt (home loan) are known, not inferred. Furthermore, information on μ, the expected return on asset values (home prices) is readily available. Historical values and predictions using a number of indices can be obtained.

Therefore, given the readily obtainable data for housing, could the distance to default be used, in some model context, without having to resort to the rather complex calculation of the probability of default? Furthermore, the BSM model has been primarily utilized in the analysis of the financial failure of corporate entities. Could the BSM model be applied to the housing market and its large number of individual mortgages? Finally, could the distance to default be used as a variable, within a predictive econometric model, to forecast the start rate of foreclosures in housing? The following paper addresses these questions.

MODEL VARIABLES AND PARAMETERS

In this section, the model, and its variables and parameters, are interpreted in terms from the perspective of the home owner. By application of the model from the perspective of the home owner, asset value and variance are directly observable (which is not the case for firms) and calculation of distance to default can be made directly. Once the model is defined, its values will be calculated and correlated with the start rate of foreclosures.

To begin, the equation (1) above defines the distance to default (DD_t) and has three variables ($V_{A,t}$, $X_{t,}$ and T plus two parameters μ and σ_A. We will take $V_{A,t}$ to be the initial home price and X_t to be the debt assumed by the home owner to purchase the home. The parameters μ and σ are the return on the asset (rate of home price increases) and standard deviation of the rate of increase in the asset (home prices) respectively. The variable T will be assumed to be the relevant holding period of the asset with respect to start of foreclosure.

In the BSM model from the firm perspective, the time period T is the holding period of the asset. For the home owner, the distance to default is important primarily in the period current to the purchase of the home. Defaults drop significantly with equity buildup over time—while firms, on the other hand, can find significant depreciation in assets over lengthy time periods without commensurate declines in liabilities. Since the average time to foreclosure is now near 4 years in many of the states with significant foreclosures, the period of 4 years would seem most relevant as a period length to use for calculation of distance to default.

To provide an interesting aside here, in judicial foreclosure states such as New York and New Jersey it takes an average of 62 months for a foreclosure to clear. In non-judicial states such as Texas and Virginia, the average time to clear foreclosure is 34 months. In general, non-judicial states take less time to clear foreclosure. However, some non-judicial states such as Nevada and Massachusetts, have enacted recent legislation which has increased the time to clear foreclosures from 27 months to 57 months (Nevada) and from 75 to 171 months (Massachusetts) (Inman News, 7 March 2013.) CNN reported that 40% of homeowners in default have not made a payment in at least two years (28 Dec 2011).

ESTIMATION OF DD AND CORRELATION WITH START OF FORECLOSURE

The distance to default is calculated for the 1991-2012 period using equity to value of 20%. That is, the initial assumption, which is true throughout most of the historical period, is that the average down payment is 20% and that the remainder of the purchase price is financed. During the 2004-2006 period, lenders made large numbers of adjustable rate mortgages with lower down payments. During the estimation exercises, the relatively few years where ARMs were significant in number, the correlation actually increases as down payment is reduced, but the correlation is statistically significant for the entire historical period without adjusting for the variation in share of ARM mortgages. (Table 3 provides data on ARM share of loan originations.)

For the other variables and parameters, the trend in home prices (μ) and the standard deviation (σ) were taken from the median home price series and T was set at four years. Several different time lengths were examined (See Table 1 below), but the correlation between distance to default (DD) and the start rate of foreclosures became significant at four years. The correlation remained significant as T was increased, but it appeared to be the result of "smoothing" across fewer and fewer independent observations.

Table 1: Correlation between Distance to Default (DD) and Start Rate of Foreclosures			
Time Period "T"	**Correlation Value**	**"p" value**	**Sample Size**
2	**0.279**	**0.197**	**23**
3	**0.376**	**0.085**	**22**
4	**0.644**	**0.001***	**22**
5	**0.637**	**0.001***	**22**

* significant at the 0.01 level

As can be seen from Table 1, the correlation between distance to default and the start rate of foreclosures peaks at 4 years, which is consistent with observations from actual foreclosure closing times described in the current news releases and the National Delinquency Survey statistics. The four year period is also consistent with the observation that default and subsequent foreclosure usually occur in the early part of the loan before the passage of time has allowed sufficient equity buildup.

Two comments should be noted here. First, the start rate of foreclosures has been chosen as the variable for correlation rather than defaults in mortgage payments. In the case of firms, default is a very serious issue and has ramifications that often have to be adjudicated in court. Unlike firms, however, default on home payments occur frequently and are often covered with a late fee. In fact, the standard statistical reports provided by private and government sources, provide data on defaults, serious delinquency (defaults of 90 days or more), and start of foreclosure.

However, the start of foreclosure is much more serious. The start of foreclosure is when the lender begins proceedings to seek the underlying security of the loan—the home itself, and is not simply the result of an occasional lapse on the part of the home owner. Consequently, the start of foreclosure is more likely to indicate that the loan will not continue as an income generating asset and that the borrower will not keep his home.

DEVELOPMENT OF ECONOMETRIC FORECASTING MODEL

As shown in the previous section, there is a significant correlation between the distance to default measured over a 4 year time period and the start of foreclosure. The strong correlation provides a starting point for development of an econometric model to predict start of foreclosures. Since one objective of this paper is to develop a forecasting model, it is very important to keep the number of independent variables as few as possible consistent with accurate forecasting. Every independent variable must be forecast itself in order for the dependent variable—the start rate of foreclosures-- to be predicted. On the other hand, explanatory econometric models can use a number of structural equations with large numbers of independent variables to explain and describe the economic activity that is being modeled. Therefore, a forecasting model often is structurally simple with few variables, in order to efficiently predict the dependent variable.

Given that only a few variables should be added to the model, what qualities should those variables have and what economic activities should they reflect? Many important variables for housing are well known: demographics, personal income, employment, interest rates, sufficient loanable funds, and available inventory of homes for purchase, to name a few. A bit of reflection will highlight that many of these variables are interrelated: demographics, growth in personal income and levels of employment describe the effective demand for housing; loanable funds and interest rates facilitate demand and new construction. In general, if two additional variables are to be chosen, one variable should reflect employment with its strong correlation to demographics and personal income and a second variable should capture financing conditions. In addition, the two variables chosen should be readily predictable or have independent forecasts that are widely available.

Using the criteria exposited above, the two variables chosen for this model are the U.S.

unemployment rate and the spread between the fixed rate of interest for conventional loans and the rate for adjustable rate mortgages (ARMs). Given that the objective of the model is to predict foreclosures, the unemployment rate seems to be the best choice for effective demand. If workers lose their jobs, the loss of income may precipitate default and eventual start of foreclosure. Demographics, such as household formation, and personal income are negatively correlated with the unemployment rate. If unemployment rises, personal income and wages tend to decline. Furthermore, as unemployment rises, household formation declines because of doubling up (more persons per household) and because of the decline in home construction. Based upon economic theory, we would expect a positive coefficient for the unemployment rate variable. If the unemployment rate increases, the start rate of foreclosures should also increase.

For the second variable, the spread between the interest rates—fixed rate minus ARM rate—tends to reflect the funds available for housing. For example, if new home construction is underway at high levels, short term interest rates tend to increase as the Federal Reserve uses a higher federal funds rate to moderate housing. Similarly, if housing construction is low or declining, the Federal Reserve can lower the federal funds rate, which increases the spread between fixed and ARM rates, and stimulate the flow of funds into housing purchases and construction. In other words, if the spread is large, the Federal Reserve is lowering rates to stimulate housing and the economy, and if the spread between fixed rate and ARM rates is small, the Federal Reserve is attempting to slow the economy and reduce housing activity. Given the inverse relationship, we would expect a negative coefficient for the spread variable. If the spread is increasing (decreasing), the Federal Reserve is attempting to stimulate (curtail) housing and the start rate of foreclosures should be decreasing (increasing).

MODEL ESTIMATION RESULTS

The following sections summarize the model estimation results. SPSS was utilized to calculate the ordinary least squares estimation of the model. Note in Table 2 that all variables are significant at the 0.05 percent level. The overall model had an R-Square of 0.905 and a Durbin-Watson statistic of 1.499. The Analysis of Variance calculated an F statistic for the Regression sum of squares of 57.064 with a p value of .000. Based upon the R-Square value, the Durbin-Watson calculation, and the F statistic, the model fit was excellent for using three variables.

Table 2: Variable Coefficients for the Econometric Model

Model Coefficients[a]	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.364	.144		2.526	.021
DDL4YR	.011	.005	.230	2.237	.038
FIX_ARM	-.277	.034	-.595	-8.157	.000
UNEMPLRT	.105	.021	.525	5.118	.000

a. Dependent Variable: Start Rate of Foreclosures

The model equation can be written as:

Start rate of foreclosures = 0.364 + 0.011 Distance to Default (T=4 years)
+ 0.105 Unemployment Rate – 0.277 Spread between Fixed Rate and ARM rate (Equation 3)

While the measures of fit are very good, do the variable coefficients make intuitive sense? Are the coefficient signs what we expect? Interpreting the coefficient results (Equation 3), the Constant has a coefficient level of 0.364, which indicates that about 0.364 percent of existing loans entered the foreclosure process by the end of each year (source Mortgage Bankers Association, National Delinquency Survey) without adjustment for the other variables. The 0.364 percent of loans entering the foreclosure process can be viewed as a structural level of foreclosure starts. Historically, a review of the data shown in Table 3 finds that during the "1990's" the start rate of foreclosures was less than or equal to 0.36 percent of all mortgage loans, with a low of 0.29 percent in the year 2000.

After 2000, the rate at which loans entered foreclosure began to climb, hitting a peak of 1.34 in the year 2009 before dropping to 0.67 in 2013. The interpretation here is that there is a structural level of the start rate of foreclosures of about 0.364 percent of existing loans, but that percentage can be increased with changes in unemployment rate and in the financial and economic environment. Now, let us consider the variables, beginning with the distance to default.

The variable of distance to default (DD) has a coefficient value of 0.011. To interpret DD, a review of the values recorded in Table 3 is helpful. The level of DD ranges from a low of -16.2163 in the year 2000 when start rate of foreclosures is 0.29 to a high of 5.9168 in the year 2011 when the start rate of foreclosures is 1.03. In the three years 2008 to 2010, the value of DD soared to 5.8647 (start rate of 1.06) in 2008, held at 5.7116 (start rate of 1.34) for 2009, and increased slightly to 5.7162 (start rate of 1.24) in 2010. The larger DD implies a greater probability of default. Recall that the DD is an exponent of the cumulative normal function. Hence, the larger the number for DD, the greater the probability of a larger start rate of foreclosures.

The full range of DD calculated over the estimation period of 1991 to 2012 is 22.1331 {5.9168 - (-16.2163) = 22.1331}. Multiplying the range of DD times the coefficient value of 0.011 yields a change of 0.24346 in the foreclosure rate (.011 X 22.1331 = 0.24346). Recall that the range of the start rate of foreclosures in the estimation period is 1.05 percent of existing loans (1.34-0.29 = 1.05). That is, the changes in the DD over the range of observations in the estimation period would account for 23.19% of the proportional movement in the start rate of foreclosures (0.24346/(1.34-0.29) = 0.23187).

While statistically significant, the distance to default variable does not account for all of the movement in the start rate of foreclosures. According to the literature, such a result is not unexpected. "Researchers have also found evidence that variables that capture crisis or "trigger" events for households, such as unemployment rates and divorce rates, all seem to lead to defaults" (Elul, 2006; Elmer and Selig, 1999) and eventual start of foreclosure. At this point, the unemployment rate variable will be discussed.

During the estimation period, the range of the unemployment rate (Table 3) moved from a low of 4.0 to a high of 9.6 percent of the U.S. civilian labor force. The coefficient of the unemployment variable is 0.105 and the range of the unemployment rate is 5.6 percent. The calculated start rate of foreclosures based upon the unemployment rate ranged from a low of 0.420 (4.0 X 0.105 = .42) to a high of 1.008 (9.6 X 0.105 = 1.008). The difference between low and high calculated start rate of foreclosures based upon the change in unemployment rate is 0.588 (1.008 – 0.42 = 0.588).

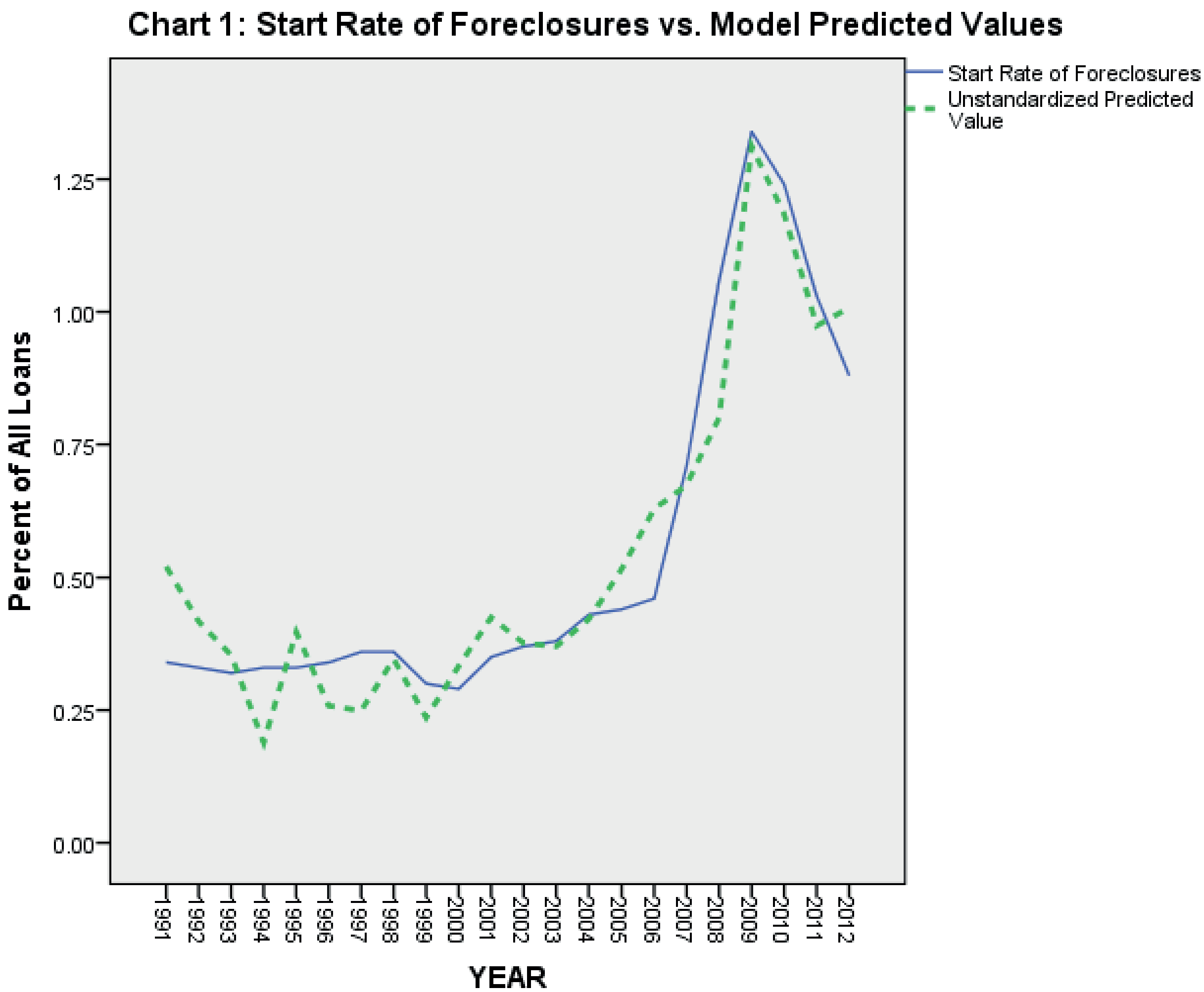
The amount of the range in the start rate of foreclosures is 1.05 (1.34- 0.29 = 1.05) and the percentage of the range that could be accounted for by changes in the unemployment rate is 56% ((0.588/1.05) X 100 = 56). The effect of the unemployment variable is more than twice as great as the distance to default variable in accounting for the percentage change in the start rate of foreclosures. Clearly, as expected, variation in the unemployment rate is a significant contributor to changes in the start rate of foreclosures.

The other variable included in the estimation is the interest rate spread between 30 year fixed rate mortgages and adjustable rate mortgages. As noted above, the expectation is for a negative sign on the coefficient because of the inverse relationship between the changes in the interest rate spread and the developments in housing activity. The range of the spread (Table 3) is from a low of 0.3363 percent to a high of 3.0237 percent for a difference between low and high of 2.6874 (3.0237 – 0.3363 = 2.6874). The coefficient for the interest rate spread is -0.277. Multiplying the coefficient of -0.277 times the range of 2.6874 yields -0.74441, the range in the start rate of foreclosures accounted for by changes in the interest rate spread. Recall that the range of the start rate of foreclosures is 1.05 and the percentage of change in the start rate of foreclosures accounted for by changes in the interest rate spread is about a negative 70.9 percent (-0.74441/1.05 = -0.70896).

Note that the proportional change caused by each variable does not add to 100% nor should it. The variables are often moving in opposition to each other (they are independent variables!) and offsetting each other. The objective of the preceding exercise is to evaluate whether the coefficients of the variables are reasonable and believable. Based upon the preceding calculations, one can get a "feel" for how variables really affect the dependent variable. Reviewing the coefficient "t" values is the statistical method to assess significance, but by evaluating the coefficients in the context and range of the data used in their estimation, analysts can often gain insights into the relationship between the data and the coefficients. Based upon the review of the variables shown above, the variables seem to provide "reasonable" results, consistent with the data utilized in the estimation period.

SUMMARY AND CONCLUSIONS

In the preceding analysis, the distance to default, an equation derived from the Black-Sholes Merton model and utilized by Moody's KMV for credit risk analysis, is found to have a significant correlation with the start rate of foreclosures. By changing the perspective from that of a "call" option on the firm's assets to the perspective of a "put" taken by the home owner, the calculations of risk are greatly simplified. Furthermore, when placed into the context of an econometric model, the estimated equation provides an excellent fit (R^2= 0.905 and F = 57.064) with predicted values closely aligning with observed data (Chart 1). The variables in the estimated equation have statistically significant coefficient values.



In addition to their statistical significance, the variable coefficients, as noted in above, provide reasonable interpretations of the action of the dependent variable when examined over the full range of the variable data. Also, the coefficients can provide some "rule of thumb" estimates. For example, a 1.0% increase in the unemployment rate would increase the start rate of foreclosures by 0.105%, which would increase the start rate of foreclosures by almost one-third (0.364% to 0.469%), given no changes in interest rates. Similarly, a 1% decrease in the interest rate spread between the fixed rate and ARM rate would increase the start rate of foreclosures by 0.277%, slightly more than a two-thirds increase over the constant value in the start rate of foreclosures, given no changes in the unemployment rate. Taken together, a 1% increase in the unemployment rate and a 1% decrease in the interest rate spread, would lead to a 0.382% increase in the start rate of foreclosures, more than double the constant rate of 0.364.

While the “rule of thumb” estimates described above may be helpful, a more significant application of the econometric model (Equation 3) is to provide a simpler, more easily calculated method for risk assessment of the start rate of foreclosures in housing. Imbedded in the distance to default (Equation 1) are home prices and their standard deviation. Alternative home price trajectories can be developed and used to calculate various values for the distance to default. Furthermore, the variables of unemployment and interest rate spread can be worked into various and consistent scenarios from which risk of the start rate of foreclosures can be assessed. While this econometric model is not designed to replace the sophisticated credit risk exercises utilized by the credit rating agencies, the model does provide an easily calculated means by which various economic forecasts of home prices, the unemployment rate and the spread in interest rates can be utilized in the assessment of the start rate of foreclosures.

As noted in the introduction, Foote et al (2013) listed (1) the assumption that home prices would not decline and (2) the underestimation of credit risk for the lower tranches of BBB securities backed by home loans as two of the twelve facts contributing to the 2007-2009 financial crisis and recession. The econometric model developed in this paper offers a straightforward and readily calculable means to assess changes in the start rate of foreclosures, which could aid in the correct assessment of financial risk in housing loans and indirectly, the risk to securities backed by housing loans.

Table 3: Summary of Data

YEAR	Median Sales Price of Single Family Homes ($)	Start Rate of Foreclosures (% of Existing Loans)	Distance to Default (T =4YR)	Conforming 30-Year Fixed-Rate Mortgage (%)	Adjustable Rate Mortgage (ARM) (%)	Spread between Fixed Rate and ARM Mortgages (%)	Share of Loans With ARMs (decimal)	Employed Persons US Civilian Labor Force (thousands)	Unemployment Rate US Civilian Labor Force (%)
1991	120,000.00	0.34	2.977994	9.25	7.110377	2.139623	0.24	117718	6.8
1992	121,500.00	0.33	2.618565	8.39	5.622453	2.767547	0.229	118492	7.5
1993	126,500.00	0.32	1.71256	7.31	4.5775	2.7325	0.234	120259	6.9
1994	130,000.00	0.33	1.718698	8.38	5.356346	3.023654	0.399	123060	6.1
1995	133,920.00	0.33	-3.63665	7.93	6.058077	1.871923	0.363	124900	5.6
1996	140,000.00	0.34	-7.73637	7.81	5.670192	2.139808	0.304	126708	5.4
1997	146,000.00	0.36	-7.43674	7.6	5.606275	1.993725	0.26	129558	4.9
1998	152,500.00	0.36	-10.8673	6.94	5.583208	1.356792	0.163	131463	4.5
1999	161,000.00	0.3	-15.7608	7.44	5.988462	1.451538	0.243	133488	4.2
2000	169,000.00	0.29	-16.2163	8.05	7.044615	1.005385	0.297	136891	4
2001	175,200.00	0.35	-10.8865	6.97	5.822308	1.147692	0.166	136933	4.7
2002	187,600.00	0.37	-6.18857	6.54	4.615577	1.924423	0.213	136485	5.8
2003	195,000.00	0.38	-4.88184	5.83	3.756604	2.073396	0.213	137736	6
2004	221,000.00	0.43	1.348859	5.84	3.9	1.94	0.389	139252	5.5
2005	240,900.00	0.44	-0.34677	5.87	4.491154	1.378846	0.353	141730	5.1
2006	246,500.00	0.46	2.129159	6.41	5.535192	0.874808	0.31	144427	4.6
2007	247,900.00	0.71	3.781815	6.34	5.561154	0.778846	0.165	146047	4.6
2008	232,100.00	1.06	5.864656	6.03	5.170377	0.859623	0.093	145362	5.8
2009	216,700.00	1.34	5.711582	5.04	4.703654	0.336346	0.038	139877	9.3
2010	221,800.00	1.24	5.716245	4.69	3.776154	0.913846	0.061	139064	9.6
2011	227,200.00	1.03	5.916838	4.45	3.033846	1.416154	0.112	139869	8.9
2012	245,200.00	0.88	5.506101	3.66	2.688077	0.971923		142469	8.1
2013		0.67		4.37	2.6125	1.7575		144058	

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THE PUBLIC TRUST DOCTRINE: AN HISTORICAL AND CONTEMPORARY OVERVIEW: HAWAI`I AND COLORADO CONTEND WITH A NEW ERA OF WATER RESOURCES' CONFLICT MANAGEMENT

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ABSTRACT

Traditionally, the public trust doctrine was a common-law restraint on government, preventing sovereign authority from denying public access to navigable waters and the lands beneath them. The doctrine developed in England to prevent the English Crown from transferring title in the submerged lands underlying navigable waters. Recently, several states in the Western United States—Hawai'i, California, Montana, Nevada and Idaho—have adopted the public trust doctrine in order to protect environmental concerns, and it has appeared as a ballot initiative in Colorado in multiple years from 1994 through 2014 for the same purposes. In Colorado, water providers, terrified of the introduction of the public trust doctrine, battle fiercely over the introduction of even the concept of the doctrine to the public electorate. In contrast, stakeholders in Hawai'i reacted to a 2000 Hawai'i Supreme Court case which imposed aspects of the public trust doctrine in a more conciliatory and collaborative manner. The landmark August 2000 decision of the Hawai'i Supreme Court in the Wai_hole contested case hearing represented a paradigm shift in how water allocation decisions are made in order to find the wisest long-term course through the legal and policy changes into the twenty-first century. The stakeholders in Hawai`i looked at the Wai_hole case and the resulting imposition of the public trust doctrine as an edict for engaging in new constructive public-private dialogue about the collective responsibilities that inhere in any water right. This paper will investigate the premise of the public trust doctrine and analyze the Wai_hole case and its principal precedent—the Mono Lake decision in California. A look at the resulting application of the Hawai'i public trust doctrine to the state's water resource management will enable a useful comparison with Colorado water law and the potential effects of the public trust doctrine as it might apply in Colorado. The formation of public policy is well served with a view of history and a pragmatic understanding of the varying landscapes of contemporary legal intent based in such histories.

INTRODUCTION

Hawai`i and Colorado both face limited sources of fresh water; both have fragile environments and unique economic challenges that come with burgeoning population areas and a shrinking agricultural economy. Both states face issues around re-allocation of water resources away from agricultural to metropolitan and industrial uses and both states increasingly recognize environmental demands that require stream restoration; stream restoration not only revitalizes habitat for aquatic life but also supports booming tourist economies that are reliant on wildlife, fishing and recreation. In addition, another parallel arises in cultural needs for in-stream use from native Hawai`ians on O`ahu and from small rural areas of Colorado that depend on surface flows in rivers and streams for fishermen and aquatic fowl.

Another point of comparison surrounds a legal doctrine known as the "public trust doctrine." A 2000 Hawai`i Supreme Court decision, the Wai_hole Ditch case, focused on the public trust doctrine as its main legal issue and source of authority; the Court emphasized the state's obligation to protect public rights in water resources over private applications. The Hawai`i Supreme Court decision involved a petition for interim in-stream flow standards and for water reservations for the Wai_hole Ditch in O`ahu and provided an overarching legal framework that requires protection of natural in-stream flows before diversionary off-stream uses of water are fully considered (Wai_hole Ditch decision, 2000). This decision presented a contemporary context in which to study the public trust doctrine such as that at the heart of a 2012 controversial ballot initiative in Colorado that proposed far-reaching changes to Colorado water law based. This paper will analyze the historical roots of the public trust doctrine and its role in the Hawai`i Wai_hole decision in an attempt to understand the controversy surrounding the Colorado initiatives and why the public trust doctrine is deemed to present a threat to Colorado's legal system of allocation of water rights.

Similarities in the disputes over water allocation in Hawai`i and Colorado are striking; however, the collaborative efforts that arose after the Wai_hole Ditch decision provide possible lessons for the State of Colorado as it contends with a looming gap between water demands and water supply in the 21st century. What are the historical roots of the Public Trust Doctrine? Why did Hawai`i embrace the doctrine and what precedent played a pivotal role in the Hawai`i's Supreme

Court decision? What was the purpose behind the proponents' drive in Colorado to put the initiative on the ballot? And why, as those firmly against the initiative believe, would it be such a disaster for Colorado if adopted by voters?

THE COLORADO PUBLIC TRUST DOCTRINE BALLOT INITIATIVES

In the early spring of 2012, a group called Protect Colorado Water proposed two ballot initiatives for voter consideration in the November 2012 general election. The proposed "Colorado Public Trust Doctrine" would provide amendments to sections 5 and 6 of article XVI of the Colorado Constitution and aimed to "defend the public's water ownership of rights of use and public enjoyment" (Proposed Initiative 2011-2012 #3; amending Section 5 of article XVI of the Colorado Constitution). This doctrine would provide that "the public's estate in water in Colorado has a legal authority superior to rules and terms of contracts or property law" (Proposed Initiative 2011-2012 #3). In addition, the initiatives addressed appropriative water rights, proposing an amendment to section 6 of article XVI of the Colorado Constitution that enumerated ways in which existing water rights would be subordinate to the "public's estate" (Proposed Initiative 2011-2012, #3, Subsections 4(c) and 5). The initiatives asked voters to give state government stewardship duties that included managing not only the state's water rights but all others' water rights as well for the purpose of protecting the natural environment and public water use. The initiatives, if approved, would have created a right of public access along the banks and beds of "any natural stream in Colorado" up to the natural high-water mark and would require the state government to enforce this right (Proposed Initiative 2011-2012, #3, Subsection 5).

Many Coloradoans purported that this Public Trust Doctrine is in direct conflict with the basic tenets of the Colorado doctrine of pure prior appropriation that has ruled all water use and water right ownership since the days of the Colorado Territory, dating back to 1861. A roar of outrage arose to these proposed initiatives among the "water buffalos" of Colorado—the owners of water rights, including farmers, ranchers, municipalities, industries and even the state itself. Cries of alarm sounded claiming that these initiatives, if passed, would create such legal chaos that there could be takings litigation—based on both the federal and Colorado constitutional limitations to a government taking—that would last lifetimes (Shimmin, 2012,South Platte Basin Roundtable minutes). Fear resonated statewide, much of it based on the unknown of exactly what constitutes the public trust doctrine. The Colorado Water Congress, a body of representatives from all major municipalities, industries, agricultural, and other water rights owners in the state, reacted swiftly to the proposal of the initiatives, by filing briefs with the Supreme Court opposing the initiatives on the simple basis that the ballot title of the initiatives did not meet the single subject requirement that state law imposes on all initiatives (*Re title, Ballot Title, and Submission Clause Set for Initiative 2011-12#3,* Case No. 12SA8, 2012). In his dissenting opinion of the April 2012 decision by the Colorado Supreme Court to let the initiatives go forward, Justice Gregory Hobbs wrote that "masquerading as a measure to protect the public's control of water, [the public trust doctrine as proposed] would prevent farmers, cities, families and businesses from making beneficial use of water rights that have vested in them over the past 150 years under Colorado's statutes and constitution" (*re title, Ballot Title, and Submission Clause Set for Initiative 2011-12#3,* Case No. 12SA8, 2012).

The effort to place these initiatives on the ballot in 2012 was the second time proponents had sought to put the issue to a vote. On the first try, in 1994, the state's Ballot Title Setting Board (the Board) determined that the initiative to be submitted to voters was ambiguous and misleading because the proponents referred generally to the Colorado Public Trust Doctrine without defining for voters what exactly the doctrine would change in the Constitution. In 2012, the Board decided that the title was limited to a single subject (a requirement under state law), that the language of the initiatives was not ambiguous in its proposal to change the Constitution, and that therefore the proponents could go forward to collect the 86,100 ballot signatures necessary to put the initiatives on the November 2012 General Election ballot (*re title, Ballot Title, and Submission Clause Set for Initiative, 2012)*.

Ultimately, the proponents were not successful in raising money for their petition-gathering efforts and voluntarily withdrew the initiatives. Interestingly, not even major environmental groups, such as Trout Unlimited and Ducks Unlimited, or the Colorado Division of Wildlife backed the initiatives, perhaps because all operate well under the current legal status of the prior appropriation doctrine. Nevertheless, like the Terminator, proponents have promised that they "will be back." According to a July 24, 2012 article in the Pueblo Chieftain by special water correspondent, Chris Woodka, published on the very day the proponents decided to pull their campaign for signatures, the Public Trust Doctrine push in Colorado is merely dormant until the next election season in 2014 (Woodka, 2012).

In the wake of this proposed change in Colorado water rights administration, lingering questions about the Public Trust Doctrine resonate in meetings of water conservancy districts, municipalities, farmer cooperatives and river basin roundtables. The worries are rooted in a fear that the public trust doctrine is contrary to Colorado's pure prior appropriation doctrine.

THE COLORADO DOCTRINE: PRIOR APPROPRIATION: FIRST IN TIME, FIRST IN RIGHT:A REPUDIATION OF THE RIPARIAN DOCTRINE AND THE PUBLIC TRUST DOCTRINE

Colorado water law is grounded in the right of prior appropriation, constitutionally guaranteed by sections 5 and 6 of article XVI of the Constitution, which establish and protect the right of any person or entity to appropriate the waters of the state and put them to beneficial use. Those sections provide that:

> The water of every natural stream, not heretofore appropriated, within the state of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the state, subject to appropriation as hereinafter provided….The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied. (Colorado Constitution, article XVI, sections 5 & 6)

Under the Colorado doctrine of prior appropriation, the person who first diverts water and puts it to beneficial use has a right superior to any other person who subsequently appropriates water from the same water resource (*Navajo Dev. Co., Inc. v. Sanderson,* 665 P.2d 1374, 1377 (Colo. 1982)). An appropriative water right is considered to be a "most valuable property right" based on the owner's right to use a certain amount of water, subject only to the amount of water physically available for appropriation, and must satisfy senior priorities (*Navajo Dev. Co., Inc,* 1982, at 1378).

The Colorado doctrine of prior appropriation is a repudiation of the riparian doctrine, which is based on ownership of land adjacent to waterways—lakes, rivers and streams. In fact, the word "riparian" comes from the Latin word meaning "along the river," and in most states east of the 100th meridian—which runs along the western border of Kansas—the riparian doctrine rules, just as it does in England, from which it was imported.

The riparian doctrine provided the framework for water law throughout the Roman Empire. It stated that the water in a stream belonged to the public for fishing and navigation and could not be controlled by individuals. The owner of property along the stream (a riparian landowner), however, did have the right to make de minimus (reasonable) use of the water (a usufructory right) for milling, domestic and agricultural uses. This use, however, could not injure others who used the stream for navigation or fishing. The riparian landowner had to return diverted water back to the stream unchanged in quantity and quality (Cech, Jones, 2009). The Riparian Doctrine finds its first articulation in the Justinian Code, A.D. 533:

> The public use of the banks of a river is a part of the law of nations, just as is that of the river itself. All persons therefore are as much at liberty to bring their vessels to the bank, to fasten ropes to the trees growing there, and to place any part of their cargo there, as to navigate the river itself. But the banks of the river are the property of those whose land they adjoin; and consequently the trees growing on them are also the property of the same persons (Sanders, 1982).

The Justinian Code of Roman law, along with Teutonic law, the Napoleonic Code and English Common Law, guided decisions in the development of English common law. The general characteristics of the riparian doctrine of English common law were adopted in the eastern United States because the humid climate and annual precipitation in these areas—above 30 inches, as opposed to Colorado's annual precipitation of 12-17 inches—is similar to that in Western Europe. In contrast to the riparian doctrine, the right to appropriate water in Colorado is distinct from any ownership right in the land through which the water flows (*People v. Emmert,* 597 P.2d 1025, 1029 (Colo. 1979); *Coffin v. Left Hand Ditch Co.,* 6 Colo. 443, 447 (1882)). The value of a water right in Colorado does not depend, in any way, on ownership of land next to a waterway or beneath a stream or waterway. In Colorado, the value of a water right is the priority to use a certain amount of water from a specified source, such as a river or a lake (*Navajo Dev. Co., Inc.,*1982, at 1377).

The Western states, in developing a new doctrine to replace the riparian doctrine, focused on the right to use water, a usufructory right. To establish a water right, a party needed to divert the water and apply it to a beneficial use. No person could "own" the stream or water in it, but could develop a right to use the water for a beneficial purpose. The earliest users of the water gained a right to use it—to the exclusion of others—during times of shortage: "first in time, first in right." On any river or stream, users knew the order in which water diversions were developed. If there was not enough water in the stream to satisfy all users, later users had to stop diverting water so the earlier users could divert all the water to which they were entitled. The earliest users were referred to as "senior" water rights and those who came later as "junior" water rights (Cech, Jones, 2009). Under the prior appropriation doctrine, water can be removed from a stream and used in locations distant from the stream; ownership of riparian lands was not a condition precedent to the use of water flowing in the stream. And, finally, once a water right has been established, the right to use the water can be sold to third parties, and the party purchasing the water right also purchases the priority of the user from which he is purchasing the right (Cech, Jones, 2009).

Under Colorado law, a landowner owns the land beneath the non-navigable streams running through or adjacent to his property. The Colorado Supreme Court articulated this principle clearly in a 1979 case, *People v. Emmert*, in which a group of rafters had sued a property owner, asking for the right to float through his private property and to picnic on the banks or stop in the river. In its decision, the Supreme Court recognized that "the land underlying non-navigable streams is the subject of private ownership and is vested in the proprietors of the adjoining lands" (*People v. Emmert,* 1979, at 1027). The high court has emphasized that ownership rights of land along a streambed are distinct from appropriative water rights grounded in article XIV of the Colorado Constitution. In a 2002 decision, Board of County Commissioners vs. Park County Sportsmen's Ranch, the court held that "the beds of non-navigable streams in Colorado are not held by the state under a public trust theory," and that its decision in *People vs. Emmert* did not "affect the right of appropriators to conduct their appropriated water through the natural channel across the landowner's property without interference" (*Park County Sportsmen's Ranch,* 2002, at 709). One of the main effects of the Colorado Public Trust Doctrine initiatives that were proposed in 2012 would have been the possible removal of these property rights in land from the landowners and transfer them to the public (*re title, Ballot Title, and Submission Clause Set for Initiative, 2012).*

THE PUBLIC TRUST DOCTRINE: HISTORICAL DEVELOPMENT

The Magna Carta and English Common Law

Traditionally, the public trust doctrine was a common-law restraint on government, preventing sovereign authority from denying public access to navigable waters and the lands beneath them (Gould, 1988). The doctrine developed in England to prevent the English Crown from transferring title in the submerged lands underlying navigable waters (Huffman, 1989). The Crown could convey its other holdings to its favorite subjects but public navigation of English waters was so important that protection of public access to navigable waters was found first in the Magna Carta and then later firmly entrenched in common-law restraints on the Crown. The public trust doctrine included protection of public access to navigable waters by preventing conveyance of the underlying lands (Leonhardt, White, 1994).

Illinois Central Railroad Co. v. Illinois

The most important case in the United States on the traditional public trust doctrine is the U.S. Supreme Court's 1892 decision in *Illinois Central Railroad Co. v. Illinois,* 146 U.S. 387, 13 S.Ct. 110 (1892). In 1869, the state of Illinois granted to the Illinois Central Railroad Company its right and title to the submerged lands of Lake Michigan beneath Chicago's harbor. The grant was made to the railroad company to allow it to develop the harbor and waterfront. Illinois later changed its mind about this grant, and sued the railroad, claiming the state still held title to the submerged lands and the right to develop the harbor. Illinois relied on the public trust doctrine to argue that it had never truly granted title and exclusive control of the Chicago harbor and waterfront to the railroad. The Supreme Court agreed, emphasizing the fact that this applies to navigable waters—"lands covered by tide waters":

> It is settled law of this country that the ownership of and dominion and sovereignty over lands covered by tide waters, within the limits of the several states, belong to the respective states within which they are found, with the consequent right to use or dispose of any portion thereof, when that can be done without substantial impairment of the interest of the public in the waters. (*Illinois Central Railroad Co. v. Illinois*, 1892, at 119)

The Court explained that the state held title to lands submerged under navigable waters in a different fashion from other lands; the Court emphasized the role of navigation for purposes of commerce:

> It is a title held in trust for the people of the state, that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein, freed from the obstruction or interference of private parties. (*Illinois Central Railroad Co. v. Illinois*, 1892, at 118)

The Court then articulated the constraints on a state conveying title to these lands:

> The trust devolving upon the state for the public, and which can only be discharged by the management and control of property in which the public has an interest, cannot be relinquished by a transfer of the property. The control of the state for the purposes of the trust can never be lost, except as to such parcels as are used in promoting the interests of the public therein, or can be disposed of without any substantial impairment of the

> public interest in the lands and waters remaining. (*Illinois Central Railroad Co. v. Illinois*, 1892, at 119)

The traditional public trust doctrine allows the state to convey title to lands beneath navigable waters, but it must retain sufficient control to assure that the purpose of the trust is not substantially impaired. Regardless of the language or intent of any conveyance of these submerged lands, "there always remains with the state the right to revoke those powers and exercise them in a more direct manner, and one more conformable to its wishes" (*Illinois Central Railroad Co. v. Illinois*, 1892, at 121). The public trust doctrine, then, is an extreme example of "caveat emptor"; every grant of title to lands beneath navigable waters is subject to the state's inalienable power to revoke its conveyance for trust purposes (*Illinois Central Railroad Co. v. Illinois*, 1892, at 120). The doctrine thus prohibits a state from disposing of its own property as it wishes and allows it to take back conveyances, regardless whether or not the state had initially intended to convey fee title to the property. Under the doctrine, conveyances of property by the state are continually subject to an implied and inalienable right of revocation.

However, this Supreme Court decision makes it clear that the application of the doctrine is narrowly limited to a requirement of "navigability" on a waterway; the doctrine is limited to needs for navigation and commerce:

> The principle of the common law to which we have adverted is founded upon the most obvious principles of public policy. The sea and navigable rivers are natural highways, and any obstruction to the common right, or exclusive appropriation of their use, is injurious to commerce, and, if permitted at the will of the sovereign, would be very likely to end in materially crippling, if not destroying, it. (*Illinois Central Railroad Co. v. Illinois*, 1892, at 120)

The Illinois Central case was decided based on Illinois law, not federal law. The federal government long has made clear that water law is state law, and the individual states, thus, must define for themselves which waters are "navigable" and that each state must "recognize private rights in [public trust lands] as they see fit" (*Phillips Petroleum Co. v. Mississippi,* 108 S. Ct. 791, at 794 (1987)).

No "navigable" waters in Colorado

The focus on "navigability" and "commerce" is particularly important when considering the application of the public trust doctrine in Colorado. In 1869, Captain Samuel Adams took an expedition from the Blue River down toward the Colorado River, in hopes of proving the navigability of the Colorado River through the Western states (Wheat, 1983). His plans were dashed as he lost all 10 of his boats and his crew above the confluence of the Eagle and Colorado Rivers. Had he continued, he would have run into the rapids in Glenwood Canyon and then the hydraulics of Cataract Canyon and the Grand Canyon. His disastrous adventure was the result of his false assumption that Colorado's largest river was navigable. In fact, no river in Colorado has ever been recognized as navigable in fact or under state law (*People v. Emmert,* 597 P.2d 1021, at 1027 (1979); *In re German Ditch & Reservoir Co.*, 139 P. 2 (1914)). West of the 100^{th} meridian, navigability generally ends; the rivers of the West are not like those of the Midwest or the East. In their natural state, Western rivers flood in late spring and can be almost dry by mid-summer. The rivers of the West offer whitewater enthusiasts exciting sport but they are not navigable in the sense of being used for commerce. Thus, the application of the traditional public trust doctrine to the waterways of the West runs aground at this first analysis.

The Illinois Central holding has been adopted by most state courts that have encountered similar issues. In a 1991 Arizona case, the court counted 38 states that had concluded that a state holds lands beneath navigable waterways in trust for the public (*Arizona Center for Law in Public Interest v. Hassell,* 837 P.2d 158, at 167 (1991)). However, neither the U.S. nor any state constitution mentions a public trust doctrine per se and in only rare instances has it been adopted by statute. Arizona, for example, adopted a statute in 1994 limiting waters considered navigable for public trust purposes and limiting public trust values to commerce, navigation and fishing (Ariz. H.B. 2589, 1994). In Colorado, the state Constitution expressly guarantees the property right to appropriate waters of the state for beneficial use; the imposition of the public trust doctrine is completely contrary to this express constitutional guarantee (Colo. Constitution, Article XVI, Section 3).

The Hawai`i Supreme Court relied heavily on some California Cases that derived their precedent from the *Illinois Central Rail Road* case. An analysis of these California decisions provides a better understanding of an analysis of the Wai_hole case.

California Cases: The State Broadens its Public Trust Revocation PowersMarks v. Whitney

Since the Illinois Central decision in the late 1800s, the public trust doctrine expanded most rapidly in California with three important cases. The first case was *Marks v. Whitney* which upheld a claimed public trust easement over certain tidelands for which California had issued a patent early in the state's history (*Marks v. Whitney,* 491 P.2d 374 (1971)).

Marks held a patent (deed) to the tidelands and wanted to fill in the tidelands and develop the property. The court prohibited him from doing so because of the public easement holding that any patent of tidelands was subject to an implied public trust easement. Significantly, the California court held that the public trust easement was not limited in scope to the traditional uses of "navigation, commerce and fisheries" (*Marks v. Whitney,* 1971). Marks wanted to develop a marina, so the navigability aspect of the public trust doctrine would have furthered that particular purpose of the doctrine. Instead, the court treated the public trust in this case as an amorphous public right. The California court expanded the public trust doctrine purpose as being used for the protection of tidelands, not for navigability:

> The public uses to which tidelands are subject are sufficiently flexible to encompass changing public needs. In administering the trust the state is not burdened with an outmoded classification favoring one mode of utilization over another. There is a growing public recognition that one of the most important public uses of the tidelands—a use encompassed within the tidelands trust—is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area. (*Marks v. Whitney,* 1971)

City of Berkeley v Superior Court of Alameda

The Marks decision reverberated in a second California case, *City of Berkeley v. Superior Court of Alameda,* 606 P.2d 327 (1980). In its effort to develop the San Francisco Bay, California had conveyed title to numerous parcels of the bay that were submerged by the high-tide reach of navigable waters. Many areas had been filled in, and the shore and the high-tide line had been pushed far outward. California's Land Board and the City of Berkeley then asserted a public trust against the private owners of these previously conveyed tideland patents. Overturning a 1915 California Supreme Court decision that ruled that these lands were conveyed in fee simple, free of the public trust, the court in 1980 decided that a public trust did exist over those tidelands (*Knudson v. Kearney,* 171 Cal. 250, 152 P. 541 (1915)). The problem for the court was that much of the patented land had been filled in and developed as a harbor. The court then decided that those parcels already filled and developed were free of the public trust, but those parcels not filled in were subject to the public trust (*City of Berkeley v. Superior Court of Alameda,* 606 P.2d 327 (1980)). The public trust continued only where the property "is still physically adaptable for trust uses" (*City of Berkeley,*1980).

The court did not address whether or not its decision created a constitutional "takings problem"; the court did not ask if the government, aided by this decision, was depriving private owners of property without just compensation, violating the Fifth Amendment of the Constitution. The "takings problem" would loom if California was a "pure prior appropriations" doctrine state such as Colorado where all appropriative water rights are a private property right, a stick in the bundle of property rights. California water law, contrary to Colorado water law, was late to codify appropriative water rights; California water law subordinates appropriative water rights to public navigation and early riparian rights.

THE MONO LAKE CASE: NATIONAL AUDUBON SOCIETY V. SUPERIOR COURT OF ALPINE COUNTY

The notorious war fought over Los Angeles' water diversions from California's Owens Valley was immortalized in the movie "Chinatown"; the irate Owens Valley ranchers blew up aqueducts in their attempts to stop the flow of water to Los Angeles. A 1983 decision by the California Supreme Court applied the public trust doctrine to appropriative water rights, holding that Los Angeles' 1940 permit for water rights to streams feeding Mono Lake, which had been used since 1941, must be reconsidered in light of the effects that Los Angeles' diversions had on the ecosystem of Mono Lake (*National Audubon Society v. Superior Court of Alpine County,* 658 P.2d 709 (1983)).

Mono Lake is a large saline body of water in eastern California, situated at the foot of the Sierra Nevada. It is a naturally closed basin with more than four million acre-feet of water (four times the size of Colorado's Blue Mesa reservoir, for example). The lake supports a population of brine shrimp that serves as food for millions of local and migratory birds, provides a stopping point in the pathway of migratory birds and is an important breeding ground for California gulls (*National Audubon Society,* 1983, at 715-716). South of the lake is the Owens Valley, from which Los Angeles has diverted much of the water flowing off the east slope of the Sierra Nevada into the city's aqueduct. Los Angeles supplemented its supply of water by extending its aqueduct and diversions to the Mono Lake basin. Los Angeles first acquired, by condemnation, the riparian rights of landowners adjoining Mono Lake, and then obtained state permits, the California equivalent of water decrees, to divert from four tributary streams. From 1940 to 1970, the city diverted 57,000 acre-feet per year from these streams above Mono Lake. The city completed a second aqueduct and between 1970 and 1980, the annual diversions averaged almost 100,000 acre-feet (*National Audubon Society,* 1983, at 714).

Environmental groups sued to stop the diversions, based on observed and anticipated environmental effects. The lake surface had dropped, and experts predicted that if the diversions continued, the lake would shrink to half of its original size (*National Audubon Society,* 1983, at 715). The diversions and reduced lake size threatened to increase the salinity of the water, reducing the algae and brine shrimp, and hence the food supply for the birds, and also exposing their nesting grounds to predators. The reduced size of the lake also impairs the lake as a unique scenic, recreational and scientific resource (*National Audubon Society,* 1983, at 716).

Although the streams from which Los Angeles diverted were not navigable, the court imposed the public trust doctrine because the streams fed Mono Lake, which the court held was navigable for brine shrimp fishing. If the doctrine prevented filling navigable waters when it destroys navigation, then extracting water needed to maintain navigable waters downstream also should trigger the doctrine because it “destroys navigation and other public interests” (*National Audubon Society,* 1983, at 720). The doctrine now applied to waters tributary to navigable waters, and now protected water not only when needed for navigation but for environmental, recreational and ecological values of the trust: “It prevents any party from acquiring a vested right to appropriate water in a manner harmful to the interests protected by the public trust” (*National Audubon Society,* 1983, at 727). The court recognized the conflict between application of the public trust doctrine and appropriative water rights doctrine, but favored the implied public trust doctrine and required that it be taken into account in awarding and reconsidering appropriative water rights. The state could always revoke, curtail or otherwise modify the water rights to protect trust interests (*National Audubon Society,* 1983, at 728).

Los Angeles has been enjoined from diverting any water from the basin and the lake has recovered slowly. The California State Legislature compensated Los Angeles for its loss, authorizing $36 million for alternative water supplies. In return, Los Angeles agreed to give up the right to one-third of its historic diversions. Thus, under the Mono Lake case and its application of the public trust doctrine, California can revoke rights granted in non-navigable streams to protect non-navigation uses.

This decision gave the Hawai`i Supreme Court authority to reach its holding in the Wai_hole case. The expansion of the public trust doctrine from navigational uses to environmental uses is of pivotal importance in the Wai_hole case; the cooperation between the California government state agencies and the Los Angeles Water Board also fueled optimism behind the Wai_hole decision as will be discussed below. However, the California Mono Lake case presents concern to Colorado stakeholders because the proponents of the Colorado Public Trust Doctrine initiatives cited the Mono Lake case specifically in their defense of the initiatives. Many in Colorado believe that the expansion of the public trust doctrine from navigational uses to environmental uses could cause ongoing litigation over private property rights and the democratic process, to say nothing of ongoing takings litigation.

Montana, Nevada, Idaho, and Hawai`i

Of the handful of states that have addressed the public trust doctrine in recent case law, all have systems of water rights that differ from Colorado's pure appropriation system. Montana, Nevada, Idaho and Hawai`i also all have navigable riverbeds or sea beds; Colorado, as noted, has no navigable waterways. The Montana case relied on the traditional public trust doctrine and defined criteria for a navigable waterway, claiming that the state assumed title to these beds per federal law (*Montana Coalition for Stream Access, Inc. v. Curran,* 210 Mont. 38, 53, 682, P. 2d 163, 171 (1983). In Nevada, the Supreme Court issued a decision formally "adopting" the public trust doctrine in a case involving a proposed transfer of land in and adjacent to the Colorado River (*Lawrence v. Clark County,* 254 P.3d 60 (2011)). In Idaho, the Supreme Court established the public trust doctrine in a case where a private marina was deemed not to serve the public at large (*Kootenai Environmental Alliance, Inc. v. Panhandle Yacht Club, Inc.,* 105 Idaho 622 (1983)). In Hawai`i, the Constitution provides broadly for the waters of the state as a public trust and now, after the Wai_hole case, the public trust doctrine is established common law (HRS article XI, section 1; *Wai_hole* decision, 2000).

WAI_HOLE HAWAI`I SUPREME COURT DECISION: PARADIGM SHIFT IN WATER ALLOCATION DECISION PROCESS

In the Matter of the Water Use Permit Applications, Petitions for Interim Instream Flow Standard Amendments, and Petitions for Water Reservations for the Wai_hole Ditch Combined Contested Case Hearing, 9 P.3d 409 (2000)

Scholars, policy makers, managers of government agencies, water providers, landowners and other community members from the islands of Hawai`i have characterized the landmark August 2000 Wai_hole decision as a "re-invigoration of the fundamental ancient water rights principle called 'the public trust doctrine'" and one which demands that all stakeholders engage in a new public-private dialogue focused on the collective responsibilities of water rights allocation, turning away from "intractable legal warfare over conflicting water rights" (Antolini, 2001). In its Wai_hole decision, the Court, noting a projection of a water shortage on the island of O`ahu by the year 2020, emphasized an "urgent need for planning and preparation…before more serious complications develop" and focused on "judicious planning and regulation, rather than crisis management" (Wai_hole decision, 2000). The public trust doctrine provided the Court with a common law tradition founded on community water rights; however, the Court approached the doctrine with a push towards evolving to meet community needs (Sax, 2001). Indeed, the Wai_hole case, at its center, focused on a convergence of modern efforts for watershed protection and restoration, especially in-stream flow rights, with the common law doctrines of riparian rights and natural flow; under the riparian doctrine, water belonged to the watershed of origin, and thus, contrasts, as noted above, with the prior appropriation doctrine found in its pure form in Colorado (Sax, 2001). In his introduction to a symposium entitled "Managing Hawai`i's Public Trust Doctrine," Professor Joseph Sax, commented that the role of the public trust doctrine is "the theoretical underpinning of a general legal superstructure that submits water rights and water uses to evolving community needs" (Sax, 2001). In the Wai_hole case, the Court took a giant step with the public trust doctrine and applied the trust to domestic use, ground water, native, traditional and customary uses; it made no explicit reference to navigable waters (Sax, 2001; Wai_hole decision, 2000).

In the symposium that analyzed the Wai_hole decision and its far reaching effects on Hawai`i water resource allocation administration, the California Attorney General who oversaw the Mono Lake litigation, Jan Stevens, remarked that the public trust doctrine, at the heart of both the Mono Lake decision and the Wai_hole decision, provided guidelines and protections for resources that have been neglected in past allocations of water and that in both cases "the court expressed a much broader view of the powers of the state, under the public trust doctrine, than did the administrative agency charged with administering water rights" (Stevens, 2001). Also similar, Stevens noted, was the presence of parties that "reflected a who's who of all the economic, political and environmental powers of the state" (Stevens, 2001). Indeed, the parties that were involved in the Wai_hole case, and that subsequently have a role in the execution of the Court's decision, include the Hawai`i Board of Land and Natural Resources, the Hawai`i Commission on Water Resources Management, the Hawai`i Division of Aquatic Resources, the Kamehameha School system, and multiple community groups from the island of O`ahu (Antolini, 2001).

Factual overview of the Wai_hole Ditch system water rights dispute

The Wai_hole case focused on the allocation of approximately 27 million gallons per day (mgd) that, since the 1920s, had flowed through the Wai_hole Ditch system. The Wai_hole tunnel and ditch system, 25 miles in length, diverted fresh surface water and ground water, impounded in underground natural dikes, from the natural reservoirs in the windward volcanic Ko`olau mountain range to irrigate and process sugar in the more arid leeward plain of Central O`ahu. The ditch system diversions diminished the natural stream flow in several windward streams, including Wai_hole, Waianu, Waik_ne and Kahana "affecting the natural environment and human communities dependent upon them" such as local communities that had long fought to reassert appurtenant rights for taro cultivation dependent on natural surface flows (Wai_hole decision, 2000 at page 111; Antolini, 2001). In the early 1990s, O`ahu's sugar industry went out of business, creating an opportunity to consider the reallocation of these longstanding off-stream diversions, restoring natural flows to dry streams from which water had been diverted for over a century (Wai_hole decision, 2000 at page 111; Antolini, 2001).

Two years before sugar operations ceased in 1995, the private owner of the ditch system, Wai_hole Irrigation Company, filed a combined water use permit application seeking to protect its distribution of water to existing users of the system with plans for business and residential development including new golf courses (Antolini, 2001). State agencies and private and community organizations filed to reserve water; four windward community groups also filed petitions to increase the interim in-stream flow standards for the windward streams affected by the ditch and the centuries-long diversions (Wai_hole decision, 2000, at page 112). A total of 25 parties were admitted to the contested case, the longest and most complex administrative proceeding in Hawai`i's history (Antolini, 2001).

Before the trial commenced, the Water Commission ordered the irrigation ditch operator to adjust its head gates deep inside the volcanic water diversion tunnel so that a percentage of water spilled back into Wai_hole and Waianu Streams. It allowed a certain percentage to flow to leeward off-stream uses, set aside some for agricultural reserve for future permitting, created a non-permitted ground water buffer (initially to be released into the windward streams but to be kept available for off-stream uses as a secondary source) and denied several applications for water uses on golf courses and landscaping for future residential development (Antolini, 2001). Ten parties appealed to the Hawai`i Supreme Court; the appeal took three years before the Court issued its decision in August of 2000 (Antolini, 2001). Similar to the State of California's compensating Los Angeles for some of its forfeited water rights in Mono Lake, after the Wai_hole decision, the State of Hawai`i purchased the ditch system for $9.7 million and placed it in the hands of the State

Agribusiness Development Corporation (Antolini, 2001).

Legal focus for the Wai_hole decision: The Public Trust Doctrine

The Hawai`i Supreme Court focused on the public trust doctrine for its review of the Water Commission's decision on changing the allocation of the water rights. The Court noted that Hawai`i's adoption of the public trust doctrine is not a recent innovation, but was adopted into Hawai`i law as early as 1892 when Hawai`i incorporated English common law principles in its state code (Wai_hole decision, 2000, at page 129). The Court traced Hawai`i's adoption of the public trust doctrine to an 1899 case, King v O`ahu Railway & Land Company, as well as multiple subsequent decisions, and observed that courts have recognized "a public trust that was imposed upon all waters of the kingdom" encompassing both the right and duty "to maintain the purity and flow of our waters for future generations and to assure that the waters of our land are put to reasonable and beneficial uses" (Wai_hole decision, 2000, at page 129). The Court also held that the State's obligation to enforce the water trust "necessarily limited the creation of certain private interests in waters" (Wai_hole decision, 2000, at page 129).

In addition to case law, the Court noted that the 1978 Constitutional Convention added several water rights provisions to the Hawai`i Constitution emphasizing the public trust over natural resources (Wai_hole decision, 2000, at page 130). Article XI, Section 1 of the Hawai`ian Constitution requires the State to "conserve and protect" Hawai`i's "natural beauty and all natural resources, including…water," and further dictates that all public natural resources are held in trust by the State for the benefit of the people." Article XI, Section 7 adds that the State "has an obligation to protect, control, and regulate the use of Hawai`i's water resources for the benefit of its people."

The Hawai`i Supreme Court cited the California Mono Lake case, noting that, like the

California Court, it "likewise acknowledged resource protection, with its numerous derivative public uses, benefits, and values, as an underlying purpose of the reserved water resources trust" (Wai_hole decision, 2000, at page 136). The water resources trust in Hawai`i demands that any balancing between public and private purposes begin with a presumption in favor of public use, access and enjoyment (Wai_hole decision, 2000, at page 133-143). The Court rejected the arguments that the maintenance of waters in their natural state constituted "waste" and that private economic development was a protected trust purpose; it emphasized, instead, that domestic water use is "among the highest uses of water resources" and that the State had a "dual mandate of 1) protection and 2) maximum reasonable and beneficial use" (Wai_hole decision, 2000, at page 136-139). The Hawai`i Supreme Court commented that "maximum reasonable and beneficial use…is not maximum consumptive use, but rather the most equitable, reasonable, and beneficial allocation of state water resources, with full recognition that resource protection also constitutes 'use'" (Wai_hole decision, 2000, at page 140). Therefore, the Court concluded, that the State must "revisit prior diversions and allocations" as part of its trust responsibilities (Wai_hole decision, 2000, at page 141). The general direction of the Wai Hole decision was to direct resource managers to ensure the long-term health of the resources of Hawai`i including protection of mauka (upland) forests critical to ground water recharge (Antolini, 2001).

Can the elements of these decisions from the California Court and from the Hawai`i Court impact water rights allocation law in states such as Colorado, where water rights are a private property right, subject to a very different legal regime? What might be the consequences of an embrace of the public trust doctrine in Colorado?

Potential Effects of the Public Trust Doctrine as Applied to Colorado Water Law *Takings*

Federal law does not prevent state governments from condemning water rights to solve environmental problems. Under the Fifth and Fourteenth Amendments of the U.S. Constitution, however, just compensation must be paid for the taking of a property right. The Colorado Constitution's prohibition against taking of private property without just compensation is even broader. Takings require compensation under both the Colorado Constitution and the U.S. Constitution, but damage also must be compensated under the Colorado Constitution. This provision requires compensation for damage to water rights:

> Private property shall not be taken or damaged, for public or private use, without just compensation…and until the same shall be paid to the owner…the property shall not be needlessly disturbed, or the proprietary rights of the owner therein divested; and whenever an attempt is made to take private property for a use disturbed, or the proprietary rights of the owner therein, divested; and whenever an attempt is made to take private property for a use lleged to be public, the question whether the contemplated use be really public shall be a judicial question, and determined as such without regard to any legislative assertion that the use is public. (Colo. Constitution, Article II, Section 15)

If a public trust doctrine has always limited a state's water rights, such as in states like Illinois, and if the state takes those rights away to further trust purposes, an owner of private rights has less standing for arguing that this is a takings. In Colorado, however, the public trust doctrine has never before existed. As noted above, The Colorado Constitution states that the water of Colorado belongs to all the people, but this "public trust" is clearly limited in its reach because the "right to appropriate shall never be denied," distinctly in contrast to the Hawai`i constitutional dictate that all the state's water are a public resource. If initiatives such as those proposed in Colorado in 2012 were to pass, to take water rights and other property by adopting a public trust doctrine would require compensation to those whose rights are taken or damaged. An owner's right, for Fifth Amendment purposes, is defined by state law at the time the ownership is acquired.

Colorado has rejected the public trust doctrine as inconsistent with rights of appropriation under the state Constitution. Past and present Colorado law provides no basis for subjecting water rights to public trust purposes. Colorado water rights are vested property rights, fully protected by the constitutional guarantees against takings without compensation. To impose a public trust on existing water rights, even by constitutional amendment, would require compensation.

The Public Trust Doctrine Initiatives in Colorado: Subordination of Existing Appropriative Water Rights to the Public Interest

The proposed public trust doctrine language to the Colorado Constitution would alter two different types of property rights: 1) it would subordinate existing appropriative water rights to the public interest, regardless of priority; and 2) it would transfer rights to the lands under and adjacent to streambeds away from private landowners to the public. As the *Emmert* case discussed above illustrates, the Supreme Court considered whether section 5 of article XVI grants the public a right to float and fish on a non-navigable natural stream (the Colorado River) as it flows through, across and within the boundaries of privately owned property (Emmert decision, 1973, at page 1026). The Court determined that section 5 of article XVI establishes the right of appropriation but does not address land ownership and, therefore, does not assure public access to waters for purposes other than appropriation (Emmert decision, 1973, at page 1028-1029). Instead, a riparian streambed owner has a common-law right to the exclusive use of the lands under and adjacent to a naturally flowing stream, as well as to the surface of the waters bounded by his or her lands (Emmert decision, 1973, at page 1028-1029).

Colorado has long recognized that water and land rights are separate and distinct property rights (*Colorado v. Southwestern Colorado Water Conservancy District,* 671 P.2d 1294, 1317

(Colo. 1983)). The Colorado Public Trust Doctrine, as proposed, would be completely contrary to this system of property rights. Nevertheless, there have been multiple initiatives and case decisions in the past that have asked voters to allow travel along streambeds while water is flowing, and that this not be treated as criminal trespass as well as allowing a right to float over privately owned streambeds (*Re Fair Fishing,* 877 P.2d 1355 (Colo. 1994)). The underlying purpose of the proposed initiatives to create a system of water rights allocation in which public interests are favored over water rights that have been appropriated for beneficial use created great consternation among all water providers and water rights holders in the state, all expecting its continued reappearance in light of the California and Hawai`i decisions.

Colorado's Appropriation Doctrine: Predictability and Flexibility

Although the basic principles of Colorado's prior appropriation doctrine have effectively met the state's water needs since the days of the Colorado Territory, as new needs and values arise, the state has reacted with new legislation and adaptations. For example, the state legislature approved an in-stream-flow program requiring that water stay in the river for the sake of the health of fisheries (C.R.S. § 37-92-102(3)). Likewise, kayaking has been approved as a beneficial use of water even though there is no diversion or consumptive use of the water (C*ity of Golden v. Simpson,* No. 02SA364 (2004)).

No one can predict what the public trust doctrine language change to the Colorado Constitution would mean to the state and its water providers and users. The prediction, however, is that this could present a perpetual employment package for all water attorneys in the state as every point of change would be fiercely litigated. Most attorneys of the Colorado water bar argue that Colorado's existing laws and market forces can achieve any goals that need a reallocation of water to new uses while assuring that no one's rights are taken or damaged without compensation; this, of course, was also a familiar argument in both the Mono Lake case and the Wai_hole case.

Propelling concerns for introducing the Colorado public trust doctrine

In their testimony in front of the Board that decided if their proposal could go forward, the proponents of the Colorado Public Trust Doctrine ballot initiative voiced their concern over the new explosion of the natural gas industry in Colorado and the extensive use of hydraulic fracking, which is currently not regulated by either federal or state rules and regulations. Fracking involves pumping water and chemicals into the earth to free oil and natural gas. The use of water for fracking purposes and the unknown effects of the process and the impact on our water resources are of great concern to the communities where fracking is occurring around the state. Legitimate concerns have been raised about air quality and possible groundwater contamination and various local governments have responded. Local governments have passed regulations about setbacks of oil drilling from homes. Currently, state law requires drilling to be set at least 350 feet away from homes; many argue that this is unacceptable in terms of groundwater contamination, especially around parks and schools and places where children gather. The State reacted to such local regulations with a lawsuit, asserting that they interfere with the role of the Colorado Oil and Gas Conservation Commission (COGCC) as the sole regulator of drilling in Colorado.

In 2013, voters of the five towns along the front range of Colorado, north of Denver, passed an outright ban on fracking within town limits. Boulder County, meanwhile, is pushing land-use regulations that require drillers to "first do no harm," an ambiguous regulation that makes one wonder how this would be enforced. Meanwhile, another northeastern Colorado town is negotiating directly with oil and gas companies and crafting agreements with two companies to proceed with drilling AND protect public health and safety. Residents had asked the town trustees to extend a drilling moratorium, and instead the trustees took the action of finding a contractual answer to attempt to protect public health.

Many fear that this random collection of local rules will result in confusion and difficulty in terms of enforcement. The Colorado legislature has plenary control over regulation of the fracking industry. Instead of waiting for a Court decision to see the application of the Mono Laek and Wai_hole decisions to Colorado water law, the legislature would be wise to seize authority to direct the promulgation of new state rules that would allow for reasonable development of the state's oil and gas reserves (especially those under the Niobrara shale formation that run all the way up and down the Front Range and eastern Colorado), protecting the State's water resources along the way. These rules should compel COGCC to examine the manner in which exploration is carried on, especially in populated areas like the Front Range, and to not only promulgate but enforce new rules that would protect Colorado groundwater, air and public health.

This would be a better starting place than overhauling some of the key sections of the state Constitution that govern water allocation in the state. In forging ahead with drafting its State Water Plan, Colorado has, indeed, followed suit with the post-Wai_hole decision role model in recognizing that the multiple state agencies responsible for water quality, water allocation, and agricultural as well as private stakeholders must all be involved in forging new territory for finding adequate and sustainable water resources for both consumptive and non-consumptive uses; the fish and the rivers and the local communities really do matter (Colorado State Water Plan, 2014). The secret of how to take a 21st century approach to the Constitutional language that blesses both public and private rights is yet to be uncovered.

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THE IMPACT OF GENDER ON ENTREPRENEURIAL LEARNING AND BEHAVIOUR IN START-UP SIMULATIONS

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ABSTRACT

Over 5 years we have carried out a series of four evaluation studies in the area of entrepreneurship education with business games, which simulate start - up business processes. The research objective of the studies is, to which extent the goals of these courses - to foster entrepreneurial competencies and inspire participants to start up their own company – could be reached. Apart from other results, significant differences due to gender aspects have been identified.

On the basis of this insight, we started a new study with gender specific changes of the environmental factors in the simulation to diminish the "negative" impact on the development of entrepreneurial competencies and motivation of female participants. First results show a significant improvement of learning and motivational effects for female students in contradiction to former study results.

INTRODUCTION

Gender aspects in respect of entrepreneurial activities, start-up motivation and success etc. are more and more discussed in the field of entrepreneurship research and entrepreneurship education (de Bruin, Brush & Welter, 2007; Maxfield, 2007; Fischer, Reuber & Dyke, 2003; Hisrich & O`Brien, 1981). Since 2005, we have carried out several studies in the area of entrepreneurship education with business simulations that simulate start-up business processes. (e.g. Kriz, Auchter & Wittenzellner, 2008). The computer supported business simulation game "TOPSIM-Startup" represents the complexity and the relevant variables in different start-up situations, and covers all stages of a start-up business from collecting information, checking the business idea to transforming the business idea to a successful company in a competitive situation (Auchter, 2006; Auchter & Keding, 2004). One part of the studies is to research the learning effects of university students enrolled in regular courses involving start-up business simulations. Currently we have done research on more than 1000 students enrolled in more than 50 courses. Another important part of our studies is the evaluation of entrepreneurship education in the nationwide German competition “exist-priMEcup”. Until now more than 5000 students attended about 250 of these cup-seminars. Both activities (regular courses and voluntary competition cup) share the common goals of fostering entrepreneurial competencies and influencing the intention of participants to start up their own company. In our four studies we found gender specific effects which range from differences in entrepreneurial motivation to divergent team and leadership experiences.In the first part of this paper, we will - after a short introduction in our evaluation approach - summarize these results of our previous studies. In the second part, we introduce the design and the results of our new study, where we try by a specific change of the environmental factors and the business simulation concept to diminish the “negative” impact on the development of entrepreneurial competencies and motivation of female participants.

The Evaluation Approach

We put into practice the theory based evaluation approach on the basis of a logic model. It provides a framework for the interpretation of what takes place during the start-up simulation. Such a logic model consists of various variables, which can be classified under the three components prerequisites (input), processes (actions), and effects (output or outcome), and their reciprocal dependencies and mutual relations (Kriz, 2004; Kriz & Hense, 2004; Kriz & Hense, 2006) (Figure 1).

Figure 1

Logic Model of Entrepreneurship Education with start-up Simulations

Input	→	Processes	→	Outcomes
Socio-demographical data: age, gender, course and stage of studies; start-up predisposition: intention for own start up, entrepreneurs in the family; previous experience/attitude *General competencies:* knowledge of business and administration, quality of business plans, social competence *Entrepreneurial competencies:* innovatory tendency, propensity to take risks, proactive orientation *Personality disposition:* achievement motivation, willingness to prevail, desire to be independent, emotional stability, etc.	→	*Individual Learning*: over- and under-challenged (overburdened), motivation level and role-taking, causal attribution (internal locus of control) *Interaction in the simulation:* learning time, number of periods in simulation, type of simulation (complexity of version; type of seminar (obligatory course or voluntary cup event) *Social Learning*: student-student-interaction (quality & intensity of team-work, satisfaction with reflection within the team, competition and teamwork satisfaction, leadership orientation), student-trainer-interaction (intensity & quality of support / facilitation / debriefing)	→	*Learning:* knowledge of business and economics, quality of business plans, preparation of start-up *Social & Personal competence*: team skills, recognition of one's own strengths & weaknesses *Motivational*: start-up motivation and predisposition (intention to become an entrepreneur) *Simulation success:* acceptance of start-up simulation, satisfaction

The logic model also helps to identify those elements that are responsible for learning processes or for the fact that learning does not take place. All variables of the logic model were derived from previous research, which provided the theoretical concepts. In addition, all factors of that logic model are measured through questionnaires, tests, and interviews with participants (students) and facilitators. Measurements are taken before, during, and after the simulation seminars.

The logic model for the evaluation of the start-up simulation stems from several sources, including 1) contemporary research on simulations (Hindle, 2002; Kriz & Brandstetter, 2003), 2) approaches of situated learning (Brown, Collins & Duguid, 1989; Gruber, Law, Mandl & Renkl, 1995) – in this respect especially the so-called "problem oriented learning" – as well as 3) more general models concerning the quality of teaching and the learning environment (Ditton, 2002) and

4) contemporary entrepreneurship research (see above).

RESULTS OF PREVIOUS STUDIES

Methodology and Data

As pointed out, we already realized four studies with male and female students at German universities.The logical model as shown in Fig.1 was the basis for the studies 1, 2, and 4. We used the same methodology for the operationalization and measurement: we developed three questionnaires with items on a 5-point Likert scale. Questionnaire No. 1 serves to measure the input variables, No. 2 was for measuring the process variables and No. 3 was designed mainly to measure output variables and partly also to collect more data about the process variables. Measurements are taken before, in the middle and after the seminars in each case with an individual questionnaire (questionnaires 1,2,3) In addition to the questionnaires, the business knowledge and the quality of making business plans were assessed.

The data for Study 1 was collected in 2005 and 2006. A total of 606 participants from five technical universities took part in the investigation. For this a total of 31 start-up simulations were carried out. Study 2 was carried out as a close replication of Study 1. A total of N=202 students participated in 2006 in 11 further trainings with the start-up simulation (taking place at the same universities as in study 1). To objectify more the measurement of the variation of the entrepreneurial competencies by the simulation seminars written test replaced the ratings of business knowledge by university lecturers.

Study 3 is different from Studies 1 and 2. Start-up simulations seminars (cups) are carried out within a nationwide entrepreneurship competition on four levels. The best teams of each level are allowed to enter the next level. In each cup level the same simulation methodology is used, but with increasing complexity of scenarios and simulated variables. Due to time constraints of the cup system, only one questionnaire (35 assessment-items) was used after each cup seminar. Participants of Study 3 can be seen as another treatment group, because attending the cup is voluntary for interested students, whereas attending the simulation games in study 1 and 2 was a regular obligatory part of the students' course program.

The average rate of return of the questionnaires was 97%. In 2007 N=815 students participated in 43 cups in the evaluation, in 2008 N=1706 students participated in 76 cups and in 2009 N=1624 students participated in 80 cups (total N=4145 students in 199 cups).

Study 4 took place in 2009/2010. Business students (N=99) of one university attended seven term-long simulation seminars In order to trace gender effects (that we found in studies 1 to 3; see results), we designed this additional study by constituting teams with either male or female participants. This idea is based on the experience on the significantly better learning behavior of female pupils in technical subjects due to attending classes with only female participants (i.e. Kessels, 2002).

Results

All results presented in tables are significant on alpha probability value p<.001. We focus only on the significant results related to gender differences. (For detailed results, see (Auchter & Kriz, 2011)

Study 1 and 2: In contradiction to the intensions of the program to force the entrepreneurial motivation, a decrease of the motivation was detected. There was a significantly steeper drop in the interest of women in starting-up a business after the simulation seminar (men stayed constant, while woman fall in interest; the drop of interest in the whole sample is thus due to women).

In comparison to men women had a better knowledge in business administration before and after the simulation as well better business plans both before and after the simulation. Although both groups improved significantly, the men benefited more, i.e. the improvement in the men's knowledge of business administration is significantly better. In the case of women the predisposition to found a business is significantly less before and after the simulation. In comparison to men women demonstrate less inclination to take risks and their leadership orientations are less pronounced. They were also more overburdened in the simulation than men, a leading role was taken more seldom and the motivation and role adoption was less. The women's comparatively superior technical and methodological competencies were thus not sufficiently effective, since in the simulation process they apparently left the leading role for the men and as a result experienced less motivation. Perhaps certain gender stereotypes play as usual a role in this respect. However, even before the simulation the disposition of the women to start-up a business is less pronounced and this must have made them less able to put themselves in the situation of an entrepreneur and as a consequence they participated with less motivation.

We found as well gender effects in study 3: The results are quite similar to those of Study 1and 2:

As table 1 indicates that women in comparison to men show a lower satisfaction with the decision making process, reflection and feed-back in the team; a lower propensity to take risks and less willingness to take leadership in the group. Comparing the satisfaction of the participants with the simulation in regard to competitive situation and the teamwork in the game, the study shows a lower situational motivation for women in comparison to men.

Table 1

Gender differences on level 3 "Professional Cup"

	Gender	N	Mean	Standard Deviation
Satisfaction with reflection within the team	female	82	2,024	1,175
	male	267	1,737	,908
Propensity to risk	female	81	3,333	1,224
	male	268	2,977	1,242
Leadership orientation	female	82	2,439	,944
	male	268	2,141	,901
Competition and teamwork satisfaction	female	82	1,622	,739
	male	267	1,385	,549

Results of Study 4: By designing seminars consisting of 4-5 teams with the same gender within the teams, we intended to identify if women benefit through participating in female only teams in terms of start-up motivation. In other words: Does this setting reduce or equalize the decrease of interest in founding an own company (as shown in study 1-3).

Our results however show no significant effects. We found the same results as already discussed in study 1-3. This means, that there is again the same significant motivation decrease for founding a new company in the sample of women compared with men (t-test for paired samples). Also other results are in line with the outcomes of study 1-3 (i.e. women show less willingness to lead, less internal locus of control regarding the simulation game results, less alignment to the competitive situation of the game, etc.).

DESIGN AND RESULTS OF THE NEW STUDY (STUDY 5)

Design

On the basis of the insights of the previous results, we started a new study (study 5) with gender specific changes of the environmental factors to diminish the "negative" impact on the development of entrepreneurial competencies and motivation of female participants. In this study we extend the "Women only" –approach from study 4 by two dimensions:

(1) „Women only- seminars": All participants are women. As well the instructors are female.

(2) The computer based simulation was replaced by a board simulation with the same level of complexity. Board simulations are haptic; the participants see physically what happens in their company and how the decisions affect the important aspects of their business, like cash balance, stock, profit, etc. Because there are no "black-box - processes" like in the case of the computer based simulation, processes are more understandable. Moreover there is an extended debriefing in comparison to the computer based seminars. Debriefing is the time where the simulation model and reality are compared with each other. The term debriefing refers to the methods used to combine participants' reflections on their experiences with assessment of mental (cognition, emotion, etc.), social (action, communication, etc.) and systems processes (change of resources, structures, etc.) to deduce applications for real situations beyond the gaming simulation experience (Kriz, 2010). In the new woman cup structure more time is given for the debriefing phase (about 90 minutes instead of 30 minutes in the old cup structure). In addition more advanced methods are put in place (Thiagarajan, 1993) using a mixture of techniques (oral and written, dialogue in pairs, small teams, whole group) in order to make this reflection phase as effective as possible.

Methodology

Our sample is based on the data of the nationwide entrepreneurship competitions (see also study 3) in the years 2010 and 2011. All data derive from the starting level of the competition, the so called campus cup. One seminar (cup) takes 2 full days.

Samples

<u>(a) Computer based simulation, mixed gender:</u>
143 Cups (seminars)
N=919; female (f)=344; male (m)=575

(b) Computer based simulation, women only:
2 Cups
N=32 women

(c) Board based simulation, mixed gender:
4 Cups
N=51, f= 18; m=33

d) Board based simulation, women only:
3 Cups
N=64 women

As mentioned above, due to time constraints, we could use for this study only one questionnaire (35 assessment items on a 6-point Likert scale) per cup. In the first step was created a total assessment score over all 35 items. This score contains: overall satisfaction with the cup seminar, motivation and role taking in the simulation, motivation and role taking in the simulation, fostering of skills / knowledge for start up business, competition and teamwork satisfaction, fostering of social skills, simulation is near to reality and practice, internal locus of control, realizing own strengths and weaknesses.

Results

Analyzing the total assessment scores (Table 2), we cannot identify for the total group significant differences between the simulation methods and no significant interaction effects. There is a slight tendency towards the board simulation. Referring to the total group means in the mixed gender groups: the majority are male participants. To get more meaningfully results, we need – by future research-more data from mixed gender groups doing the board simulation.

Table 2 **Total assessment scores for all participants**				
Method	**Gender Mix**	**Mean**	**Standard deviation**	**N**
Computer Simulation	mixed gender cup	2,31	,595	905
	women only cup	2,29	,483	32
	total	2,30	,591	937
Board Simulation	mixed gender cup	2,17	,448	51
	women only cup	2,19	,662	63
	total	2,18	,574	114
Total	mixed gender cup	2,30	,588	956
	women only cup	2,22	,606	95
	total	2,29	,590	1051

The picture gets much clearer by analyzing the total assessment scores pertaining only female participants.

As table 3 shows, there are significantly better results for women only cups in comparison with the mixed gender cups and significantly better mean values for the board simulation seminars. To get more sustaining results, we need more evaluation data from mixed gender cups with the board simulation.

Table 3 **Total assessment scores of female participants only**				
Method	**Gender Mix**	**Mean**	**Standard deviation**	**N**
Computer Simulation	mixed gender cup female	2,41	,627	337
	women only cup	2,29	,483	32
	total	2,40	,617	369
Board Simulation	mixed gender cup female	2,26	,450	18
	women only cup	2,19	,662	63
	total	2,21	,619	81
Total	mixed gender cup female	2,40	,620	355
	women only cup	2,22	,606	95
	total	2,37	,620	450

Analyzing in this context the individual factors, we can see the clearest differences in favor of the women only and board simulation seminars in:

- Competition and teamwork satisfaction
- Fostering of social skills
- Simulation is near to reality and practice

This result fits in our insights of the former studies: We learned that women have more "content orientation" in contradiction to the "competition orientation" of men- in an entrepreneurial simulation situation. Board simulations seem to meet this content orientation more than the computer based simulation seminars.

The better debriefing structures take into account the enhanced interest of women in reflecting the group dynamics and leadership behavior in the teams. Debriefing processes seem to have an important part in the better evaluation results of women. Moreover is debriefing an instrument to transfer the theory (simulation) in the real start-up processes. That explains the improved results on this topic.

Looking in detail at the factor values of women in board based simulation seminars; we see generally significantly better scores in women only seminars for all factors (Table 4).

Table 4
Factor values for women in board based simulation seminars

Factor/Item	Gender	N	Mean	Standard deviation
Internal locus of control	women only cup	62	2,04	,913
	mixed gender cup	341	2,44	1,145
Motivation and role taking in the simulation	women only cup	63	1,88	,985
	mixed gender cup	343	2,52	1,220
Realizing own strenghts and weaknesses	women only cup	63	2,39	1,143
	mixed gender cup	346	2,85	1,273
Fostering of motivation for	women only cup	64	2,70	1,268

start up	mixed gender cup	346	2,92	1,299
Fostering of skills / knowledge for start up	women only cup	64	2,76	,971
	mixed gender cup	343	2,83	1,120
Competition and teamwork satisfaction	women only cup	63	1,75	,751
	mixed gender cup	346	2,01	,822
Fostering of social skills	women only cup	64	2,65	1,043
	mixed gender cup	347	2,99	1,044
Game is near to reality and practice	women only cup	64	2,57	1,133
	mixed gender cup	343	3,06	1,257

Analyzing the total assessment scores of men (Table 5), we can identify better values in board simulation seminars. It seems that the board simulation and the debriefing contribute positive effects as well for men. However, the sample of men is still too small to do a proper statement.

Table 5
Total assessment scores of men

Method	Gender Mix	Mean	Standard deviation	N
Computer Simulation	mixed gender cup male	2,24	,567	566
Board Simulation	mixed gender cup male	2,13	,449	33
Total	mixed gender cup male	2,23	,561	599

SUMMARY AND CONCLUSION

All studies discussed in this paper show gender differences in using start-up simulations for entrepreneurship education. As well other research results report similar gender differences: women are significantly less interested to start their own business than men (Ljunggren & Kolvereid, 1996; Cooper & Lucas, 2006; Sternberg & Lückgen, 2005).Women demonstrate less inclination to take risks and their leadership orientation is less pronounced and the role adoption of an entrepreneur in the simulation game was lower (for research results addressing similar gender differences e.g. Langowitz & Minniti, 2007; Wilson, Kickul & Marlino 2007; Scheiner, 2009). Our research design by building same gender teams in the simulation seminars in order to limit “male restricting” factors in teamwork (leadership ambitions, etc.) did not show significant effects on the start-up motivation of women and the related factors influencing this. In our new study we tried an alternative design of start-up simulation seminars. In these seminars for students, only female participants are attending the seminar. As well the instructors are female. Additionally a new simulation model is used. The computer based simulation was replaced by a board simulation with the same level of complexity. Board simulations are haptic and allow a closer insight in the processes of a company than computer based simulation do. Moreover the debriefing methods - the phase, where the simulation model and reality are compared with each other - have been adapted. The actual new study covers multiple samples with more than 1000 participants. (However for some seminar constellations the samples are too small to deliver significant results).

The results of the new study show positive learning and motivational effects for female students in contradiction to the former study results.

-Better satisfaction and motivation in the team; better assessment of teamwork situation

-Better assessment of the simulation. It is evaluated to be close to reality and practice

-Better satisfaction with debriefing and own learning

All results are significant, although some of them have to be more proved by larger samples.

Of course there are limitations in the present evaluation results. For example, participants in a start-up simulation game might act differently if they were in an actual business start-up process. The evaluation model does not include all skills and competences which are required for a business start-up (for example entrepreneurial creativity, entrepreneurial opportunity recognition and exploitation). But these competencies are not required in the start-up simulation, because the business idea is already predefined in the start-up simulation.

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UNDERSTANDING THE NEXT GENERATION OF EMPLOYEES' EMOTIONAL INTELLIGENCE
TOPIC #15: MANAGEMENT AND ORGANIZATIONAL BEHAVIOR

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ABSTRACT

Research in the field of organizational behavior focused on the new generation of workers is becoming more prevalent due to the natural desire of the younger generation's perspective on work and their careers. This study focuses on Emotional Intelligence (EI) tendencies and typical workplace traits to further contribute to the developing body of knowledge regarding the newest generation of employees entering the workforce. Several insightful relationships were found, however the most interesting was the positive relationship between the desire for low sociability in the workplace and the desire to stay long term with an employer.

INTRODUCTION

The body of knowledge focused on the understanding of the new generation of employees entering the workforce has been growing as the Generation Y'ers (also known as the Millenials) enters the workplace. Researchers are finding that there is an increasing interest by employers to understand the perceptions of these college students as to how they will, and want, to balance work and life when trying to recruit this new talent. The Millennial generation has their own set of expectations which have been found to be high in regards to their development and careers (DeHaus and DeVos, 2010), compared to earlier generations.

In combination with these high career and personal development expectations are the Emotional Intelligence (EI) characteristics that are experienced by all workers. Benjamin, Gulliya, and Crispo (2012), define EI characterizes such as self-awareness, self-management or self-control, self-confidence, social awareness and social skill. Researching these EI characteristics with college students allows a great understanding of who is entering the workforce, and gives employers a better grasp on how to keep a healthy and productive balance of several generations all working together.

This study asks ninety-one college students how they feel about their own EI and how they would typically react to workplace traits. Findings show that some aspects of EI used in this study were not universally applicable to each of the work traits used. The researchers believe that some work traits that employers seek when recruiting and selecting perspective new hires, may result in attracting employees with EI traits that are not necessarily desirable.

THEORETICAL FRAMEWORK

Muchinsky (2000) and Fineman (1993) state that humans are emotional creatures and that the workplace nature is directly affected to the sensations of the individuals in the organization. Organizational climate can be defined as the resulting culture exhibited from the emotions and insights of the workforce (Momeni, 2009). According to Brief and Weiss (2002) not only can an organization affect the emotions of the employees, but the employees can affect the climate of the organization.

In determining what factors influence organizational climate in the workplace, Lyman (2003) found that when employees were able to trust their managers, had pride in their work, and felt comfortable with their co-workers a positive organizational culture was displayed. Bracket, Rivers, and Salovey (2011), suggest that workplace performance can be positively related to high emotional intelligence. It was also found that employees in a health insurance company that demonstrated high levels of emotional intelligence received higher pay increases.

Goleman (2000) (as cited by Benjamin, Gulliya, & Crispo, 2012) defines emotional intelligence as "the ability to manage ourselves and our relationships effectively and consists of four fundamental capabilities: self-awareness, self-management, social awareness, and social skills. Each capability, in turn, is composed of specific sets of competences," (p.78).

Benjamin, Gulliya, & Crispo (2012), describes the four capabilities that describe emotional intelligence. Self-awareness is the ability for one to recognize and manage their own and others emotions. Self-assessment and self-confidence are further traits that describe ones strengths, weaknesses, and self-worth. Self-management or self-control is the ability for one to control their emotions. This can be displayed by showing initiative, being able to adapt to change, being conscientiousness, and displaying the internal drive for achievement. Social awareness is the ability for one to sense emotions from those around them, and with those emotions to listen and show concern for their perspective. Within the firm, organizational awareness is another factor that involves building networks, navigating office politics, and understanding the workings of the organizational culture. The ability to meet customer needs through service is the final trait of social awareness. The final capability involved in emotional intelligence is social skill. When one possesses social skills they are able to lead and inspire others. This trait involves strong listening and feedback skills, conflict resolution, and the ability to build bonds and maintain healthy relationships

Organizational politics is an unavoidable occurrence in the workplace. Politics in the organization allows people to express their interests and negotiate their different views for other members of the organization. Most commonly organizational politics is associated with a negative connotation and linked to stress (Dhar, 2011). Ferris et al. (1989) believes that politics within an organization can be seen as an opportunity by other individuals. In this sense one may use organizational politics to improve relationships, influence a pay raise, or avoid conflicts. Each generation has specific interpersonal traits that contribute to their ability to navigate organizational politics. Lyon, Legg, and Toulson (2005) states Baby Boomers are excellent communicators, driven to do their best in the workplace, excellent mentors, and able to appreciate teamwork to accomplish projects. Gen Xers have been characterized to be ambitious, selfish, and independent in the workforce. This generation appreciates feedback and recognition for their hard work. Furthermore, as Generation Y begins to navigate organizational politics it is important to realize their value in team work, structure, and reward for effort. This generation is not afraid to question authority or voice their opinion when they do not agree with management or employees in the workplace.

Employee retention is a common vital factor to organizations. Organizations want to limit employee turnover, as it is a great cost to constantly train new employees. Furthermore, when an employee feels comfortable, valued, and satisfied with their job they are more likely to dedicate themselves to the organization. (Sandhya & Kumar, 2011). Self and Dewald (2009) conducted a study to determine what factors led to employees staying with their job for the long-term. The factors that were determined to contribute to long term employment are a strong sense of responsibility, those who had a financial need to work, peer pressure from peers that work, and a realistic job description. Research suggests that employees from the Baby Boomer generation are more likely to have a greater commitment to their organization versus employees from Generation Y, who are more likely to move more frequently from one job to another (Sessa, Kabacoff, Deal, & Brown, 2007).

In 2005, Hill conjectured that employers consider employees to be valuable if the display characteristics of high work ethic. Characteristics of high work ethic are displaying value in ones work, showing initiative, being dependable, and displaying social skills. Conversely, Filipczak (1994) has described Generation X as being uninterested and having a lack of commitment to the organization. This generation has a tendency to move job to job and does not conform to the traditional work ethics of the generations prior. Research shows Generation Y has abundant technological knowledge but lacks communication skills. This will be an adjustment with standard older organizational values (Crumpacker & Crumpacker, 2007).

Process management is when an organization enforces a process that describes in detail the activity, duration, quality, and sources of the process for employees (Jan & Lukas, 2010). In other words, employees that are process driven follow a series of steps in order to meet the needs of the customer. All members of the organization need to have the knowledge and skill of the required processes in order for the business to succeed collectively (Richardson, 2007).

Results driven employees set goals and take measures to complete those goals with urgency. An employee that is able to demonstrate these characteristics is also able to lead and train others. Results driven organizations are different from process driven organizations, in that there is less structure. An employee will set an achievable challenging goal and do what it takes to obtain results for the organization ("Core"). Results driven employees can also be described as engaged employees. According to Schullery (2013) engagement is described as the motivation and work ethic employees' exhibit in their working environment. Blessing White, Inc,. (2011) (as cited by Schullery, 2013) states that employees that exhibit a high level of engagement typically are of a higher rant, have greater seniority, and work in areas closer to their clients. Through this study it was found that employees in the Baby Boomer generations were typically more engaged than their Millennial counterparts.

An employee's ability to retain training information pertaining to their job function, increases their knowledge about specific job tasks. A study was conducted at the University of Wisconsin, in which half of the participants were given a task-specific training on how to safely transfer patients, in a health care setting, in order to avoid injury. A second group was not given the training. The researchers found, the group of participants that received the training retained the information and improved their performance in transferring patients better than the group that did not receive training (McCannon, Casey, Elfessi, Alvarez, & Tiry, 2005). Therefore, employees that are able to retain training skills can lead to improved performance in the organization.

According to Cekada (2012), due to the fact that Baby Boomer's did not grow up with a high usage of interactive technology in the classroom, they prefer their training to be experience driven. When training employees from the Baby Boomer generation it is important for trainers to use activities that get the trainee to dive into their past experiences, including simulations, case studies or problem solving. Generation Xers appreciate constant feedback from their trainers in order to determine if they are able to understand and apply the information. This generation also prefers to learn in a more relaxed environment and appreciate flexibility in reference to learning methods. Moreover, employees from Generation Y are multitaskers, enjoy social settings, and are technologically inclined. Therefore, training methods that would please Generation Y could be activities that involve technology, physical movement, or social settings.

The purpose of this research is to test Generation Y and determine what Emotional Intelligence traits influence typical workplace traits.

STUDY DESIGN

Participants: Ninety-one students of a public university in Western Pennsylvania were surveyed to discover their emotional intelligence (EI) tendencies along with desires to react to typical workplace traits found in most organizations. Students were given a two part, 6 - step Likert scale survey addressing 30 Emotional Intelligence items (Petrides & Furnham, 2006) along with 20 questions regarding their reaction to typical workplace traits (Burke, 2004). A copy of the questions asked in the survey can be found in Appendix A.

Instrumentation: Each participant received a 2 part Likert style survey. The first 20 questions addressed traits of a typical workplace and requested each participant to rate their ability to do such things as navigate office politics, ask for help when needed, accept authority figures, work in teams, be results driven, embrace diversity and give maximum effort (measures of central tendency for these questions can be found in Table 2). The next 30 questions addressed emotional intelligence and sought each person's responses to questions addressing motivation, adaptability, well-being, self-control, emotionality and sociability.

Data Analysis: The data received on the 30 question EI segment were reduced using factor analysis to generate 10 EI sub-themes that allows measurement of both high and low subsets of EI. For the purposes of this research, these subsets were renamed: High Motivation, High Well Being, High Self Control, High Emotionality, High Sociability, Low Motivation, Low Self Control, Low Emotionality, and Low Sociability.The 10 EI sub themes were then correlated to the 20 item perceived workplace traits assessments to determine if significant positive or negative correlations exist between the two variables. Significance levels of $p < .05$ were used for this analysis.

FINDINGS AND CONCLUSIONS

The 20 question workplace traits assessment asks participants on a 6-step scale about their ability to handle typical workplace issues. Survey participants scored high on issues such as, embrace diversity (M=5.26, SD=.95), seeking work life balance (M=5.15, SD=1.06), give maximum effort (M=5.14, SD=.85), learn quickly (M=5.07, SD=.90), good at multitasking (M=4.98, SD=.94), results driven (M=4.97, SD=.91), accepting of authority figures (M=4.94, SD=.91) and will ask for help when needed (M=4.91, SD=1.07). They scored low on need for supervision (M=2.73, SD=1.26), I prefer to work alone (M=3.74, SD=1.33), I prefer to work in teams (M=3.78, SD=1.35) and willing to navigate office politics (M=3.99, SD= 1.26).

When looking at those particular aspects of today's workplace traits, items such as one's ability to learn quickly and retain what is learned, give maximum effort, are process and results driven, navigate office politics and plan to stay with the organization for the long term are often thought of as positive employee characteristics. Each of these variables was examined to determine which aspects of EI significantly correlated to those aspects. All significant correlations can be found on Table 3. This study discovered that certain aspects of EI aren't universally applicable to all work traits. In other words, some aspects of EI were not universally applicable to each work trait, and some work traits that are "sought after by employers" may attract EI traits that are not necessarily desirable.

The variable maximum effort had significant positive correlations with High Motivation, High Well Being, and High Sociability. Negative correlations were noted with the variables Low Motivation, Low Well Being, Low Self Control and Low Emotionality. In addition, according to this data set, High Self Control and High Emotionality does not correlate to maximum effort, but Low Self Control and Low Emotionality will significantly influence effort, while aspects of Motivation, Well Being and Sociability will influence effort positively or negatively depending on whether they are high or low.

The ability to navigate office politics showed unique results in that the significance is only related to the high aspects of EI. Significant positive correlations to office politics were noted with High Motivation, High Well Being, High Self Control, and High Sociability. So individuals in this survey with low EI in these traits did not have significant negative correlations with their ability to navigate office politics.

Emotional Intelligence also showed unique results to finding individuals who are either process driven or not. Significant positive correlations were found with those individuals showing high EIs, in Motivation and Sociability. While individuals with low EI levels in Well Being and Self

Control demonstrated significant negative correlations to this work trait. Here the EI trait of Emotionality had no influence on the desire to be process driven, but the other 4 traits had uniquely different influences into the trait of being process driven.

Results driven individuals showed significant positive correlations with those individuals that have high EI in Motivation and Sociability. Negative correlations were shown with individuals who had low EI in Well Being and Sociability. According to these results, Sociability is a definitive EI trait for results oriented people, and High Motivation individuals are more results oriented, while Low Well Being folks show negative trends towards being results driven. Emotionality and Self Control had no influence on results driven individuals

As far as retaining what is learned, individuals with high EI in Motivation, Well Being, Self-Control and Sociability demonstrated significant positive correlations, while individuals with Low Motivation, Low Well Being, and Low Self-Control demonstrated significant negative correlations. Here, the EI levels of Motivation, Well Being and Self Control are influential to the retention of learning, while Sociability EI trait is only influential if the person has high levels.

The most interesting finding of this survey resulted in the trait, planning to stay with the organization long term. Typically most organizations want employees who are interested in making a career with their organization and this is understandable. According to our sample population, the only EI trait with significance is those with Low Sociability. Here individuals with Low Sociability demonstrated a significant positive correlation with the desire to stay long term with an employer. What does this mean? Individuals who are unable to stand up for their rights or who can’t deal with people, are the individuals in this sample population that want to stay with their organization long term. Is this good for the organization?

LIMITATIONS

Limitations of the study could include the small sample size, and the use of students at one university; therefore the present investigation may not generalize to other students at different universities. Students at other universities and colleges may come from different educational settings, life experiences, and geographical locations.

CONCLUSION

Emotional Intelligence works very well in determining whether the new group of employees coming into the workforce will provide maximum effort and retaining what is learned. Those possessing high EI will likely perform better in specific workplace traits compared to those possessing lower EI. However, if you are looking for process driven individuals the aspects of EI are split regarding how well today's students will perform. Those who are motivated and sociable will likely do well, while those who have low scores on well-being and self-control will not likely be process driven. Similarly, results driven individuals entering the labor force will likely exhibit high levels of motivation and high levels of sociability, while individuals with low well-being and low motivation will most likely not be results driven.

As for one's ability to navigate office politics, our sample population states that only those with high EI scores in motivation, well-being, self-control and sociability are positively correlated will be able to deal with office politics of some working organizations. What is most unique about the results of this sample population is that according to this sample group, if you want a long-term employee within your organization, find the individuals with low scores on sociability; the introverts. Individuals with high EI, who are results driven, retain learning and give maximum effort are not really looking to stay with one organization long term. Those individuals want to take the career path that rewards them for their maximum effort, therefore will have the tendency to move around to find the greatest rewards.

Emotional Intelligence helps organizational behaviorists begin to understand more about Generation Y, and how they are going to perform as employees. The current study begins to explore how EI and workplace traits will play out in the future with young workers. Employers can use the results of this study to assist them in the recruitment and selection processes.

Table 1. Workplace traits measures of central tendency.

	N	Mean	Std. Deviation
I am willing to navigate office politics	91	3.99	1.27
I am accepting of authority figures in the workplace	91	4.95	0.91
I ask for help when needed	89	4.91	1.07
I need supervision	90	2.73	1.26
I embrace diversity	91	5.26	0.95
I give maximum effort	91	5.14	0.85
I am good at multitasking	91	4.98	0.95
I learn quickly	91	5.07	0.90
I like informality	91	4.53	1.28
I like structure	91	4.84	1.10
I plan to stay with the organization over the long term	91	4.52	1.00
I am process-driven	90	4.59	0.97
I am respectful of organizational hierarchy	91	4.86	0.89
I am results driven	91	4.97	0.91
I retain what I learn	91	4.84	0.87
I see work/life balance	91	5.15	1.06
I am technologically savvy	91	4.88	1.19
I am not good at multitasking	90	2.22	1.29
I prefer to work alone	91	3.75	1.33
I prefer to work in teams.	91	3.78	1.35
Valid N (listwise)	87		

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APPENDIX A

Please indicate how applicable each of the following characteristics are to you in the workplace or your perceived idea of the workplace.

	1 Strongly Disagree	2 Disagree	3 Slightly Disagree	4 Slightly Agree	5 Agree	6 Strongly Agree
1. I am willing to navigate office politics	1	2	3	4	5	6
2. I am accepting of authority figures in the workplace	1	2	3	4	5	6
3. I ask for help when needed	1	2	3	4	5	6
4. I need supervision	1	2	3	4	5	6
5. I embrace diversity	1	2	3	4	5	6
6. I give maximum effort	1	2	3	4	5	6
7. I am good at multitasking	1	2	3	4	5	6
8. I learn quickly	1	2	3	4	5	6
9. I like informality	1	2	3	4	5	6
10. I like structure	1	2	3	4	5	6
11. I plan to stay with the organization over the long term	1	2	3	4	5	6
12. I am process-driven	1	2	3	4	5	6
13. I am respectful of organizational hierarchy	1	2	3	4	5	6
14. I am results driven	1	2	3	4	5	6
15. I retain what I learn	1	2	3	4	5	6
16. I seek work/life balance	1	2	3	4	5	6
17. I am technologically savvy	1	2	3	4	5	6

18. I am not good at multitasking	1	2	3	4	5	6
19. I prefer to work alone	1	2	3	4	5	6
20. I prefer to work in teams	1	2	3	4	5	6

Instructions: Please answer each statement below by which choice best reflects your degree of agreement or disagreement with that statement. Do not think too long about the exact meaning of the statements. Work quickly and try to answer as accurately as possible. There are no right or wrong answers.

	1 **Strongly Disagree**	2 **Disagree**	3 **Slightly Disagree**	4 **Slightly Agree**	5 **Agree**	6 **Strongly Agree**
21. Expressing my emotions with words is not a problem for me.	1	2	3	4	5	6
22. I often find it difficult to see things from another person's viewpoint.	1	2	3	4	5	6
23. On the whole, I'm a highly motivated person.	1	2	3	4	5	6
24. I usually find it difficult to regulate my emotions.	1	2	3	4	5	6
25. I generally don't find life enjoyable.	1	2	3	4	5	6
26. I can deal effectively with people.	1	2	3	4	5	6
27. I tend to change my mind frequently.	1	2	3	4	5	6
28. Many times, I can't figure out what emotion I'm feeling.	1	2	3	4	5	6
29. I feel that I have a number of good qualities.	1	2	3	4	5	6
30. I often find it difficult to stand up for my rights.	1	2	3	4	5	6

31. I'm usually able to influence the way other people feel.	1	2	3	4	5	6
32. On the whole, I have a gloomy perspective on most things.	1	2	3	4	5	6
33. Those close to me often complain that I don't treat them right.	1	2	3	4	5	6
34. When I make a decision I tend to follow through.	1	2	3	4	5	6
35. I often find it difficult to adjust my life according to the circumstances.	1	2	3	4	5	6
36. On the whole, I'm able to deal with stress.	1	2	3	4	5	6
37. I often find it difficult to show my affection to those close to me.	1	2	3	4	5	6
38. I'm normally able to "get into someone's shoes" and experience their emotions.	1	2	3	4	5	6
39. I normally find it difficult to keep myself motivated.	1	2	3	4	5	6
40. I'm usually able to find ways to control my emotions when I want to.	1	2	3	4	5	6
41. On the whole, I'm pleased with my life.	1	2	3	4	5	6
42. I would describe myself as a good negotiator.	1	2	3	4	5	6
43. I tend to get involved in things I later	1	2	3	4	5	6

wish I could get out of.						
44. I often pause and think about my feelings.	1	2	3	4	5	6
45. I believe I'm full of personal strengths.	1	2	3	4	5	6
46. I tend to "back down" even if I know I'm right.	1	2	3	4	5	6
47. I don't seem to have any power at all over other people's feelings.	1	2	3	4	5	6
48. I generally believe that things will work out fine in my life.	1	2	3	4	5	6
49. I find it difficult to bond well even with those close to me.	1	2	3	4	5	6
50. Generally, I'm able to adapt to new environments.	1	2	3	4	5	6
51. Others admire me for being relaxed.	1	2	3	4	5	6

Please indicate how applicable each of the following characteristics are to you in the workplace or your perceived idea of the workplace.

	1 **Strongly Disagree**	2 **Disagree**	3 **Slightly Disagree**	4 **Slightly Agree**	5 **Agree**	6 **Strongly Agree**
52. I want to be valued by my colleagues in my department.	1	2	3	4	5	6
53. I want to work effectively and efficiently because other employees will communicate regularly with me.	1	2	3	4	5	6

54. In general, I want people to be adequately rewarded in a company.	1	2	3	4	5	6
55. I want to develop my career while working for a company.	1	2	3	4	5	6
56. I want to be allowed to participate sufficiently in significant decisions that affect my work.	1	2	3	4	5	6
57. I want my company to meet the needs of its workers.	1	2	3	4	5	6
58. I want my company to have quality standards that are higher than those of its competitors.	1	2	3	4	5	6
59. I want conflicts to be positively resolved in my company.	1	2	3	4	5	6
60. I want people to be strongly committed to my company.	1	2	3	4	5	6
61. I want my coworkers to be committed to helping one another learn from our work.	1	2	3	4	5	6
62. I want to know that I play a part in helping my future company achieve its goals.	1	2	3	4	5	6

63. What is your age?

1.) 18
2.) 19-20
3.) 21-22
4.) 23-24
5.) 25+
6.)

64. What is your highest completed level of education?

1.) Freshman

2.) Sophomore
3.) Junior
4.) Senior
5.) Graduate

65. What is your ethnicity/race:
1.) American Indian or Alaska Native
2.) Asian
3.) Black or African American
4.) Native Hawaiian or Pacific Islander
5.) White or Caucasian
6.) Hispanic or Latino

66. Your gender:
1.) Male
2.) Female

67. Your household income:
1.) $30,000 and less
2.) $30,001- $60,000
3.) $60,001- $90,000
4.) $90,001- $120,000
5.) $120,000 +

68. Your personal income:
1.) $0- $1,000
2.) $1,001- $4,000
3.) $4,001- $7,000
4.) $7,001- $10,000
5.) $10,000+

69. Your marital status:
1.) Single
2.) Committed Relationship
3.) Married
4.) Divorced
5.) Widowed

70. Your college of study:
1.) Fine Arts
2.) Health and Human Services

3.) Humanities and Social Sciences
4.) Education
5.) Business

70. Size of your hometown city/town area:
1.) Very Rural
2.) Rural
3.) Suburban
4.) Urban/Metropolitan

ANALYSING THE PROCESS CAPABILITY AND RELATED ISSUES OF A MEAL LINE: SOME EXPERIMENTS AND OBSERVATIONS

(Modified on 7th Jan 2014)

Keywords: process capability, six sigma, quality control, specifications

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ABSTRACT

This study was initiated by Meal Line of XYZ Food Company which has received numerous complaints from customers regarding missed fillings in their meals. These meals are prepared with multiple ingredients filled in by various machineries in the Meal Line. The ingredients weights in the meals are designed in such a way that a missed drop/fill should cause the meal to be underweight. In spite of having a validated checkweigher (CW), that should detect and remove underweight meals, such meals are still making into the market. The objective of this study was to identify the causes behind the problem. To search for the problems, an understanding of the line, machinery and process was undertaken. It was identified that the weight of the fillings dropped into meals by the fillers were heavier than specifications, causing finished meals to be heavier. This allowed the meals with missed fillings to go past the CW without being detected. Samples were collected and analyzed to determine the capability of the process. Along with the general observations, certain experiments were also conducted during the study. The operators and quality controller were interviewed and their opinions noted. The outcomes of these observations and results were analyzed and it was concluded that rejection capability of the system was not adequate. Improvements on the fill weights may not be enough to improve the efficiency of rejection process, and more changes to CW and other machinery are required. These recommendations should improve the process capability and reduce the number of customer complaints.

INTRODUCTION

Process capability indices, according to Jackson (2001), were invented to enable an organization to make economically sound decisions for process management. Process capability is a comparison of the voice of the process with the voice of the customer. The two popular process capability indices used are C_p and C_{pk}. $C_p = \{USL – LSL\}/6\sigma$, and $C_{pk} = \min \text{ of } \{(USL-\mu)/3\sigma, (\mu-LSL)/3\sigma\}$; where, LSL = lower specification limit; USL = upper specification limit; σ = process standard deviation, and μ = process mean (Jackson, 2001). Meagher (2000) explained the concept of process capability with an interesting example. Just think of driving different types of vehicles on a road under construction. The vehicle's width is the variability of the process (±3σ), and construction barriers on either side of the road are specification limits. Every time the vehicle approaches a barrier, getting closer to one of the specification lines, the opportunity for success is lowered. This is equivalent to C_{pk}, the process performance, which is the distance from the centre of the vehicle to the closest barrier divided by the distance from the centre of the vehicle to its edge closest to the same barrier.

Let the width of a lane is 10 feet, through which different vehicles have to pass: a motorcycle (3 feet wide), a car (6 feet wide); a truck (9.5 feet wide); and a home (14 feet wide). All the vehicles running through the lane is, C_p, the *process potential* (width of lane or specification/variability). So, the capability of motorcycle would be 3.33 (10/3); car, 1.67 (10/6); truck, 1.05 (10/9.5); and home, just 0.71 (10/14). So, which vehicle would you like to be driving? Your only concern will be the closest side as that is the only one likely to be damaged. For example, capability of motorcycle running 2 feet away from barrier would be 2 {i.e. (5 - 2)/1.5 = 2, and capability of car would be 1 {i.e. (5 - 2)/3 = 1} (Meagher, 2000).

Some researchers are skeptical about using capability indices as they do not deal with all the problems in the process. According to Nelson, "*. . . the concept of attempting to characterize a process with a single number is fundamentally flawed*" (Nelson….*cited in* Jackson, 2001). Similarly, Kitska stated, "*I would prefer eliminating C_p and C_{pk} statistics. They grossly oversimplify process characteristics and, without adequate exploratory analysis, often lead to erroneous or meaningless conclusions*" (Kitska….*cited in* Jackson, 2001).

Palmer and Tsui (1999) suggested some other indices used by practitioners of industrial statistics. According to them, selection of a set of capability indices, for use in directing process improvement activities, should be based on the stated requirements of the customer and the current ability of the process to satisfy those requirements. This paper deals with the issues of process control from various perspectives without depending too much on the *process capability indices as detailed in various sections starting with the Company's background*.

COMPANY'S BACKGROUND

XYZ is an iconic company of New Zealand that manufactures jams, dressings, soups, sauces, and even burgers. It also processes tonnes of fruits, vegetables, baked beans, spaghetti, and various meals. XYZ has three manufacturing sites, two in the *north* and one in the *south* island of New Zealand. In 2011 XYZ won Readers Digest most trusted food brand in New Zealand for the second year in a row. One of the two food processing sites of XYZ is located in Hastings where they have a major production centre called the *Meal Line*. There are two Meal Lines capable of producing meals. This paper is based on products made on Meal line 2 which is used to make '*ready to eat'* frozen meals such as: Tuna Bake, Chicken Hotpot, Chicken Risotto, Macaroni Cheese, Thai Chicken Curry, Chicken Fried Rice, etc. As the meals are prepared for weight-watchers (WW), the final meals are required to be within the specific weight limits.

The meals are assigned to meet certain weight specifications. Every meal must 'fit' within the minimum and maximum weights specified for the particular meal. Each component of the meal is given a weight specification (min and max) and the overall design is such that if a component is missed then the total weight will be outside the specifications and therefore will be rejected by the CW. Every meal has its own set of fillings as part of the recipe. There are five different machineries used to dispense each of these fillings on empty plates placed on a moving conveyor belt. Figure 1 shows detailed layout of meal line 2. A part of its quality control system is a CW which is attached with a reject system. It works perfectly every time it is tested but customer complaints show that underweight meals are still getting into the market. The meals have up to 5 ingredients, and the validated CW should remove underweight products. However, the missed filling complaints on all the WW products are consistently high. Customers complain on missed pasta or chicken/meat in the meal.

Objectives and Approach

The objective of this paper was to determine the causes behind the meals with missed fillings making past the CW, and to work with the meal line to fix the issues. The approach used was to understand the process of making meals through personal visits and interviews with operators, and then to look at the customers' complaints to find out the reasons, and then suggest ways to process improvement.

Learning the Process

The *meal line* makes use of 11 equipment/machineries, 8 of which are filling stations (Figure 1). The scope of the project was quite broad as the causes were not specifically known. The steps included were: (a) understanding the machinery and processes involved as there could be multiple factors causing the problems, (b) looking at full process and machinery to find the contributing factors. Observations started from the CW end of the line and continued towards other machineries and filling stations, (c) conducting a series of experiments to determine the efficiency of the CW and the process. They were conducted with the cooperation from the operators (OP) and quality controllers (QC) working on the line along with the team leaders (TL) and some casual workers. Their opinions and suggestions were noted down during the study along with other activities. (d) The data collected during the study were analyzed and discussed with the team members and new development reported, and (e) observing effectiveness of these changes. Next section, starts with the observations of processes of various meals (viz. *weight watcher's tuna bake, chicken and beans, chicken risotto, and Thai chicken curry*) along the meal line.

PROCESS OBSERVATION FOR VARIOUS MEALS

1. Weight Watcher's Tuna Bake :

The first meal observed on Meal Line 2 was WW*'s Tuna Bake with t*he specifications given in Table 1. Fillings added by different dispensers are: multi-filler (pasta), piston filler (sauce), manual filling (Tuna), Ishida (broccoli), and cheese dispenser (cheese). There was high inconsistency in the amount of tuna placed in the plates manually. According to the quality controller (QC) the inconsistency was because of the texture of tuna and the high speed of meals moving on the belt. The workers were sometimes unable to keep up with the speed at which the meals moved. The CW is placed at the end of the production line after the meal gets sealed by a sealer (Figure 1 in Appendix). There is no cover on the belt of the CW, and the belt does not seem tight enough. It appears slightly lifted above the surface on one side. According to the machine operator, the key slot used to tighten the belt was ground so it cannot tighten any further.

Sometimes a pile of meals get accumulated at the rework table. There are no fillings/ingredients placed at the rework table to fill the missing ingredients in the meal. The workers at the rework station use one of the rejected meals on the table to fill the others with the help of a spoon. First the seals of the meals are removed by hand. The weights are then adjusted to within the specifications with the help of a scale. A small sealer positioned next to the rework table is reseals the meals. They are then placed on the moving belt *after* CW which takes them towards pack offs (final product packaging). At times the rework table is completely full, and the meals start to build up back towards the rejecter arm. There is a sensor between the rework table belt and the rejecter arm to stop the main belt when the meals start piling up towards the rejecter arm. This stops the whole processing line and prevents meals from reaching towards belt going to the pack offs. The meals that have been rejected by the CW are shaken up in the process and are mixed up. The appearance of most of the meals going through to reworks and even some of the finished meals from reworks, do not look anything like the picture on the packaging. It is observed that the meals get literally whacked by the rejecter arm and are mixed up.

Upon observing the meals moving on CW, it seems there is a lag between the readings of weights on the CW panel. Meals are moving too fast for the eye to detect if CW is weighing every meal. The CW displays the number of meals passing through it every minute and it matches the speed on the panel used by the operator to control the meal line. The CW is capable of rejecting 100 meals per minute. According to an operator the testing process is such that they pass 100 out of specifications items within a minute.

The QC checks the meals every 30 minutes. Four samples of each of the fillings are taken in empty plates. The results are fed into a system that calculates *process capability* with the help of graphs for records. 4 samples of each fillings are tested from 3000/2400 meals depending on the speed of the line. A discussion with OP revealed that the CW is not required to be zero error tested. But, he kept an unofficial record of the results of testing done by him over a period of time. Similarly, the data for WW Macaroni Cheese are given in Table 2. Chart in Figure 2 shows that multi-filler is dispensing more macaroni than it should as indicated by * in Table 2.

Table 1: WW's Tuna Bake					**Table 2: WW Macaroni Cheese**			
Ingredient	**USL**	**LSL**	**Target**		**Ingredient**	**USL**	**LSL**	**Target**
Sauce	200	183	193		Sauce	151	139	145
Pasta	93	80	86		Macaroni*	123	111	117
Tuna	36	12	24		Cheese	23	11	17
Broccoli	37	15	26					
Cheese	6	2	2.9					
QC Sheets	359	311	353		QC Sheets	360	312	
Rework	357	320			Rework	360	320	
Checkweigher	357	311			Checkweigher	360	312	

As per the operator the accumulated grime on the CW was due to the cheese dispenser. If the meal line is stopped for any reasons the cheese dispenser does not stop the flow of cheese which gets collected on the conveyor belts and then gets spread across the belt by sticking to the bottom of the plates. The QC and the OPs differed whether the meal with weight equal to LSL should be rejected or accepted by the CW. The QC believed it should be rejected whereas in operators' opinion the meal should be acceptable. It was observed that meals that weighed equal to LSL were accepted by the CW. The QC suggested that it was due to the alteration in the target weight which gets updated every 10 minutes (*see discussion in Appendix*).

Ishida display panel shows the weights passing through its buckets to the next one, and also the combined weight dropped. Frozen broccoli being filled by Ishida bounces and drops outside often. QC commented that when they do the visual observations for tuna they look highly inconsistent. However, when it comes down to weighing the samples, the weights are accurate. QC believes that this is because when they weigh the manual feeding of tuna, the people on line doing the hand fill become aware of QC's intentions when empty plates approach them and so the readings are always within limits. CW rejecter arms are mounted on a belt, and is inside a cage. Some meals after rejection collide inside the cage area, and observation is summarized in Table 3.

Table 3: Summary of Observations

Total No. of observations	No. of collision	Total collisions inside cage	Recoiled back after colliding	Recoiled back onto conveyor belt	Comments
74	51	20	3	0	Seal coverings came off many times causing spillage around cage and sensor

Experiment 1: Comparing Weights of Meals

Meals were first weighed on scales and then reading taken from the CW. According to QC the scales and CW have been calibrated but they are not sure why there is a variation (Table 4).

Table 4: Variations of Readings Between Scale and CW		
Weight on scale (gms)	Weight on CW (gms)	Difference (gms)
331	333	-2
346	347	-1
335	336	-1
340	341	-1
324	323	-1
333	330	3
334	332	2

During later observations, a series of meals that were partially full were rejected by the rejecter. Some empty and very partially filled meals got trapped in the cage. It was suggested by the OP that the empty or light meals have a high tendency to get trapped inside the cage of the rejecter arm. An experiment was conducted which required putting back rejected meals that were still intact back on the line, before CW for a second time to check if the CW rejects them again. The results of the experiment are shown in Table 5.

Table 5: Results of Experiments (LSL = 311, USL = 357)				
Number	Weight on CW	Weight on scales	Difference	Comments
1	358	355	3	2nd time accepted
2	353	353	0	2nd time accepted
3	306	309	3	Rejected both times
4	313	315	2	2nd time accepted
5	311	315	4	2nd time accepted
6	313	314	1	2nd time accepted
7	362	358	4	Rejected both times
8	336	335	1	2nd time accepted

QC's *underweight sample* got *accepted* while the above trial was being conducted. Upon second trial the same meal got *rejected*. QC had no idea why the test underweight meal was accepted first and then rejected the second time. The QC added that it does not happen often but there are times when similar incident has happened.

So why does this happen? According to QC, the CW resets itself every 5 or 10 min depending on the settings. If the mean weight of the meals passing through is low/high then it will accept the meals slightly low/high in weight specs. This could be the possible reason for the CW accepting rejected meals second time around. However, the OPs say that the target weight changes as per the giveaway percentage, which is the amount of weight over or below the target weight of the final meal. This giveaway rate adjusts every so many meals and it is only the target weight that changes and not the lower or higher limits set for the meal. Therefore the meals below the specification should not be accepted under any circumstances

2. Chicken and Beans:

Chicken and beans are mixed and dropped together into the plate. The combined weight target is 49 grams (Table 6). QC randomly checks the weight of samples after the CW to verify if the meals are within specifications. The samples recorded on the day were within the specification. The mixed chicken and beans are dispensed by *Ishida*. According to QC, the weights of the combined drops are within the specifications but there is inconsistency in the individual weight of chicken and beans in the samples. QC feels that if they were added separately the weights of each product could be more accurate. At the base of Ishida there is a feeding vessel from which the frozen fillings (chicken, bean, etc.) flowed into Ishida bottom collector. On several occasions the opening at the bottom clogs which stops the flow of materials into Ishida. When this occurs, it makes a vibrating sound to alert the operators to stir it so the flow can return to normal. Examining the motion of Ishida buckets dropping into the plates it was found that some of the fillings bounce off the plate. The fillings being dropped are in a frozen state and the position of buckets from which they get dropped in the plates is high.

Table 6: Chicken Hotpot			
Ingredients	USL	LSL	Target
Sauce	192	178	185
Potato Mesh	100	88	94
Chicken	34	24	**28**
Beans	27	15	21
Chicken & Beans	**61**	**39**	**49**
QC Sheets	360	312	353
Rework	360	320	
Checkweigher	360	312	

Experiment 2: **Rejection capability of Checkweigher:**

According to OPs, the maximum number of meals passing through CW is 100 per minute (i.e. 100 meals per 60 seconds or 10 meals per 6 seconds). An experiment was conducted to test the rejection capability of the CW. To pass 10 meals at the speed of 100 meals/min, the time of opening is 6 seconds. So, the plan of experiment is to place meals on line in such a way that 10 meals pass through the CW in 6 seconds. If all the meals get rejected, it will validate the CW to be capable of rejecting up to 100 meals a minute. Thus, 10 underweight meals were placed simultaneously for which observations are shown in Table 7.

Table 7
Observations on Underweight Meals

Trial no	Out of spec meals	No. of meals rejected	Result	Time target	Time taken	Comments
1	10	10	All meals rejected	6 seconds	Unable to keep track	Could not keep track of time between meals while observing the experiment
2	10	10	All meals rejected	6 seconds	Unable to keep track	

Experiment 3: Rejection Test for Missed Drops from Ishida

The purpose of this experiment is to check if the CW rejects the meals with drops missed by Ishida. The Operator made Ishida miss fillings purposely, and it was expected the meals (with the missed fillings) to be below the LSL and should be rejected by the CW (Table 8). *For higher* *confidence level of accuracy it is suggested that more observations are taken.* In spite of missing the drop weight of 28 gms (target weight in Table 6) of chicken, some of the meals were within the specification limits. According to the OPs, the line would automatically stop only if Ishida misses *5 drops in a row*. So if Ishida was to miss up to 4 drops in a row, line will continue to run. The operators believe there are many reasons that contribute to the missing drops, for example: (i) if the weight in the final buckets is too heavy, then drop will be missed. (ii) if the ingredients are not getting fed into the line it causes missed drops. (iii) if the fillings have clumps (frozen state), then the weight will be heavier than the specifications and the filling will be missed.

Table 8: Rejection Test for Missed Drops, LSL = 311 on the checkweigher

Trial no	Meals with missed drops	Meals rejected	Meals accepted	Weight of accepted meals	LSL	% not rejected	Comments
1	12	9	3	311, **309**, 312	311	25.0	309 < LSL & still accepted
2	14	10	4	**308**, 314, **309**, 316	311	28.6	308, 309 < LSL & 314, 316 > LSL
3	12	10	2	323, 311	311	16.7	323 within spec, 311 on LSL

The manual of CW reveals that its capacity is 20-80 m/min (Scanvaegt checkweigher). This speed is assumed to be in meters/minute of belt speed. The CW manual says: *never run the machine without cover, and the belts must be equally tight without being loose at the sides*. But, the CW on the Meal Line *does not have a cover* on it. On the next day, the belt on the CW seems loose, and is moving up and down on the side. OPs commented that during the day the belt could have gotten loose but they are unable to stop production for it. QC mentioned that the key slot is worn-out and belt cannot be tightened further.

3. Chicken Risotto:

Risotto is filled in the plates by the *Piston Filler*. 5 samples were collected from each side of the line at regular intervals (Table 9), and their weights are shown on **control chart 1.** Ishida ran empty and caused the line to stop several times over a couple of hours. OPs were alerted by its typical vibrating sound. Normally OPs remove the plates with missed drops but if the meal line is busy, they leave it to the CW to reject the meals.

4. WW Thai Chicken Curry (WWTCC):

According to customer data, WWTCC has high number of complaints (Table 10). The problems range from *rice being too sticky* causing dispensing problem with multi filler to *frozen chicken* having clumps causing multiple missed drops by Ishida. OP commented that their main focus on the line has been to get maximum number of meals to the pack offs. Due to the lack of staff on several occasions they were unable to check the meals at the end but the CW is in place to do that. OP explained that there are times when they get occupied on both ends of line. They do checks by themselves but the weights of the fills are tested by the QC and the results are relayed to them.

A change was made on the line affecting the motion of the belts. The entire belt would stop if the belts after the rejecter stop for any reason. The purpose of this change is to stop meals from building up and pushing their way through the rejecter. The sensors have tripped off few times stopping the entire line. Samples were collected over 3 hours as shown in **control chart 2.**

Table 9: Chicken Risotto

Ingredient	**USL**	**LSL**	**Target**
Risotto	305	288	300
Chicken	35	24	28
QC Sheets	340	312	328
Rework	340	320	
Checkweigher	340	312	

Table 10: WW Thai Chicken Curry

Ingredient	USL	LSL	Target	Gap
Rice	112	102	108	
Chicken	**35**	**23**	**29**	12
Sauce	171	159	165	
Beans &Peas	**39**	**19**	**28**	20
QC Sheets	360	312		**48**
Rework	360	320		**40**
Checkweigher	360	312		**48**

ANALYSIS OF OBSERVATIONS

Checkweigher:

This is the sole mechanism to control the end product. It shows high variations upon testing yet nobody knows the exact cause of the problem. The experiment shows the inconsistency in weights of meals taken by CW and scales (Table 4). The fact that same meals are *first rejected* and *then accepted* by the CW indicates the inconsistency on its part (Table 5). There is no cover on top of the CW. Vents of air conditioning and stray wind can cause variations in the weighing process (*Kopczynski & Ness*, n. d.). The CW manual also suggests never to use it without a cover.

Gap within specification limits:

The gap (Gap = USL – LSL) is more than the weights of certain fill ingredients. This *gap* can be observed from the target weight of the fillings and finished product from Table 10. This means that if the drop of fillings highlighted in the tables are missed and other ingredients are heavier than specified, the meals can get past the CW undetected. For example, in the making of *Thai Chicken Curry* if the drop of chicken was missed and the rice or sauce is being filled heavier than specification, it is highly likely the meal will sneak past the CW without being rejected.

Impact of target weight:

Result of the experiment of placing rejected meals for second time before CW (Table 5) is explained by QC who says it could be due to CW updating itself every 10 minutes which changes its target weight and acceptance limits.

Checkweigher efficiency:

Table 8 shows that upto 28.6% of meals with missed drops made through the CW undetected. The average flawed meals that went past the CW is 23.43%. The process is automated and relies on the CW to detect missed drops. We may conclude that out of 100 meals with missed drops, only 77 will be rejected and 23 will make it to the market as there is no other check point beyond the CW.

Checkweigher validity:

Table 7 indicates that the CW is capable of rejecting meals at high speed. However, the meals used were hugely underweight and the CW does perform properly with acutely underweight meals. The meal samples used by QC for testing the CW are quite under and overweight. Even then on some occasions the samples have made past the CW undetected which shows it is not just the process but the CW needs to be improved. CW validated this way may still be incapable of detecting slightly underweight meals.

Reworks station:

At the reworks the meals are placed after the CW. According to OP, to place them before the CW, he will need to use a *movable table* to move meals and possibly interrupt the line to place them. Observing the pattern of placement of meals after the CW and rejecter, it was noted that they are placed in the gaps between the lots of six meals. Normally the little gap occurs because of the pattern of 6 meals movement by the main sealer. This pattern of gap starts before the CW and follows through. Therefore the meals can be placed before the CW using the same time gap. This will eliminate human errors from reworked meals in weight of ingredients.

Multi-fillers:

Observations over 30 days (Figure 2) showed that both the multi-fillers were dropping significantly heavier fills. However, the datasheet used by QC showed all the weights within the specifications. This indicates that the sample size used by the QC is too small to identify heavier meals being processed. Due to the management's decision, the sample size of fillings was increased from 4 to 10 every half hour. Instead of 2, now 5 samples are taken from each side of the line and weighed. Management intends to designate the OP instead of the QC to record the weights of the meals. Management instructed OP to run the machinery in such a way that the fill weights are on par with the target weight required instead of being anywhere within the specifications. The focus is to document optimum settings of the machinery for particular fills.

Grime on checkweigher belts and its effects:

Residue from potato meshed and cheese dropper sticks to the bottom of the meal plates and gets carried to the CW belt. The deposit on the belt has been observed on many occasions but it is not known whether it affects the weighing process or not. Few particles also get collected on the edges of the belt as a result of that. According to QC, the only weight that is measured is at the centre of the CW. However, OP demonstrated by using hand compression that the weight on the sides is also measured. The answer to whether the grime and particles contribute to added weight variation is inconclusive.

Mixed fillings:

The fillings of chicken and vegetables mixed together, as pointed by the QC, leads to inconsistent amount of both chicken and vegetables into the fill. But it has its advantages also. The combined weight of the drops is heavier than the individual weights of chicken and vegetables. Due to this, if there was a missed drop of this mixture, it is more likely to be detected by the CW.

Ishida:

The line gets automatically stopped if Ishida misses 5 drops in a row. It can be reduced to up to 3 missed drops. The issue of clumps is a major factor for Ishida to miss the drops. The clumps are not always easy to find and the operators do not particularly look for them. The clumps get removed by the operators only if they come across any. As the process is highly automated the chances of that happening is quite low. The low efficiency of CW and other factors involved indicate that Meal Line should not fully rely on the CW. The clumps in frozen ingredients should be stopped before making into the fillers.

Rejecter:

Instead of rejected meals passing easily onto the reworks table, they collide within the cage of the rejecter. This collision rate is fairly high and has been observed on almost all types of meals. This collision causes spillage of packaging inside the cage.

Piston fillers:

The potato mesh is difficult to weigh because of the fillings getting stuck to the plates. The operators try and use heavier fills in the mesh to keep them from getting off the line. However from chart 2 the sauce dispensed is fairly accurate. The data fed into NWA for mesh is not accurate as this weight is derived by using estimated weights of other fillings. The workers at the reworks sometimes try to clear tables in a rush. This may lead to slightly underweight meals getting to pack offs. Throughout the observations no meals processed after the reworks lacked any fillings. Although this suggests the meals were complete, there may still be discrepancy in the quantity of fillings processed at the reworks station. It can be an issue but it does not seem to fit in to the nature of the customer complaints described for this project.

Process capability:

C_{pk} indicates the capability of the process. $C_{pk} = 1$ shows that the process meets the capability and $C_{pk} > 1$ indicates that process is better than required. However, if the $C_{pk} < 1$, the products do not meet the specifications (Heizer & Render, 2008, p. 237). Therefore, it is ideal to have C_{pk} value greater than 1. The analysis of the samples collected has shown mixed results. The C_{pk} of multi-filler 1 is between -0.33 and 1.11, and C_{pk} for multi-filler 2 is between -0.95 and 1.17. $\mathbf{C_{pk}}$ over 1 is good but in most instances $\mathbf{C_{pk}} < 1$ or sometimes even negative. The multi-fillers, piston-filler and Ishida, all have low C_{pk} values, indicating that most of the fillers have a big room for improvement. This means the process is out of control, and serious changes need to be made on the multi-fillers. Multi-fillers are the starting point for the fillings in the meal, and they are not operated to the specific requirements of fill weights. If the fillings done by the first filler is heavy then the rest of the machinery may have to be altered for adjustment of remaining weight. This could, however, alter the fill weights of other ingredients. If they continue to run heavy then any missed drops are unlikely to be detected by the CW and will add to the customer complaints of missing ingredients.

CONCLUSIONS

The process related questions and their answers are as follows: (a) Is the process rejecting the correct meals? Yes. (b) Is it rejecting all of the required meals? It is not rejecting all the meals that it should. (c) If it doesn't reject correctly, what is the root cause? The CW has high variation in its testing which causes underweight meals to be read wrongly as within the specifications. The difference in the USL and LSL of the finished meals is such that if a drop of some ingredients is missed, it will not be detected by the CW. It does not help that the weights of the fills have very high variation. Some of the ingredients in the meal are being filled very heavily, contributing to the problem. (d) What causes the reject arm to jam up? The belt on which the arms are mounted gets jammed sometimes. (e) Do meals bounce back on the line after being rejected? No meals were observed to be bouncing back on the line but they do collide inside the cage and bounce back towards the rejecter arms. (f) What is the root cause of this? It has been observed to occur due to low space for meals to pass through because of the mounted cage on top of rejecter. (g) When the reject table is full, do the sensors correctly trigger the conveyors to stop in the correct sequence? Yes. (h) What actions should be taken to error proof the CW and reject system? As explained in recommendations. (i) Do we need to make changes to our control systems? Yes.

Further improvements are needed in the entire process so the fill weights being dropped in the meals are within the specifications. Initiatives taken for improvement include new sensors for rejecter, plates around Ishida dispenser, and weighing of samples by the operators. Other areas that need improvement are: missed drops by Ishida due to clumps of frozen ingredients, and inability to accurately measure the fills of potato mesh by piston fillers.

The improvement in the process should be backed by high capability rejection process as just the awareness of the workers would not be enough. On an average, 23% of the meals that should be rejected could be making it to the market. The rejection process is largely automated and raising its current capability is essential.

The progress in process capability may not bring the same amount of improvement in rejection ability. In fact there may not be much influence of the improvements in the fill weights on the accuracy of rejection process. As long as necessary changes to the CW are not made there can be little certainty that all the meals that should be removed are being rejected.

Other issues like: the amount of acceptable variation on CW, whether it should be covered, and whether the grime stuck on belts from time to time contribute to its high variation also need to be addressed.

RECOMMENDATIONS

a) By raising the cage on top of the rejecter arms, to the level of cage above the belts (or just above), the number of recoils and collisions of the meals can be reduced considerably.

b) Meals altered at rework table should be fed into the line *before* and *not after* the CW. There would be no need to stop the line for this, and it should take the same time as it is currently to place the meals. The only extra time consumed will be the time taken to move meals from reworks table to the point before CW.

c) An expert advice should be sought to address the issues of variation in readings of the CW. A cover should be used to reduce the impact of environmental factors.

d) Customer complaints have included missed fillings (chicken, etc.), which are dispensed by Ishida. The clumps have been identified as the biggest problem by operators and QC on the line. Currently a grill covers Ishida feeder for safety purpose. Instead of the frozen fillings (chicken, beef, etc.) passing under the grill they could be made to pass through the grill with some modification. This will prevent any frozen clumps from entering the Ishida belts. None of the clumps would sneak past the operators while they are attending other jobs.

e) By increasing the lower limit of all the meals on the CW itself, the problem of weight variation could be countered. This may result in few more meals at the rework but will give much higher assurance that meals with missed fillings will not make it to the market. The lower limit could be raised upto 3 or 4 grams which is close to the maximum difference found between weight of meals on scales and CW. For example, if the lower limit of the meal is 311 grams it could be raised to 314 or 315 grams.

f) For future reference and improvement purpose a check sheet should be used by the operators to record the variation of CW during testing. The variations should be recorded twice a day to compare and observe changes in the readings.

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APPENDIX 1

Table 13: Discussion with Operators and Quality Controller on various issues

Checkweigher variation *When was the* CW *calibration done last?* Officially not required. *Did you ever do it?* Yes. *When?* It is not required but I do it sometimes before the line starts. *How was it done?* It was not exactly calibration but just the readings on empty belts. *What was empty reading on running belt?* Average weight = 0; Std deviation =1.26; min wt = - 3.2; max wt = 3.1 *Is this reading acceptable?* No, readings should be close to zero. *What is the reason for variation?* I do not know. *Do you think a daily check sheet to calibrate* CW *help?* Maybe. But it is not required as yet.
Cheese Dispenser Upon pointing to the grime on the belts of the CW. *Do you think that this grime on the belt is causing the variations?* Maybe. *How does it get collected on the belt?* The cheese just falls off the dispenser even if there is no meal passing underneath. If there is a hold up for a while and we are busy, the cheese keeps dispensing. This collects on the belt and under the plates of the meals. It moves along the belt and sticks on the belt of the CW.
Meals on LSL *Many meals that pass through have the reading on the* CW *as 311gms (which is the LSL).Should they be rejected or accepted by the* CW? QC: It should be rejected. OP: Not sure. *So, why does it not get rejected?* QC: This could be due to the average weight of the meals. If average weight is above the target then the meal close to LSL gets accepted. The same happens, when the average weight is below the target. The CW updates the average weight every 10 minutes.

FIGURE 1 MEAL LINE LAYOUT

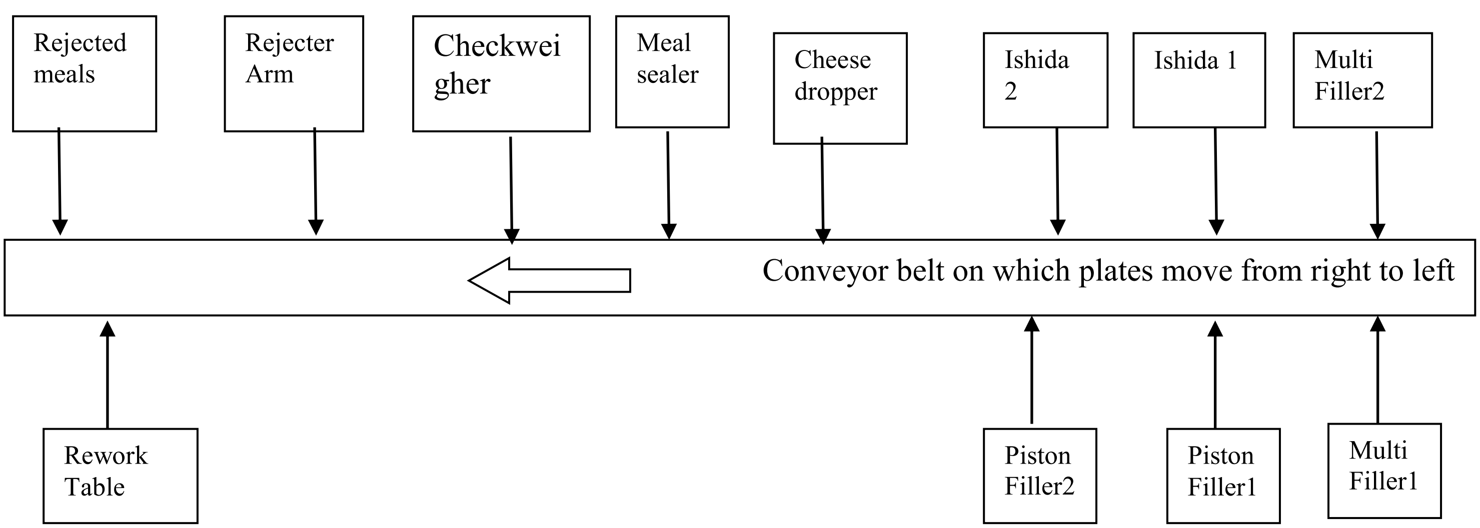
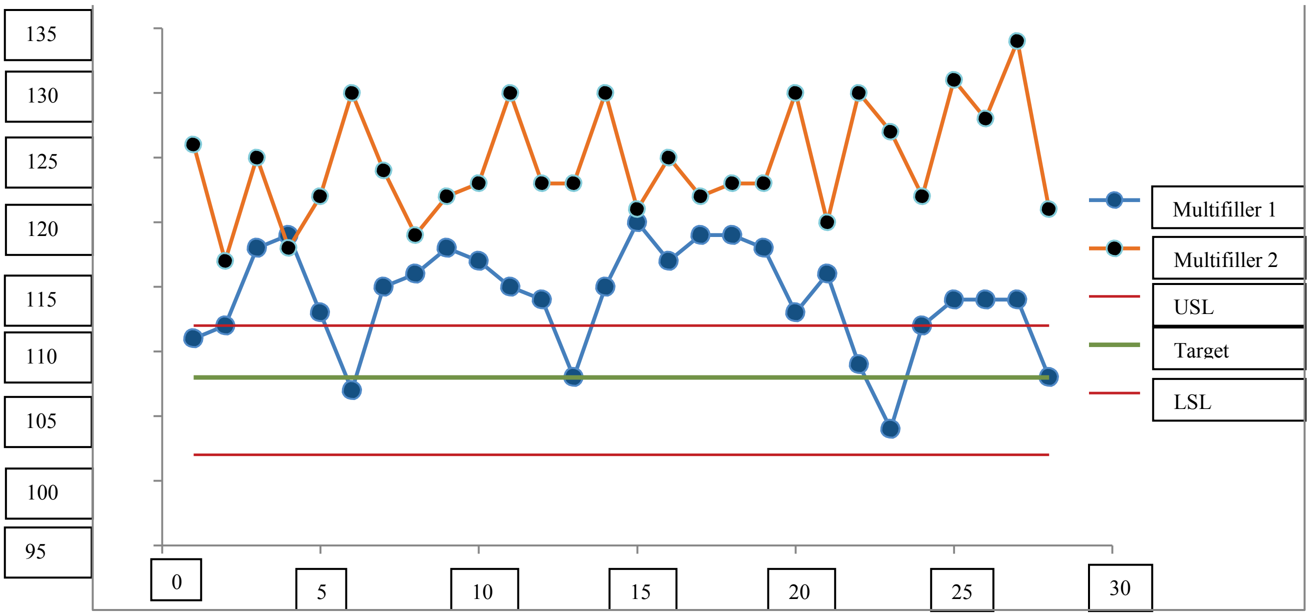


FIGURE 2 CONTROL CHART FOR MULTIFILLERS 1 & 2



CONCEPTS OF HUMAN NATURE, SOCIAL EFFECTIVENESS AND COMMUNICATION IN THE WORKPLACE

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ABSTRACT

Concepts of human nature may be seen as crucial for explaining human behavior, howeverthey are not explored enough in contemporary social sciences and economics. The concepts of human nature may serve as a basis for perceiving the social world, judging the problems occurring in professional life and building relationships with other people at work. In our research we checked the relation betweenconcepts of human nature and various psychological variables predicting social effectiveness (locus of control, sense of coherence, emotional intelligence and leadership style, measured with the use of questionnaires). We measured concepts of human nature using questionnaire and narrative methods. The results showed that accepted images of man may affect social effectiveness and communication in the workplace – both in positive and in negative way, depending on the content of a given image.

INTRODUCTION

The first purpose of the paper is to explore the role of the concept of human nature in developing social effectiveness and good communication in the organization. The second purpose is to evaluate different possibilities of measurement of relation between concepts of human nature and various aspects of social effectiveness.

Concepts of human nature (or "images of man") are seen as crucial for explaining human behavior and so an important subject of research in different social sciences like psychology, sociology, economics, management (Fahrenberg, 2004, 2006; Fahrenberg & Cheetham, 2007; Müller, 2012; Oerter, 1988, 1991, 1996, 1999, 2007; Rollka & Schultz, 2011).

The image of human nature is defined in different ways depending on the science – psychology, philosophy, organizational psychology, social psychology, sociology, economics. The most general definition of concepts of human nature is: „concepts of human nature are antropological preconditions of one theory of human" (Bahrdt, 1961, p.2).

The concept of human nature (German: Menschenbild) is an individual pattern of basic convictions/beliefs about what the human being is, and how he/she acts in his/her social and material environment and what values and goals should he/she have in his/hers life. It encompasses a self-concept and a concept of other people. (Fahrenberg, 2006, p.12). Another definition delivers Oerter (1991, p. 19): "a person´s conception of human nature baring the belief system of the individual", "personal frames of values system and conviction the individual have" or "naive theory that the individual formulates about a human being" (Oerter, 1996).

The images of human nature have their roots in psychology, where they are basis of four paradigms: behavioral, psychoanalytical, cognitive and humanistic among others prevailing in sociological science. Each of these paradigms formulates different assumption of the nature of human nature. These assumptions in turn are basis for all further theories constructed within this particular paradigm. The nature of the paradigmatic assumptions is that they are not changed often (Kuhn, 1962), and are more the way of perceiving phenomena and of choosing the research field and methods, which are later introduced in the research. The same happens with other roots of images of man as for instance the homo sociologicus, which is a basic assumption of sociology (formulated by Dahrendorf, 2010). It is worth noting that when they are imported to other disciplines like management (Horodecka, 2012) it is no longer clear that they only are a basic orientation and have a paradigmatic character and are not verified by empirical research. On the basis of those paradigms for instance the models of man by McGregor (2002/1960), and Schein (1970) were constructed. For example McGregor introduced two models of man X and Y and corresponding leading styles. Another idea comes from Schein who differentiates rational-economic man motivated by monetary and materialistic incentives (in study B it corresponds with materialistic man), social man motivated by social needs (in study B it corresponds with animal sociale), self-actualizing man who assumes a hierarchy of needs of human being and that human being strives for autonomy is motivated mostly from inside and prefers self-control, and complex man who assumes that the man is able to learn new things and under changing circumstances his/her motives are changing. All these models of man have different consequences for organization discussed by Schein (1970) and in some other classical works like Weber (2000).

However, there are some problems and shortages with using the theoretical concepts of human nature because of reasons mentioned above: mainly the fact that these concepts are constructed apriori and have paradigmatic, assumptive character, which protect them long before empirical validation and changes (Lakatos, 1976). They are in this sense positive constructs (providing theoretical explanation) with normative consequences (Horodecka, 2011a). Concepts of human nature prevailing in management science base on different schools of psychology (psychoanalytical, behavioral, humanistic and cognitive) and are not supported evidence. There is only few empirical research done in this area. It is for instance the research made by Weinert (1984, 1995), who applied a factor analysis and differentiated 12 dimensions, which he described as implicit theories of leading one´s behavior. More empirical work was delivered by Oerter (1988, 1991, 1996, 1999, 2007) and Fahrenberg (2004, 2006) who explored the factual images of man in cross-cultural context. The empirical research is not validating this normative set of images of human nature, but is attempting to discover factual images of man and in this sense real function of the concepts of human nature (Horodecka, 2011).

Images of man, which takes a form of paradigmatic assumption statements cannot reflect the whole spectrum of common images of man, and in consequence they do not have enough explaining power for phenomena of general human behavior. In our research (Study B) we tried to overcome this difficulty by using a discourse method to explore variety of concepts of man. Another problem and research gap is caused by the fact that the research does not encompass explorations between these models and different attitudes, which can affect the effectiveness of communication. It is because the prevailing images of man are usually taken as chosen by the leaders (on the rational basis – choosing of most suitable leading style for a particular organization) and so correspond more with the view of the organization than with factual orientation of leaders. This gap is filled by the Study A, where the basic concepts of human nature rooting in psychological paradigms are explored looking at them not as a freely chosen way of managing the organization (like Schein and McGregor do) but in regards of their factual appearance by the leaders and the correspondence with some crucial factors leading to the efficiency of communication.

THE THEORETICAL FRAMEWORK

The theoretical context of the exploration can be placed in the broad field of business ethics, which is a good platform to explore connections between different forms of communication taking place in the organization. The forms of communication are discussed within the concept of stakeholders and encompass the internal communication (as between employees, owners and managers), and external (suppliers, society, government, creditors, shareholders, customers). Within this theoretical framework it is possible to address the problem of internal communication between workers and their leaders, which may be determined by preferred styles of management. The business ethical framework allows for looking more closely on image of man as a construct, which affects all communicative processes in the organization and the attitude to work. In contemporary organizations the value added depends more and more on effective communication patterns and therefore they cannot be perceived only as one aspect of organizational life but analyzed in a broad context. In one of the approaches to business ethics – governance ethics (Wieland, 2004) it is assumed that people working for the organization can and have to be taught how to behave in the way which is the best for the company as whole. The rules are based on values settings usually generally accepted by the society and on general ethical principles and they are institutionalized in ethical codex's and visions of the company. The image of man, which is than introduced in the company is a result of their general ethical consideration and a vision of the organization, which corresponds with the image of world.

Therefore business ethics framework gives a good opportunity to address the issue of values people have, which are behavior leading and are connected with a specific concept of human nature (cf. Schwartz, 1992).

Other possible approaches to the research on images of human nature are rooted in the cognitive psychology – these images may be seen as cognitive structures that are behavior-inducing (Groome, 1999), and may promote or block the development of emotional intelligence. It is an important topic of the individual differences psychology in which it is assumed that the emotional intelligence is developed on the basis of social experiences. Also in social psychology, where it is assumed that the situation (especially social one) can influence the concepts of human nature we have, the concepts of human nature are discussed, here in terms of stereotypes. Other perspective is delivered by the personality psychology; in this perspective it is assumed that concepts of human nature are relatively stable personality dispositions, expressed in narratives. It is proved for instance by the extended model of Big Five (McAdams, Pals, 2006), where concepts of human nature are perceived as a variable affecting personality dispositions, cultural manifestations of them and, in the end, human behavior. In applied social psychology, dealing with the exploration of factors influencing social behavior, researchers are interested for instance with treatments, which can influence the way we are communicating. The research question of the concepts of human nature perceived as part of applied social psychology is for example a one in which we ask how the concepts of human nature could be modified by leaders.

Nonetheless the approach from the business ethics perspective seems most complex, especially if the organizational behavior approach is concerned.

Why this theoretical context is the one chosen for this exploration? It is because the specific attitude to other people is something what can be traced in all social relations occurring in the workplace and all affairs conducted by the organization – concept of human nature affects not only the contacts with other people in the organization but the way we solve specific problems, deal with business partners, clients, suppliers and launching business strategy. If there is a specific model of human nature, which could prove to have positive influence on human communication, it should be not only involved in all relationships, but also introduced in all processes and decisions taken in the organization. The problem is, that without introducing such a model deliberately, decisions taken in the organization implicitly or explicitly transmit an image of man we have, and if we don't reflect it – this will be the dominant economic model of man we adopted in other organizations. Therefore it is important to reflect on the image we transmit and possibly choose the right one.

In our research we focused on psychological dispositions, which may be crucial for functioning of the individual in the context of organization. In the first part of our research (Study A) we decided to check if concepts of human nature may be connected with leadership style and work locus of control. In this study we based on the list of concepts of human nature described in earlier works: *Economic* (utility maximizer), *Social* (adopting values and goal of its environment), *Imperfect* (driven by unconscious drives) and *Humanistic* (striving for self-realization) (McGregor, 2002; Schein, 1970; Turek, 2010).

In the second part (Study B) we checked if there is a relationship between concepts of human nature, emotional intelligence and sense of coherence. In this study we decided to explore the variety of concepts of human nature with the use of narrative methods.

HYPOTHESES

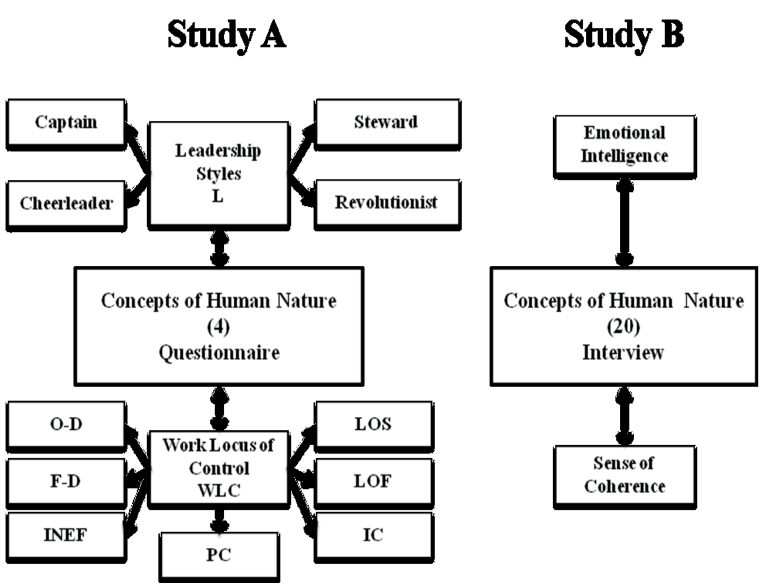
In Study A we formulated two main hypotheses:

H1 There is a connection between individual concept of human nature and leadership styles
H2 There is a connection between individual concept of human nature and locus of control

In Study B we formulated also two main hypotheses:

H3 There is a connection between individual concept of human nature and leadership style emotional intelligence
H4 There is a connection between individual concept of human nature and sense of coherence

Figure 1



Note. WLC – Work Locus of Control; INEF – Inefficacy; F-D – Fate Dependence; O-D – Other Dependence; PC – Personal Control; IC – Ideology of Control; LOS – Locus of Successes; LOF – Locus of Failures; CS – Control Scale.

METHODOLOGY

Study A

Participants were students of social sciences and arts (N = 154, 121 women, 33 man, aged 19-23, M = 21.26; SD = .81). In the analysis of the connection between concepts of human nature and leadership styles due to lack of data we could analyze only 148 questionnaires, in the analysis of the connection between concepts of human nature and locus of control we used all 154 questionnaires.

In this study only questionnaire measures and quantitative analysis were used.

Concepts of human nature were measured with the use of self-report questionnaire by Dariusz Turek (*Concepts of Human Nature Questionnaire*; CNHQ, Turek, 2010);The questionnaire comprises of 24 statement describing different behaviors. The respondent's task is to specify, on a five point continuum (from "definitely disagree" to "definitely agree"), to what extent each statement relates to him or her. This tool consists of four scales, corresponding to four concepts of human nature: *Economic*, *Social*, *Imperfect* and *Humanistic*.

Leadership styles were measured with the use of self-report questionnaire prepared by the research team of Psychological Test Laboratory of Polish Psychological Association (*Leadership Styles Questionnaire*, WERK, Brzezińska & Rafalak, in print); this tool allows to measure four leadership styles: *Cheerleader* (cooperative, agreeable), *Steward* (perfectionist, conservative), *Revolutionist* (creative, innovative) and *Captain* (realistic, stable); this questionnaire consists of 15 items; in each item the respondent evaluate four adjectives, corresponding to four leadership styles, ranging them from the one, which describes him/her best, to the one which does not describe him/her well.

Locus of control was measured with the use of another self-report questionnaire *Individual in the Workplace* (Matczak et al., 2009). It consists of 60 items in form of declarative sentences, subject has to answer in four-grade Likertscale. This questionnaire allows to check general type of locus of control (internal or external), as well as specific aspects of the individual locus of control and comprises of following scales: *Inefficacy*, *Personal Control*, *Control Ideology*, *Locus of Success*, *Locus of Failure*, *Fate Dependence*, *Other Dependence*. For all scales high result means external locus of control, low – internal one. Both reliability (internal consistency as well as stability) and validity of the questionnaires proved to be satisfactory.

Study B

In this study participated students and adults with differentiated level of education, coming from different regions of Poland (*N*= 120; 75 women, 45 men, aged 18-60, *M* = 27.31, *SD* = 11.06).

The main method applied in this study was semi-structured narrative interview, elaborated by the authors for the purpose of the research. The aim of applying this tool was to check the implicit concepts of human nature, which reflect in the narrative schemes of the individual. Interview consisted of two parts; in the first part research participants were asked some questions concerning possible scenarios of the future of humanity in general, about the possible reactions of people in difficult life circumstances and the motives in situations demanding making choices. The second part was a kind of undisclosed stories test; one-sentence beginnings of the stories were presented to the participants and they were asked to finish them.

Interviews were made by the student's research team from Cardinal Stefan Wyszynski University in Warsaw (Sylwia Dudziak, Magdalena Dziedzic, Katarzyna Glińska, Barbara Janota-Bzowska, Agnieszka Poniatowska, Patrycja Wyszyńska, Marta Zając and Malwina Zielińska); students received training in narrative methods prior to the research.

Narratives were recorded, transcribed and then subjected to the content analysis (Krejtz, Krejtz, 2005). After distinguishing 20 concepts of human nature by one author, the narratives were analyzed by two independent raters. If there were any differences between raters, narrative was revalued by the arbiter. Inter-rater reliability was satisfactory, considering the complex character of the narrative data (c.a. 80% of the same ratings) for all of the distinguished concepts except for two concepts, which were revalued. Then the frequency of the concepts in the narratives was checked.

83 interviewees (47 women and 36 men, aged 18-58, *M* = 26.05; *SD* = 9.80) fulfilled also two self-report questionnaires. Emotional intelligence was estimated by means of Polish version of the Schutte et al. questionnaire (INTE; Schutte et al., 1998; Jaworowska, Matczak, 2001). The tool is based on the first version of the emotional intelligence model by Peter Salovey and John D. Mayer. INTE comprises of 33 statement describing different behaviors. The respondent's task is to specify, on a five point continuum (from "definitely disagree" to "definitely agree"), to what extent each statement relates to him or her. Sense of Coherence was estimated by questionnaire SOC (Antonovsky, 1993). SOC comprises of 29 items, each single item offers seven possible answers (seven-grade Likert scale). The respondent is requested to select the number which best corresponds to the extent to which each statement is applicable to him/her. SOC measures the general sense of coherence and three dimensions: *comprehensibility* (cognitive component of sense of coherence), *manageability* (behavioral component of sense of coherence) and *meaningfulness*.

EMPIRICAL RESULTS

Study A

As it is presented in the Table 1, we found many significant correlations between Humanistic concept of human nature and locus of control. This concept of man appears to be connected with the internal locus of control (for all scales high result means external locus of control, low – internal one; negative correlations show that humanistic concept of man is negatively correlated with eternal locus o control). Correlations with the subscales show that people having humanistic image of man feel more efficacious, certain that they control their life-course and their success depend on themselves, but also are persuaded that people in general may control their life. They may also feel less fate-dependent and other-dependent. Fewer correlations were found for Social and Economic concepts of man; the direction show, that in some aspects these images of man may be connected also with internal locus of control.

Many significant correlations, but negative ones, were found for Imperfect man concept and locus of control. People having this concept of man tend to have external locus of control - feel more other-dependent and fate-dependent, do not think that people have control over successes and failures in their life and are persuaded that people in general do not control their life-course.

As far as connection between concepts of human nature and leadership styles is concerned, we found significant correlation only for social sciences students ($N = 54$) and not for students of art ($N = 94$). In the first group we found positive correlation between Humanistic concept of man and Revolutionist ($r = .37$; $p < .05$) and negative correlation between Humanistic concept of man and Captain ($r = -.34$; $p < .05$) and Steward ($r = -36$; $p < .05$). Moreover, we found that Social concept of man is connected with Cheerleader leadership style.

[Table 1]

Study B

In the analysis of the narratives 20 concepts of human nature were distinguished. These were (in order of frequency): *Society-made-man*, *Family man*, *Self-made-man*, *Materialistic man*, *Selfish man*, *Reasonable man* (*Enlightened man*), *Technocrat*, *Moral man*, *Inert man*, *Self-actualizing man*, *Aggressive man*, *Pro-social man* (*Altruist man*), *Animal sociale*, *Spiritual man*, *Irrational man*, *Nature-made man*, *Ecological man*, *Romantic man*, *Idle man*, *Virtual man*.

[Table 2]

Statistically significant results of the analysis of the relation between emotional intelligence, sense of coherence and concepts of human nature used in the narratives are presented in the Table 3.

[Table 3]

First, we compared the group with high and low emotional intelligence (criteria:"high" was defined as the result of half of standard deviation over the mean; as "low" the results half of standard deviation below the mean) as far as the frequency of various concepts of man in the narratives is concerned.

In the narratives of respondents with high level of emotional intelligence less often appears concept of Materialistic man than in the narratives of respondents with low level of emotional intelligence (chi^2 = 3.97; p < .05).

Then we compared the group with high and low sense of coherence (criteria: "high" was defined as the result of half of standard deviation over the mean; as "low" the results half of standard deviation below the mean).

In the narratives of respondents with high level of sense of coherence less often appears concept of Aggressive man (chi^2 = 4.05; p < .05) and Technocrat (chi^2 = 4.15; p < .05) than in the narratives of respondents with low level of sense of coherence.

In the narratives of respondents with high results in comprehensibility (cognitive component of sense of coherence) less often appears concept of Egoistic man (chi^2 = 8.41; p < .05) than in the narratives of respondents with low level of comprehensibility. In the narratives of respondents with high level of manageability (behavioral component of sense of coherence) less often appears concept of Aggressive man (chi^2 = 7.08; p < .05) and concept of Egoistic man (chi^2 = 7.71; p < .05), than in the narratives of respondents whit low level of comprehensibility. In the narratives of respondents with high level of meaningfulness, in comparison with those with lower level, less often appears concept of Aggressive man (chi^2 = 3.30; p < .10; statistical tendency), and more often concept of Rational man (chi^2 = 11.06; p < .05).

CONCLUSIONS

The research allows for making some theoretical and empirical conclusions. The concepts of human nature as described in the introduction are mostly basing on the psychological paradigms. In management sciences these concepts are imported and applied to the requirements of the discipline, mostly in order to explain different leadership styles in organization. Schein and McGregor for instance were discussing different models of human nature as basic assumptions in a particular organization type. Therefore they had a normative and paradigmatic character. It is assumed there that leader can choose freely such concepts after having decided that this is an optimal form of leading. It does not reveal what happens when leader have different images of man, as it is chosen normatively.

To fill this gap in the research we constructed our study A using exploring the relationship between those concepts not as normative concepts existing in the organization, but as a factual concepts people may have and their impact on some crucial factors for communication like work locus of control and favorable leadership styles. The research revealed that of concepts of human nature encountered in management and organizational psychology research, as economic, social, humanistic and imperfect only two last ones have a lot of connections with work locus of control (Humanistic and Imperfect) and leadership styles (Humanistic). It may be due to the fact, that Economic and Social man concepts are complex, have various aspects which should be measured separately. For instance, the economic model of human nature comprises in fact two different concepts – and maybe they are even contradictory. In the economic traditions the economic man is a rational person who cannot be influenced by other people, tastes, fashion, in one word - external factors does not have impact on him. The second idea, which builds a basis for the concept of economic man, is a behavioral paradigm in psychology. It implies that the person is responding to the signals of the outside world and adjust behavior according to those stimuli. The preferences of the person are not taken as stable but are changing. These contradict assumptions forms a basis of the concept of homo oeconomicus. Lack of the significant connection for Economic and Social man may be also due to the fact that materialistic/economic and social concepts of human nature are only facets of human being but they do not exist in such a pure form. Summing up, these empirical results may support the conclusion that Humanistic man is a most coherent concept of human nature. Humanistic concept of human nature seems to be also the most important correlate of variables connected with social effectiveness – more in-depth analysis of the concept may enable to elaborate ways of introducing it within the organization.

The results of the second part of our research point to the fact, that a Rational man concept should be introduced in the organization; it may enhance sense of coherence among the employees. It is interesting that it is not Animal sociale nor Altruist – for these concepts we did not find significant correlation with sense of coherence – maybe they are not sufficient for adjusting to changing environment and structure of the organization. Results also show that we should avoid following concepts of human nature among leaders and employees, by introducing alternatives (in bracks): (1) non-aggressive (cooperative); (2) non-materialistic (oriented on other than materialistic goals); (3) non-egoistic (his/her goals integrated with group goals). We may do it by checking existing images of man for any signals of such components. Another important method was discussed in the introduction – by the means of instruments of business ethics – especially a governance ethic approach may be helpful here, which assumes that the people in the organization can and should be educated for a particular behavioral pattern. Another way is to formulate precise rules of behavior basing on general accepted values and ethical guidelines in form of ethic and behavioral codex's and introducing them permanently in all communicative procedures and decision taking processes. This approach assumes that although people can have possibly negative behavior patterns (resulting possibly from particular images of man), they are changeable by means of setting example and expecting consequently such behavior which is a consequence of ethical image of human nature. This image in essence can be summarized as a respectful dealing with other human beings and a rational acting which means to see the rules of particular actions and their consequences. In this sense the Rational man as described in study B is a model which may correspond with the ethical-rational man, which in turn may be seen as a basis for the governance ethical approach to business ethics.

Summing up, both studies are an original attempt to think about factual concepts of human nature and they impact on some variables, which are important for the communication in the organization. They move the attention away from the theoretical and normative models of human nature to the empirical ways of measuring it. They prove that it is necessary to discover many facets/dimensions of human nature in order to measure the impact of those concepts on some variables, which impact organizational behavior, especially social effectiveness and communication.

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Table 1
CONCEPTS OF HUMAN NATURE AND LOCUS OF CONTROL (*N* = 154)

	WLC	INEF	F-D	O-D	PC	IC	LOS	LOF	CS
Economic		-.21*							.19*
Social		-.26*				-.14†	-.17*		.20*
Imperfect	.20*		.25*	.33*	.21*	.19*	.22*	.14†	-.16†
Humanistic	-.30*	-.37*	-.19*	-.14†	-.27*	-.30*	-.32*	-.19*	.24*

Note. WLC – Work Locus of Control; INEF – Inefficacy; F-D – Fate Dependence; O-D – Other Dependence; PC – Personal Control; IC – Ideology of Control; LOS – Locus of Successes; LOF – Locus of Failures; CS – Control Scale.**p* < .05; †p < .10 (tendency)

Table 2
CONCEPTS OF HUMAN NATURE IN THE NARRATIVES

Concept of human nature	Frequency	Definition
Society-made man	103	is shaped by the society, by the social group he/she belongs to and by its values
Family man	101	takes care about others, but only about those others who are his/her family members
Materialistic man	95	strives for material goods (money, wealth), is motivated by the lack of money (wants to make money)
Self-made-man	95	is the smith of his own destiny - he strives to set himself/herself targets, has strong will
Selfish man	91	strives for his/her own good, without any concern for others
Rational man (Enlightened man)	89	is reflective, perceives reason as a main factor that shapes his/her life and makes rational choices
Technocrat	84	in a positive sense - controlling the world through technology \ in a negative sense – alienating himself/herself from the world and other people by technology
Moral man	73	rates on the scale of good-evil, evaluates behaviors according to the moral standards
Inert man	73	externally controlled, has no influence on the important events in his/her life and on his/her fate
Self-actualizing man	65	strives for self-development, pursues the voice of personal passion
Pro-social man (Altruist man)	64	helps other people
Aggressive man	62	fights with others for resources, according to the belief that *homo homini lupusest*
Animal sociale	55	lives among the people and needs other people, seeks harmonious relationships with others; without the presence of others, he/she loses the joy and meaning of life

Spiritual man	49	seeks for spiritual experiences
Irrational man	41	is driven by the impulse and intuition, not by reason
Nature-made man	35	biologically determined, he/she inherited his/her essential characteristics and tendencies
Ecological man	33	protects the environment, tries to reverse the process of alienation from nature
Romantic man	27	strives for love
Idle man	26	lives from day to day, striving for nothing
Virtual man	13	has poor direct relationships with others, communicates only with the use of technology

Table 3
EMOTIONAL INTELLIGENCE, SENSE OF COHERENCE, AND CONCEPTS OF HUMAN NATURE

Concepts of Human Nature	Emotionalintelligence		*Chi*^{2}
	Low	High	
Materialistic Man	**87.5%**	**61.9%**	**3.97***
	Sense of coherence – comprehensibility		
	Low	High	
SelfishMan	**100.0%**	**71.4%**	**8.41***
	Sense of coherence – manageability		
	Low	High	
Aggressive Man	**79.2%**	**42.9%**	**7.08***
Selfish Man	**95.8%**	**64.3%**	**7.71***
	Sense of coherence – meaningfulness		
	Low	High	
Aggressive Man	**63.0%**	**37.5%**	**3.30**
Reasonable Man	**63.0%**	**100.0%**	**11.06***

Note. * $p < .05$

MAKING MANAGEMENT ACCOUNTING MORE EFFECTIVE: THE IMPACT OF AN INTEGRAL THEORY ON DECISION MAKING

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Keywords: Behavioral Economics, Decision Making, Management Accounting, Integral Theory

ABSTRACT

Behavioral Accounting has been a field of research for many years. Using psychological implications in a business environment has been identified as a success factor. The focus of research was however the interest of the different target groups in the company. Behavioral aspects were therefore mostly generalized. This paper goes one step further and explores the potential usefulness of an individual approach towards a company and towards the employees as the key to being more efficient and effective in business. As an individualization framework an Integral Model is used and it is shown that decision making in an organization can be improved by an individualized approach. Over and above analyzing the idea of individualization the aim of this paper is investigating the use of the new concept in an applied context.

INTRODUCTION

"People's behavior makes sense if you think about it in terms of their goals, needs, and motives"
– Thomas Mann

This statement by Thomas Mann describes the core message and focus point of the Behavioral Accounting concept. The focus on the "why "of individual behavior is today as up to date as ever, especially in a business environment where the behavior of individuals can have tremendous effects on the company, either good or bad. Therefore the need for an individual consideration of the workforce and its decisions is present.

This paper aims at showing the potential benefits of focusing on the individual in the concept of Behavioral Accounting. As stated above, the individual is a summary of his experience, teachings, education, surroundings, environment and so on, and he (all person-related language in the text refers to both females and males even if this is not specified in the text) will base his decisions, in his private and his business life, on this set of influences. This fact itself is quite obvious but makes it hard for the company to ensure that the individual will behave in a way the company wants him to. Cultural studies have shown, that individuals as parts of their respective culture are more likely to behave in certain ways but the individual is far more complicated to analyze and predict. The benefit of individualization lies in the fact, that if this complex analysis is done, a very detailed picture of the individual can be made and there is a high probability of predicting his behavior in the right way.

To reach a higher level of individuality this study uses a comprehensive individualization model developed by Ken Wilber (2010). This model is called the "Integral Model" (or the "Integral Theory") and it claims to include all the possible individual dimensions, a person can have, into a framework which can be used to analyze/determine a person's character. This information can be used, in a second step, to predict the behavior of the individual and to ensure that a person decides in a way the superior/principal approves of. It is all about "motivating managers to make good decisions" (Maher et al., 2007: p. 301). The good decisions in this case are good decisions for the company which will lead to future benefits.

The structure of this study is basically divided into three main parts. First of all Behavioral Accounting is reviewed, followed by an analysis of the decision-making process and its need for individualization. Finally the Integral Model is introduced, which is exemplarily used as a concept of individualization. This chapter also gives basic ideas on how to use the Integral Model in an applied context and how this could create benefit for the company.

CHARACTERISTICS OF BEHAVIOURAL ACCOUNTING

Behavioral Accounting is an interdisciplinary research field, which focuses not solely on economic approaches, but is also implying psychological and sociological theories and findings

(Gillenkirch and Arnold, 2010). It uses these findings in the research fields in a beneficial way, by enabling that companies can improve their (management) accounting by including the factor "human behavior". The inclusion of the human behavior is especially important, because as early as 1971 the American Accounting Association stated that: "[…], the principal purpose of accounting reports is to influence action, that is, behavior." (Glautier and Underdown, 2001: p. 20) Therefore the main focus point of management accounting in itself is human behavior. Behavior in this context is representing behavioral assumptions which affect the user and the target group of the management accounting in a way that differs from the concept of the homo oeconomicus and the implied standard-economical assumptions of human behavior (Bruns and DeCoster, 1969).

In the literature many different definitions can found, which all emphasize different aspects of Behavioral Accounting, according to their special area. One of the first and most suitable definitions is from Bruns and DeCoster (1969) and states that: "Behavioral Accounting considers the impact of measuring and reporting on people and organizations." (Bruns and DeCoster, 1969, p.5)

This definition from 1969 can be seen as a general definition, which tries to include all important aspects of the Behavioral Accounting, and emphasizes the measuring and reporting function. Measuring and reporting are the two most important aspects of the "classical" management accounting and therefore are also important in the concept of Behavioral Accounting. In the definition of Vordank in 2004, who states that Behavioral Accounting was established to "make those behavioral effects transparent, which relate to processes of information gathering, processing, and implementation in accounting systems (Vordank, 2004, p.1)", the factor measuring was split up in the steps gathering and processing. This highlights the cognitive process of decision-making (the processing, which is still a cognitive process) and the many potential influences on this process, accordingly. Another aspect of Behavioral Accounting, which emphasizes again the decision making process, is shown in the definition of Caplan (1992), who states that "[…] the principal purpose of management accounting is to furnish data that is useful for managerial decision-making" (Caplan, 1992: p.2). This data, which is to be furnished (or measured, to use the terminology of Bruns and DeCoster) has to be in a way that a manager can use it in his best way. The decision-making process (which all the quotations include), is very important and will be explained in more detail. The impacts of these aspects of accounting on the employees (especially, but not solely) are manifold. This is where the psychological and sociological findings start to affect the classical management accounting theory and the focus is shifting from the numbers towards the individuals.

To sum up the different aspects of the Behavioral Accounting, which leads to a comprehensive management accounting system, "an effective management accounting system must provide information which (a) assists managers and employees in identifying those courses of action which are in the best interest of the organization and (b) encourages the appropriate individuals to select and implement the organizationally desired courses of action" (Caplan, 1992: p.2). This statement highlights again, that not just the information itself is in the focus of interest but also the way this information helps the protagonists in the decision-making process. The information itself is also important, because the form and design of the information have to be suited to the needs of the addressee. Another focus point in this statement is, that in both paragraphs the organization and its interests or course of actions are in the focus and not the individual. The potential conflict between the individual goals of the employees and the organizational goals is a serious threat to the motivation and quality of the individual and topic of many additional research papers (Hellriegel and Slocum, 2007). We will therefore focus on the decision-making process in more detail.

DECISION MAKING AS AN INDIVIDUAL PROCESS

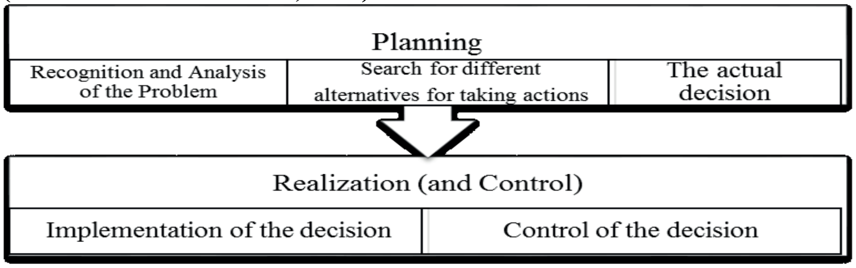
The decision-making process is one of the most important parts and areas of interest in Behavioral Accounting. This is because a manager or an employee is "[…] a decision making agent for the organization" (Beach and Connolly, 2005: pp.9-10) and "[…] organizations do not themselves make decisions" (Beach and Connolly, 2005: pp. 9-10). The basic idea behind that concept is that the company itself needs good decisions (on the strategic and operational level) to perform well. This leads, on the first layer, to the Management Board and the decision making of it. But the Management Board itself needs to be sure of their subordinate managers to behave and decide in a way that they expect and can rely on. Otherwise, planning would be impossible.

There are basically two main ways on how to approach the decision making process: the economic and the psychological way. This chapter is going to explain each one in detail, starting with the economic decision making, and then discuss the advantages and disadvantages of both concepts.

THE ECONOMIC DECISION-MAKING PROCESS

"Economic theory has traditionally focused on optimality in decision-making (Baumol and Blinder, 2008: p. 92)." To reach this goal, frameworks for decision-making processes were developed. Most of these frameworks are divided into two main stages, which are shown in the figure below:

Figure 1: The economic decision making process
(Vahs and Schaefer-Kunz, 2005)



The first stage "Planning" is again divided into three sub-categories: First of all the recognition and analysis of a problem. This problem can evolve through a changing environment, through a change in the strategy or simply by a discrepancy between the reality and the planned scenario. To understand this problem and to get a better insight of it, an analysis of the current state of the company has to be done, for example an "As-Is"-Analysis (Jennings and Wattam, 1994). The second step is the search for different alternatives for taking actions. There are plenty of different methods and tools to analyze the company, the surroundings and the stakeholders (for example). Tools like the SWOT-Analysis (Jennings and Wattam, 1994) or Benchmarking (Kotler, et al. 2007) are well known and used. The third and last step in this stage is the actual decision. In this stage the different alternatives are to be weighed and their degree of target achievement is to be rated. Then the alternatives which best fulfills the needs of the company is chosen. Again, the focus point is on the need of the company, not on the employee, which can be a source of conflict (Vahs and Schaefer-Kunz, 2005).

The second stage is the realization or implementation of the decision throughout the company. This stage is again divided into two steps. The first step is the actual implementation of the decision, but it is stated that the communication of this decision, why it was decided, who is affected by this decision and how it is communicated, can be even more important than the decision itself (as stated before). It has to be done in a way that every employee can comprehend this decision, and in the best case is committed to it (Vahs and Schaefer-Kunz, 2005). This show, that behavioral concepts have already influenced the economic point of view.

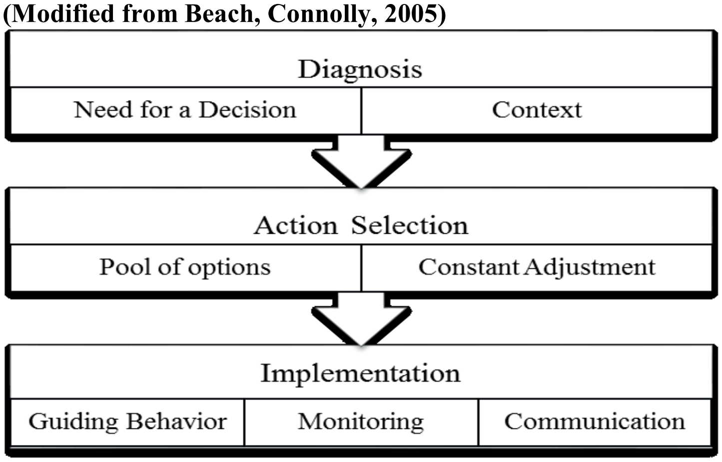
The last step in the process is the control of the decision. It is elementary for a company and the individual to steadily monitor the decision. This will lead to first of all that the individual and the company make the experiences with it and second of all to readjust some aspects if they do not fit along the way. This will help the individual decider with his future decisions, because he can base them on the experiences he has made with this decision.

This decision-making process is in a way artificial and idealized, and has as a basic assumption the rational human, whose main goal is the maximization of his benefits. But research in this field has shown "[…] much evidence of behavior that is inconsistent with economists' typical rationality assumptions" (Baumol and Blinder, 2008: p. 92). Therefore the need for a framework which tries to include the irrational decisions is necessary. This framework is going to be explained in the next chapter.

THE PSYCHOLOGICAL DECISION-MAKING PROCESS

In psychological research the decision making process is split up in three different steps, which are on the first glance very similar to the economic process. But the focus point in the psychological decision making process are the potential influences which will affect the decision on a subconscious level. The three steps of the psychological model are shown in the following figure:

Figure 2: The psychological decision making process
(Modified from Beach, Connolly, 2005)



In the Diagnosis phase, the need for a decision is present. This occurs if either an external or internal change happens. Internal changes could include that a person changes his interest in topics and now focuses more on them, or that he learns something new and analyzes his surroundings with his new state of mind. External changes are normally in a way forced changes, either by another person (for example a superior) or a change in the surroundings, for example a change in the market or in the legal framework (Beach and Connolly, 2005). Another reason could be that a former decision is not working as expected and needs to be changed.

After the need for a decision has become eminent in the deciders mind, he tries to put it in a context, where he can use his experience and knowledge to decide. This process is called 'framing' (Zimbardo, 2009) and is nearly total subconscious. The subconscious processing of this data is also the point where a lot of psychological phenomena influence the processing, like heuristics and bias'. If the problem or situation is similar to a previously encountered situation, this experience will be the "frame" in which the decision is going to be made. This is also the basic principle of learning in a psychological sense. If the situation is entirely new, the cognitive process is trying to make a plan on how to approach this situation. Normally, this results in the need for more information, and the individual tries to get more data, until a point is reached where a connection to a past experience can be created (Beach and Connolly, 2005). This "frame" can lead to an irrational decision, seen from an objective point of view, which is however rational for the individual. Particularly, if the frame itself is based on wrong assumptions, it can lead to "wrong" (In an objective sense; for the decider the decision makes perfect sense, which can be dangerous for the company, depending on the decision;) decisions for the company and every new decision will again be based on this wrong frame.

The second step is the action selection, in which the decision maker chooses from a pool of options the best suitable in his situation. But, unlike in the economic decision making process (where the outcome is considered as known) the outcome of the decision making in the psychological framework is unclear. It is more likely that a decision is constantly adjusted and even completely changed if, along the way of the process, the option appears to be not suitable at all or if new influences like for example social pressure, occurs. The focus point here lies on the fact, that a decision is not a single act and the implementation has to be “as decided”. On a subconscious level, the decision is constantly evaluated and adapted to the changing information level and surroundings. The decision-maker gets also permanent feedback (in a normal business environment). This feedback can be reports or actual spoken feedback, but it can also be nonverbal feedback or even moods or other factors which influence the decision maker. The focus lies again on the decision making as a process and not on a single point of the decision.

The last step is the Implementation, which is defined as the decision, or the set of decisions which are to be “[…] used to guide behavior, and the decision maker must monitor its progress toward resolving the anomaly that started everything in the first place” (Beach and Connolly, 2005: p. 4). In this process, the communication of the decision is again the critical point, that everybody else who is involved in solving the problem understands his role and need for action.

After the decision maker has proceeded through all the described steps and then looks back to his original plan of actions he will assert that in many cases the original plan and the actual implemented plan have nothing in common than the starting and end point (Beach and Connolly, 2005).

The economic and the psychological concept are quite similar, because they both describe the decision making process in similar steps, like:

1. the presence of a problem,
2. the gathering of information and the development of different solutions,

3. the evaluation of the alternatives,
4. the actual decision and
5. the implementation of the decision.

Whereas the psychological model stops at this point, the economic model adds the control to the process which is equivalent to the concept of learning through decisions in psychology (Zimbardo and Gerrig, 2009).

There are basically two ways, how an individual deals with the decision making process and the huge amount of information he needs to evaluate to get a proper decision. First of all he uses a "bounded rationality" which is a reduced and simplified version of his problem. He generates a "small world" (Beach and Connolly, 2005) which is a limited representation of his problem and contains just the most salient information which he then uses to make the decision (Beach, Connolly, 2005). The other way to handle this problem is 'Satisficing'. In this concept the basic assumption is that "[…] the decision maker has some set of standards that an option must meet for it to be at least minimally satisfactory" (Beach, Connolly, 2005: p. 10). And if the first option fulfills all his basic standards it is chosen without looking on different options. This could lead to that options which have a greater benefit for the individual are not considered.

These two ways are also on a subconscious level but proof to the fact that the decision making process is, regardless of sophisticated frameworks, still a personal decision. The personal factors of the decision making process makes it also more unpredictable and inconsistent. To minimize these eventualities an individualization of the decision making process and therefore of the Behavioral Accounting is necessary. A first step towards this individualization has already been done (at least in the decision making process) by the Myers Briggs Type Indicator (MBTI), which shows interdependencies between the different types of individuals (according to the MBTI) and the way they decide (Myers and Briggs Foundation, 2010). The MBTI is classically a recruitment and assessment tool from the Human Resources field but can also be used in the Behavioral Accounting. The interdependencies with other research fields are, as mentioned before, one of the main focus points of the Behavioral Accounting. The MBTI is also just one possible way of dealing with the individualization. A broader approach will be analyzed in the next chapter.

THE INTEGRAL APPROACH

A more comprehensive model consists of "all quadrants, all levels, all lines, all states, all types" (Wilber, 2010) and is called the AQAL-Model, which is the abbreviation of all quadrants, all levels, but includes all the other aspects, too. The AQAL-Model could also be named Integral Operating System (IOS) or Integral Map, as mentioned before, but AQAL-Model is the special terminology preferred by Wilber (2010).

The final model is separated in the four quadrants which represent the four different views on the world. The represented views are Self & Consciousness ("I"), Culture & Worldview ("We") for the internal view on the individual in himself. Additionally it represents the individual in relation of his close surroundings. The other main dimensions are Brain & Organism ("It") and Social System & Environment ("Its") for the external view on the individual itself and in his wider relationships as part of a system or culture. As an example, in the upper-left quadrant ("I") the individual finds his own level of development together with all the corresponding thoughts, feelings, emotions, etc. If he then wants to have an external view of himself he has to go to the upper-right quadrant ("It") where the objective outside view of him is represented, in this case from a strict biological and psychological point of view. If he then looks at the lower left corner ("We"), he sees himself as a part of a group or social network. This could be family, colleagues or sport partners for example. In a greater sense the individual sees himself as part of a specific culture, therefore the terminology of this quadrant as Culture & Worldview. This social group or culture can also be analyzed from the outside, which is represented be the lower-right quadrant (“Its”). In this quadrant the interaction of different groups or cultures are examined and is resulting in theories like for example the systems theory. The lower-right quadrant is also called the social dimension. The intriguing fact about these different views is that no particular view is right or wrong and not to be seen as a standalone definition of the individual, all are just parts of the human being, which is the quintessence of the Integral Theory. This is also applicable for the decision making process or in the analysis of the company.

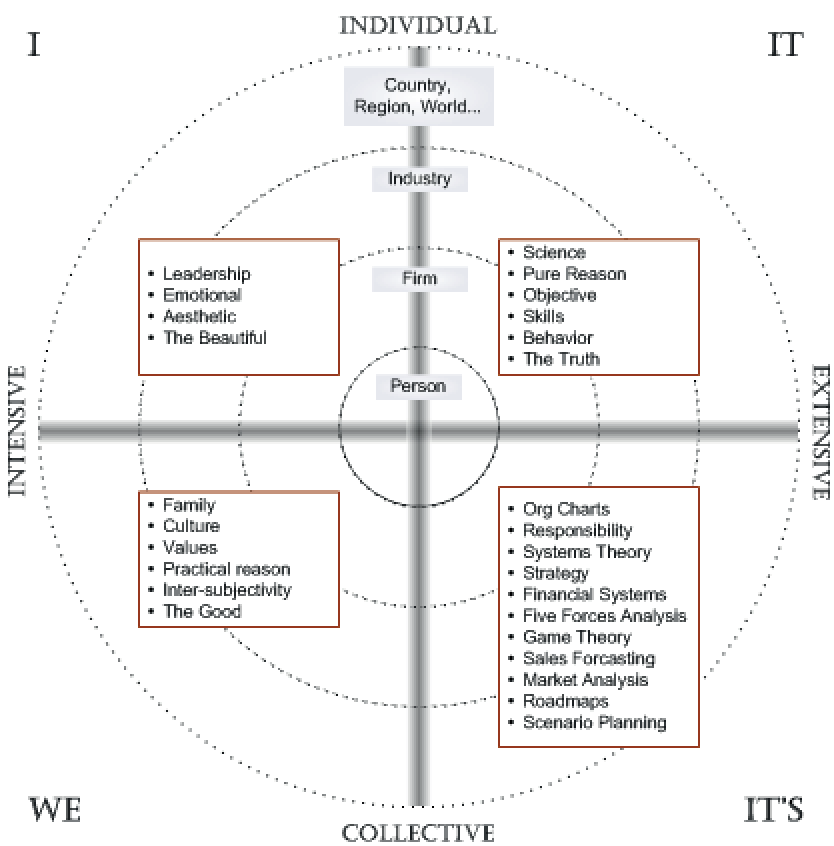
In the respective quadrants the lines of development are present with eight stages to achieve (there is no fix amount of stages, just exemplarily). These lines of development represent the growth or evolution of a human being. Another representation could be to measure the level of goal achievement in the different dimensions in a monitoring system. These lines could for example be the Spiral Dynamics or any other level conceptions which is present. The following figure of a combined AQAL/Spiral Dynamics model shows how these two theories fit together to build a model, which is as close to the integrality as possible.

To explain this figure, a fictitious person is explained according to this model. After measuring all possible aspects of a person’s character or individuality, he can find himself in this model accordingly. To stay in this kind of view he would build a radar chart to classify himself in accordance to the Integral Model. There are basically two different kinds of individuals according to this model, either the homogenous individuals, who are on the same level in every dimension, or the heterogenous individuals, who are on different levels in the dimensions. The homogenous individual is then defined by his Spiral Dynamics Color and the characteristics these colors represent, whereas the heterogeneous has to be looked at more carefully, depending on which dimensions are needed or more important for him. As mentioned before, the level of achievement in the single dimensions are not to be seen as judgmental.

This model shall help individuals to progress and develop their characters and abilities, but all of the levels have positive or negative aspects (as in the types), depending on the surroundings or the life situation an individual is in.

Figure 3

Combined AQAL/Spiral Dynamics concept (Wilson, 2010)



Another possibility to picture the quadrants is to include a psychograph in every quadrant. This is also one of the main aspects of the Integral Theory, that many different conceptions can be used without losing the main statement of the theory. The general grasp of quadrants unfolding, with every dimension potentially growing and developing is the main learning target of this theory. The above shown figure is just an example on how to picture the Integral Model, there could be additional levels or lines of development, etc. In this study the above described model and figure are the foundations for the usage of this model.

THE POTENTIAL USEFULNESS OF AN INTEGRAL APPROACH FOR DECISION MAKING

The Integral Theory can be used in many different fields of research or daily life, like in medicine, law, economics, and so on. This study is focusing on the potential usefulness in business and economical questions.

One of the most obvious uses of the Integral Theory is to use it as a "enhanced Five Forces Analysis" (Hill and Jones, 2009: p. 42) or as an "enhanced stakeholder theory" where the quadrants are the five environments or stakeholders in which a product or company has to persist. In this case the levels would be the types of values a product or company has to represent. The hierarchy elements of the Integral Theory are more or less already implemented, like Maslow's hierarchy or the Spiral Dynamics concept. These two elements combined give an almost complete overview of an existing or potential marketplace and its conditions. In addition, the other dimensions distinguish the Integral Model from the already existing tools. The concept of the stages tries to show that properties of products or markets must not be permanent (like levels). The adaptability of the Integral Model is also a major benefit, because it can be individualized to the needs of the company.

Another use of the integral approach is the Integral Leadership, where the four quadrants represent individual behavior, psychological understanding, cultural management and systems management. Normally these four fields are considered to be separate, but the integral approach combines them to get the maximum benefit for the leadership. Basically, this theory is easily applicable (if the measurement is at hand) to all Human Resource topics. If the company has once made a profile according to the Integral Model of an (potential) employee, it can adjust its whole Human Resource Management, accordingly. This starts with the recruitment process where the communication with potential candidates is adjusted to their particular stages of development. This could lead to a very personalized human resources marketing effort. In addition to that, the company is able to match its development programs to the specific needs the employees have, according to the Integral Model. Furthermore, the company is able to match their working teams in regard to the Integral Model, either homogenous, that everybody is on the same level, or heterogeneous to extend the principle of the all angles, all views approach, which needs different people in different stages. This study is nevertheless focusing on the potential advantages the Integral Model has in regard to the Behavioral Accounting. Basically, the potential benefit in this field lies in:

1. **The analysis of the organization**, to ensure that any data which is necessary is available in a way that the decision maker is able to base his decision on it.
2. **The decision itself**, where the decision-maker has a model which guarantees that as many different points of view are included.
3. **The communication in:** the (accounting) team, to the decision maker and later on to the affected employees.
4. **The generating or improving of multidimensional key performance indicators** (financial and non-financial) which are to be understood by everyone who has to work with them.

POTENTIAL LIMITATIONS OF THE INTEGRAL THEORY IN BUSINESS LIFE

The main benefit of the Integral Theory, the incorporation of as much different views on a problem or decision or individual, is potentially also the biggest limitation of the theory. The generated information can reach high amounts of quantity, and the economical usefulness may not be given any more. It is discussable if the economical usefulness is the right measure for this comprehensive model. This has to be decided by the individual company.

Another limitation lies in the applicability of the theory itself. Some parts of the theory are focusing on the spirituality (i.e. here to be understood as norms, values) or the psychosexuality of the individual, which may be necessary, if a really comprehensive theory is to be created. It can be assumed to be beneficial but however difficult to include these parts in a business environment. These factors are useful in the private examination of an individual according to the theory, but in the professional life this would be crossing a line which is protected by several laws and social borders. If these social lines are really necessary or if this is a big disadvantage is debatable but is not part of this study. From an academic standpoint these character traits or lines of development could be very helpful, as stated, to include more dimensions in the decision making model.

The whole theory aims on the reasons “why” people did something and classical questionnaires are always aiming at “how” or “what” people are doing. This difference excludes basically all classical questionnaires as a source for the “classification” of people according to the Integral Model. This analysis could be performed by a psychiatrist who is extensively trained in the integral concept but the acceptance for this is not automatically given. Therefore a lot of persuasion would have to be done in order to the individual in this way. Nevertheless of all limitations this theory implies there are potential benefits for Behavioral Management Accounting. These benefits will be explored as a first step in the next chapter.

EXPLORING THE APPLICATION OF AN INTEGRAL APPROACH IN BUSINESS

According to Coombs et al., "the basic requirement in the management of the business process is for the provision of information for decision-making purposes" (Coombs et al., 2005: p. 22). To ensure that this works optimally, "information has to be tailored to the needs and abilities of managers making decisions". This is considered as a challenge for the accounting system, to provide the information which is relevant, meaningful, accurate and timely in a way that the decision maker can work on the decision in an optimal way (Coombs et al. 2005). And normally, there is not only one decision maker who has to use this information. In other words, the raw information has to be personalized or individualized. Here, the Integral Theory can improve significantly the performance of the accounting systems in providing tailored information to the individual decider. There are plenty of tools which can be used to analyze the organization and to prepare the outcomes in an understandable way. A small selection of tools is shown in the following Table:

Table 1
SELECTION OF STRATEGY TOOLS
(Modified from Simon and von der Gathen, 2002)

	Analytical tools	Implementation tools
Tools for strategies of organizations	• Portfolio-Analysis • Value-Chain-Analysis • Scenario-Analysis	• Balanced Score Card • Supply Chain Management • Quality management tools
Tools for strategies of business units	• Benchmarking • SWOT-Analysis • Brand-Equity-Analysis	• Value-to-Customer • Market segmentation • Pricing tools

The tools are divided by the main function (analytical or implementation) and by the focus of research, either the whole organization or a smaller business unit. The benefit of an individualization of the shown tools is the following:

On the one hand the Integral Model itself can be used as a 360° analytical tool, where every dimension or quadrant is examined with the above shown tools. On the other hand, the Integral Model can be used to enhance the single tools like for example the SWOT-Analysis, or the market segmentation by integral components. This is exemplarily shown in the following example, which does not imply that there are not many additional ways how the Integral Model can influence the analysis of the company.

First of all the already existing tools and methods in the organization have to be examined. In practical terms, they are often not easily exchangeable and it should be considered that the comparability and, even more important, the consistency of the outcomes should be given to see developments of business units or organizations (Porter and Norton, 2009). Even more, various accounting standards require disclosures to help the stakeholders to read and interpret the change in the standards (Porter and Norton, 2009). If the analysis tools are nonetheless alterable, an integral approach can be chosen. This could be done by using the four quadrants as dimensions of the company which would be:

1. **Self and Consciousness ("I")** represents the core of the company, e.g. Business Model, Vision, etc.
2. **Brain / Organism and Language ("It")** represents the internal organization of the company, e.g. the Structure, Processes, Image, etc., everything that can be seen and analyzed from the outside.
3. **Culture and Worldview ("We")** represents the Culture of the Company and the

relationship with its closer surroundings, like the customers or suppliers, etc., measurements could be e.g. Customer Satisfaction, Environmental Issues, Business Behavior, etc.

4. **Social Systems and Environment ("Its")** represents the Company in the Context of the Market and Competitors, Political Orders, Laws, etc.

In each quadrant there are several possible lines of development which are measurable. For example in the culture and worldview quadrant ("We") it could be split up in Business, Environment and Customers as mentioned above and then again split up in subcategories. This could be done several times until the point is reached where any additional fragmentation would not make sense or would not be economical any more. The depth and scope of this analysis is depending on the focus of the company. This leads also to different measurement tools and methods which are available and can be used. But it should always be ensured that all dimensions are considered. There can be different focus points in the analysis like for example the processes and internal structures (in the "It" quadrant) but the other quadrants are also important to get an as complete as possible picture of the company.

The critical point is that the analysis is on the one hand done by an individual with all his preferences in different tools which then maybe neglect different aspects but highlight others. Additionally, on the other hand, the addressee of the analyzed information has to be considered and the information has to be presented in a way that the addressee gets the maximum benefit out of it. This consideration has also to be done in an integral way to ensure that all the different interests are considered. Nevertheless the structure of the concept presented allows the conclusion that also a partial application will lead to benefits. In the context of this research the application of the concept to other instruments such as certain Key Performance Indicators like EVA (Savarese, 2001), the

Balanced Scorecard (Kaplan and Norton, 2002) and the Principal Agent Theory (Roiger, 2007) have been analyzed with positive results.

SUMMARY AND CONCLUSIONS

This study shows that a further individualization of the company or the individual employee can lead to increased efficiency and effectiveness in business. To reach this goal the company and the employee have to be thoroughly analyzed according to the latest economic and psychological findings. This leads to the field of Behavioral Economics (in our case Behavioural Accounting) and its implied concepts. The clear focus point in this exploration is the decision making process and its different parts to show how the individualization in the Behavioral Accounting can improve the effectiveness and efficiency of decision making.

To increase the individualization, an Integral Model is exemplarily used to show what an individualization means and how it can influence the decision making process. The major benefit of the Integral Approach is a more differentiated and individualistic view on a problem or decision or individual. This enables more efficient and effective decisions since a multidimensional problem can now be approached with a multidimensional model. Shortfalls out of generalization and simplification of the decision object as well as the decision subject and hence suboptimal, i.e. ineffective and inefficient decisions can be avoided. The limitations of using an Integral Approach might at the same time be the increasing complexity of the problem and interdisciplinary knowledge which is required to achieve better decisions.

Nevertheless finally the application of the Integral Theory in the decision making process can, as shown in this paper, even be beneficial if only applied partially by the entrepreneur.

The benefits and the application of the individualization is shown in this paper mainly by focusing on the analytical part of the decision making process. For further research it would be promising to apply the new concept to the extensive field of instruments in managerial decision making and test the impact in different cultures.

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GIVING HOLLYWOOD A BRAND-LIFT: A MARKETING CASE STUDY

Frank Sadighian and Michael R. Summers, Pepperdine University

CASE DESCRIPTION

The main focus of this case is reinvigorating the Hollywood brand through the proposal of a major development in the area. Besides the marketing considerations, analysis will include a SWOT analysis, budget estimates, and general scheduling of the project. The case has been successfully analyzed by students in the introductory marketing course, including students not majoring in business. Students typically take this course at the sophomore or junior level. The case study is a major project in the course, worth about 20% of the grade. Students work in groups and prepare a detailed paper and a Powerpoint presentation. Explanation of the case and final presentations require several class periods, and students will need access to the instructor throughout the process. Students will need at least a month to work on the project.

CASE SYNOPSIS

This case study gives students the opportunity to maximize the brand potential of Hollywood by creating a cohesive and enjoyable experience for visitors. They must perform research and analysis of a potential development by a major entertainment company, such as Universal Studios or Paramount Pictures. By building on the glamour of past and present Hollywood, this project should focus on providing economic benefits to stakeholders as well as enjoyment for visitors. The proposed development will include entertainment venues, theme parks, museums, hotels, and retail establishments.

INTRODUCTION

For nearly a century the Hollywood brand has been associated with the filmmaking industry, movie stars, music, and entertainment. It has attracted large numbers of tourists and visitors for decades, creating economic benefits for the city of Los Angeles and the state of California. The present reality for visitors, however, is drastically different from their expectations, thereby leaving them disappointed. They come with perceptions of the Hollywood phenomenon and leave with the reality of Hollywood Boulevard.

Just as an individual may decide to undergo a face-lift in order to present a more youthful appearance, so also might an organization or group try to improve an outdated and uninspiring image with a "brand-lift." This paper describes a case study for undergraduate marketing students where the students must do their own research on the background data and then present an analysis and proposal to help update one of the most well-known brands in the world – Hollywood, California.

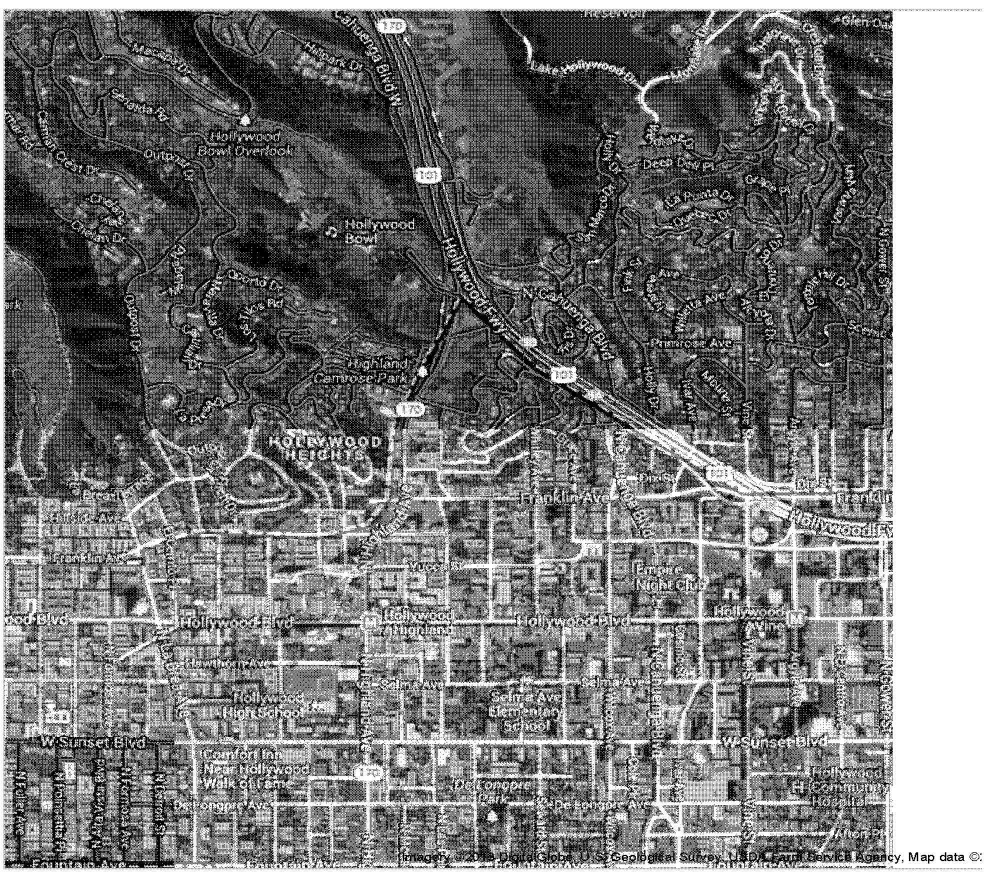
In its Golden Age (1930's and 1940's) Hollywood's image was of a place where dreams came true and stars were born. That period saw the rise of the studio system, where the eight major studios produced over 7,500 films between 1930 and 1945. Each week over 80 million Americans saw at least one movie; and 95% of all American movies were produced by the Hollywood studios. With the breakup of the studio system and the introduction of television, these gaudy numbers began to decline in the late 1940's.

Over the years Hollywood's image has gradually become tarnished. Today people are more likely to associate Hollywood with congestion, homelessness, crime, and a sense of unwelcome. Currently the Hollywood neighborhood of Los Angeles, with a population of about 85,000 people in 2008, averages 68.1 crimes per week. It ranks 28th worst out of 209 Los Angeles neighborhoods in violent crimes and 32nd worst in property crimes per 10,000 people. Also, the production of movies is no longer concentrated so heavily in Hollywood, with major international competition from Bollywood and with financial incentives luring filmmakers to locations all over the United States and the world.

Hollywood's brand could definitely use some sprucing up. Stakeholders such as the state of California and the city of Los Angeles depend on Hollywood for tourism, tax revenues, and jobs. While these governmental agencies are currently unable to give much financial help to boost Hollywood's image, they can at least help in facilitating improvements in the area that in turn can improve Hollywood's brand. Other stakeholders in the brand of Hollywood include such entertainment giants as Universal Studios, Paramount Pictures, and Disney. Such corporations might have an interest in investing in Hollywood's improved image. Local citizens and merchants also have an obvious stake in the success of Hollywood's brand, as do potential visitors from near and far seeking entertainment.

Figure 1 shows the central Hollywood area. A few miles to the northwest along the 101 freeway is Universal City, including Universal Studios and Citywalk. Paramount Pictures is a couple of miles to the southeast. Many of the major television and movie studios, such as Warner Brothers, NBC, and Disney, are about 5 miles to the north in the Burbank area.

Figure 1: The Hollywood Area



THE SITUATION

Hollywood's brand is obviously tarnished and underutilized. When moviegoers around the world see the spectacular results of Hollywood's efforts on the screen, they have high expectations when they visit the area, only too often to be disappointed. In the areas where visitors tend to congregate, near the intersection of Hollywood and Highland and the intersection of Hollywood and Vine, they most often are confronted with beggars and trinket sellers rather than the magic place that they had expected. On the other hand, places such as the Hollywood Bowl and Universal Studios are much more satisfying because they are destinations for a specific experience and one that is provided with high quality. The challenge is for the rest of Hollywood to capitalize on its brand and to meet the expectations of the stakeholders.

The focus of this project is the area near Hollywood Boulevard and Highland Avenue (Figure 2). On the northwest corner of that intersection is the Hollywood and Highland Center, built in 2001. The center includes more than 75 shops, the TCL Chinese Theatre (formerly Grauman's and Mann's), and the Dolby Theatre (formerly Kodak), which hosts the Academy Awards and previously the Cirque du Soleil show "Iris." The surrounding area is a hodgepodge of uses that fails to provide a satisfying Hollywood experience to visitors and, in fact, can be dangerous. On June 18, 2013, at 8:10 in the evening a visitor was stabbed to death by panhandlers at that intersection when she wouldn't give them a dollar after taking a picture with her cell phone.

THE ASSIGNMENT

The challenge is to produce a plan whereby an interested party with the necessary expertise and financial resources, such as Paramount or Universal, would develop the nearby area south of Hollywood Boulevard into a cohesive, safe, and attractive entertainment complex that would take advantage of and reinvigorate the Hollywood brand. A Hollywood-focused theme park in that area could include such attractions as museums devoted to Hollywood history, hands-on film-making, live Las Vegas-style entertainment, restaurants, rides, retail stores, theaters, and hotels. These attractions might not necessarily be confined within one contiguous area, and existing theaters and hotels could be incorporated into the plan.

Areas of research necessary to develop this plan would include such things as land costs, zoning, traffic, a survey of attitudes of various stakeholders, existing attractions in the area, the economic impact of movies to the area, trends in the number of visitors to local theme parks and the general southern California area, and how the locations of other attractions might affect and be affected by the proposal. Student groups are asked to conduct research in these areas and to prepare a marketing plan for the project. They must also estimate the cost of the project and provide a general plan for implementation and follow-up. As can be seen, the project requires a substantial amount of data collection and analysis.

Figure 2: Hollywood and Highland

Source: ***http://hollywood and highland.com***

INSTRUCTORS' NOTE

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CASE OBJECTIVES

Students undertaking this project will

1. Better understand and define market opportunities
2. Apply creativity and innovation in identifying possible strategies
3. Experience developing marketing 4P strategies for a real situation
4. Analyze alternatives and evaluate their potential results

An earlier version of this abstract was published in Proceedings of the 2013 Applied Business and Entrepreneurship Association International Conference (ABEAI), Honolulu, HI. November 16-20 2013

5. Develop control mechanisms to monitor and implement future necessary changes in their plans

IMPLEMENTATION AND RESULTS

This project has so far been assigned to two student groups in the basic undergraduate marketing course, which consists mainly of sophomores and juniors. Different student groups are assigned different topics for their projects. Students are given 5 weeks to work on the project, and it represents 20% of their course grade. They work closely with the professor throughout the process. The two groups that have worked on this project took the roles of two potential companies capable of undertaking such a development, Universal Studios and Paramount Pictures. Other companies, including the possibility of a foreign investor group, could also be assigned.

Student papers, and also their Powerpoint presentations, closely follow the Marketing Plan Outline in Figure 3. Figure 4 shows examples of student Powerpoint slides that address several of the topics in the Outline, taking the role of Universal Studios. These slides demonstrate the level of detail that students undertake; of course, their paper explains these points much more completely. In our experience so far, students really seem to enjoy the project and are willing to devote a great deal of time and effort to it. Their numerical results may not always be completely realistic, but for an introductory marketing course they get to experience some important marketing processes.

Figure 3
Marketing Plan Outline

1. Cover page (subject, authors, date)
2. Table of Contents
3. Executive Summary (1 page – explain the product/value, then summary of the plan)
4. What is our business? (the big picture) **Note: steps 4-9 require primary & secondary data

a. Mission/vision statement
b. Company background
c. Core competencies

Figure 3 (Cont.)
Marketing Plan Outline

5. Where are we now? (situation analysis – snapshot as of today)
   a. SWOT analysis (the overall company)
   b. Environmental scan and description of trends (social, including demographics and cultural effects; economic, micro and macro; technology; competitive; political; regulatory; and natural)
   c. Detailed description of plan objectives (financial and non-financial; related to the target product)
   d. Industry analysis/market needs (related to the target product)
   e. Buyer behavior (related to the target product)
   f. Competitor analysis (related to the target product)

6. Where do we want to go?
   a. Business portfolio analysis (market growth rate vs. market share; company's related products)
   b. Product-market analysis (current/new; product/market; company's related products)

7. How do we get there? **Note: step 7 requires FAB sheet(s)
   Marketing mix strategies (detailed 4P's plus Positioning; related to the target product)

8. Implementation (related to the target product)
   a. Resources required (estimate – HR, operations and production)
   b. Action/timing and who is responsible (Gantt chart)
   c. Estimated budget (required total $ for above required resources)
   d. Organization chart

9. Evaluation and control (related to the target product)
   a. What data to monitor (sales, growth rate, market share, profit, etc.)
   b. Frequency to check the results
   c. Marketing mix modifications required to achieve objectives

Figure 4: Examples of Powerpoint Slides (Universal Studios)

STRENGTHS

- Experienced in product and image development
- Experience in research and development
- Brand Equity
- Loyal Customers
- One of the "Big 6" in the industry
- Huge disposable income

WEAKNESSES

- Too much diversification
- Lack of influence in City of Hollywood
- Only 9.8% of theme park market share
- Competitor Cooperation
- Not as innovative as competitors
- Plummeting Advertising Sales

Figure 4 (Cont.): Examples of Powerpoint Slides (Universal Studios)

OPPORTUNITIES

- Growing demand for quality Hollywood tourism
- Increase travel
- Promote brand image
- Premium architects
- Revenues

THREATS

- Current stores
- Traffic Artery
- Competition
- Earthquakes
- Traffic Regulations
- Economic state
- Zoning laws
- High crime area

Figure 4 (Cont.): Examples of Powerpoint Slides (Universal Studios)

ENVIRONMENTAL SCAN

- Technological
  - Netflix, Hulu, Blockbuster and others
  - Ticket Purchasing
  - Interactive Visual Display Systems
  - Mobile Apps
  - Amusement Parks
- Competition
  - Disneyland, 14.7 million visitors a year
  - La Live
  - Six Flags
  - Knott's Berry Farm

ENVIRONMENTAL SCAN

- Regulatory
  - City of Los Angeles Environmental Quality Act
  - Regulations of LA Green Code
  - Mobility & Transportation initiatives
  - Zoning regulations and conditional use permits

Figure 4 (Cont.): Examples of Powerpoint Slides (Universal Studios)

Figure 4 (Cont.): Examples of Powerpoint Slides (Universal Studios)

FAB

Features	Advantages	Benefits
A single tangible location for the Hollywood Experience	Conveniently experiencing all Hollywood has to offer	Saves time and money
Entertainment options for all ages	Occupies all members of the family	Saves time and money
Improved safety of Hollywood	Safer feel for visitors	Saves time and money
Improved brand equity of Hollywood	Improved reputation of the entertainment industry	Saves time and money
Increase in tourism	Increase in revenues for businesses and taxes for the state	Saves time and money
Creation of Jobs	Increase economic state of California	Saves time and money

PRODUCT

- Museum
- Retail Stores
- Restaurants
- Architecture
- Nightlife
- Ticket Kiosks
- Movie Studios

Figure 4 (Cont.): Examples of Powerpoint Slides (Universal Studios)

PRICE

TICKET PACKAGES	General Admission	Senior Citizen	Children under 18	Children under 5
Elvis Presley Museum Access	$30	$20	$20	Free*
Audrey Hepburn Museum and Rides	$65	$50	$50	Free*
Marilyn Monroe Museum and Rides plus a tour of a Television Set plus Dinner	$150	$130	$130	Free*
Discounts Hollywood Hotel Discount for Museum Plus Rides	$10 discount on any package or 25% discount on the Marilyn Monroe Package	$10 discount on any package or 25% discount on the Marilyn Monroe Package	$10 discount on any package or 25% discount on the Marilyn Monroe Package	No Discount

PROMOTIONS

- Advertising
  - Commercials on television networks & online
  - Featured in TV shows
  - Out-of-home advertising
    - Busses, billboards, buildings

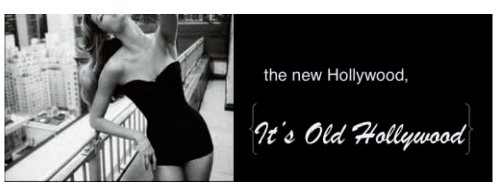
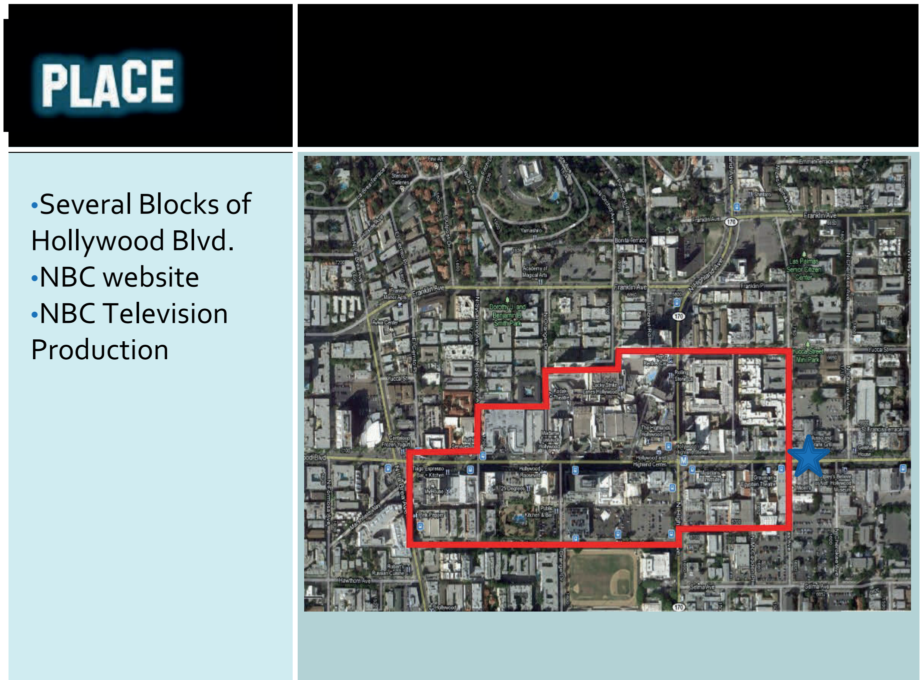


Figure 4 (Cont.): Examples of Powerpoint Slides (Universal Studios)



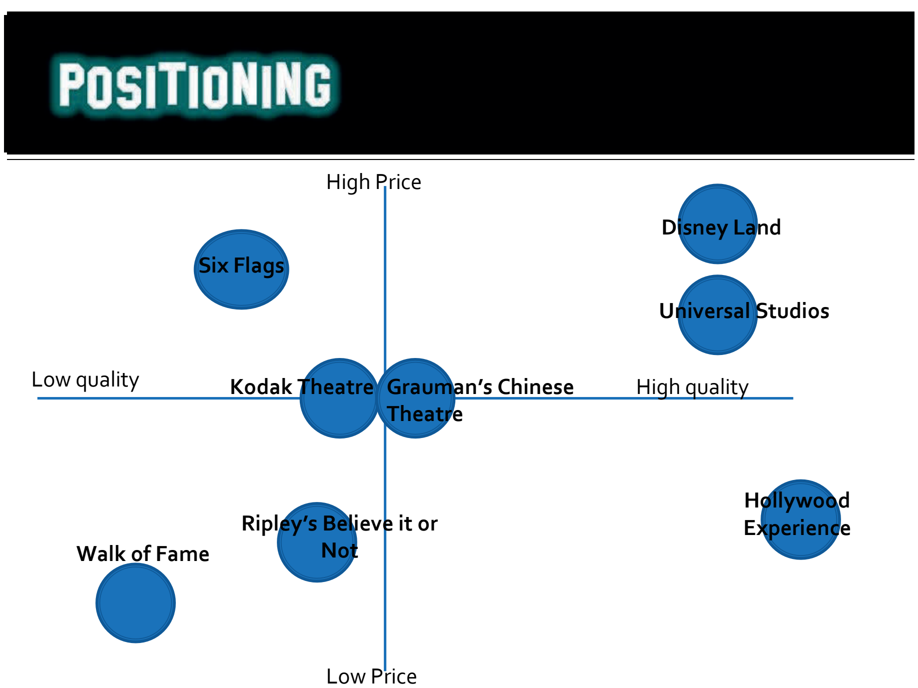


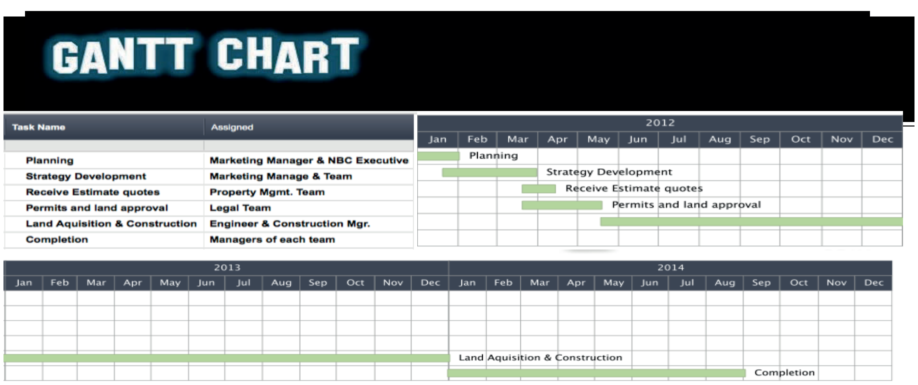
Figure 4 (Cont.): Examples of Powerpoint Slides (Universal Studios)

IMPLEMENTATION BUDGET

Estimate Budget & Resources Required:

Land acquisition	$300 million
Hard costs (physical construction)	$525 million
Soft costs*	$550 million
Road construction	$7 million
Bonds from the city of Los Angeles	($400 million)
Total Estimate Budget	$1.378 billion

*Design & architectural fees, legal fees, furnishings, engineering, site clearing, advertising, insurance...etc. Also included in soft costs are our Human Resources. Primary costs are for engineers, architects, and managers of various departments.



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MEXICAN SMALL BUSINESS OWNERS AND ENTREPRENEURS: WHO ARE THEY, WHAT MOTIVATES THEM AND WHAT CHALLENGES DO THEY FACE?

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ABSTRACT

Small business owners and entrepreneurs are financial catalyst for most countries throughout the world. Free enterprise is a baffling challenge for all nations, but especially for nation riddled with corruption, and a noticeable gap between poor and wealthy citizens, as evident in Mexico. Mexican entrepreneurs struggle with abundant obstacles when running their business, such as gaining electricity, registering property, paying taxes, and enforcing or regulating their business contracts. Many business owners assert that bribery is commonplace, and that government red-tape makes it challenging to run businesses efficiently. The purpose of this study is to examine small business and entrepreneurship in Mexico. The aim is to understand how Mexican small business owners operate and to investigate the challenges they face. The study investigates 64 Mexican small business owners and entrepreneurs. Similarities on how entrepreneurs fund their ventures are reported, motivations for starting businesses are discussed and obstacles that business owners face are addressed. Results from the study signify that the majority of Mexican entrepreneurs rely on equity funding compared to debt funding when starting their ventures. Moreover, Mexican small business owners rely primarily on personal savings and cash to fund their start-ups, while utilizing family and friends for funding as secondary. In addition, few Mexican business owners and entrepreneurs use bank loans to finance their businesses. The primary motive for a Mexican entrepreneur to start a venture is financial independence, with few citing personal freedom or pursuit of dreams as drivers. In the early start-up days, entrepreneurs in Mexico bootstrap their ventures and provide services, rather than develop new products. The study highlights similarities and differences between entrepreneur in Mexico, America and other nations.

Key Words: entrepreneurs, international entrepreneurs, entrepreneurship, Mexican entrepreneurs, global entrepreneurs, small business owners in Mexico, Mexican small business owners

INTRODUCTION

Entrepreneurship is a financial catalyst for most nations in the world. As a result of globalization, most economies encourage and foster entrepreneurship (Zahra, Haylon, Marcel and O'Neill, 2010) in order to help sustain and drive their economy forward for generations (Schumpeter, 1934; Azizi, Hosseini, Hosseini and Mirdamadi, 2010).

Through the years, entrepreneurship has become an essential subject matter, a viable career

(Zahra and Dess, 2001; Radojevich-Kelley, 2011) and substantial research is dedicated to entrepreneurial behavior and the economic implications of entrepreneurship worldwide (Zahra and Dess, 2001; Radojevich-Kelley, 2011; Radojevich-Kelley, 2011; Sonfield and Lussier, 2009). Many developed nations, under-developed nations and emerging nations are continuously examined from an entrepreneurship perspective to identify the level of support a nation provides, the motivations for starting businesses and the economic impact that start-up owners and small business owners have on their nation (Radojevich-Kelley, 2011).

Free enterprise is a baffling challenge for all nations, but it is especially difficult when a nation is riddled with corruption, poverty and has a noticeable gap between poor and wealthy citizens, as evident in countries like Mexico, Russia or Brazil. According to the World Bank's Doing Business Abroad Report (2013), Mexican entrepreneurs struggle with abundant obstacles when trying to start their business, such as gaining electricity, registering property, paying taxes, and enforcing or regulating their business contracts.

The intent of this study is to explore small business and entrepreneurship in Mexico. Specifically, the purpose of the study is to examine private enterprise; identifying commonalities in funding, motivation, obstacles and challenges that Mexican entrepreneurs face when conducting and starting business. The hope is to learn more about entrepreneurship in the nation and their motives for creating new ventures.

It is important to note that entrepreneurship has been a slow process over the last 20 years and is a relatively new phenomenon for most Mexican citizens. As a nation, Mexico has a long history of widespread corruption which inhibits the economic growth and entrepreneurial potential of the nation (Kelesidou, 2013). For decades, Mexican citizens faced periods of oppression, revolution, execution, drug wars; resulting in decades of fear that stifled society and separated the wealthy from the poor. Mexican leaders seemed either unable or unwilling to control the oligarchs and unions that dominated key sectors of the economy and inhibited free enterprise (Malkin, 2009). This in turn restrained innovation and creativity among Mexican citizens and entrepreneurship lagged for years throughout the nation.

With the integration of NAFTA (North American Free Trade Agreement) in 1994 and the reduction of trade barriers between USA, Canada and Mexico many Mexican business owners tried to take advantage of the new trade agreement. However, most Mexican entrepreneurs found that they simply lacked the skills and education to take advantage of the benefits of NAFTA and found themselves crushed by large American companies who out-competed, out-produced and out-priced them (Malkin, 2009). More than 18 years after NAFTA, it is important to note that Mexico exports half a million Mexican citizens each year who seek opportunities in the USA because they are non-existent in Mexico (Malkin, 2009).

However, it is important to note, more recently and over the past few years several reforms and government sponsored initiatives have occurred to encourage entrepreneurship in Mexico. The MUSEIC (Mexico and United States Entrepreneurship and Innovation Council) announced their commitment to foster economic growth, innovation, to encourage entrepreneurship, promote women entrepreneurs, promote high-impact entrepreneurship and build a stronger entrepreneurship community in Mexico. According to the Bureau of Economic and Business Affairs Annual Report on MUSEIC (2013), the council sponsored several entrepreneurial-related activities, such as hosting entrepreneurship conferences, sponsoring a venture capital forum, creating a start-up boot camp and they developed public policies to promote entrepreneurship. In addition, many Mexico government reforms have taken place, such as tax reforms, increasing tax collection emphasis and increasing Value Added Tax (IMF Country report, 2013). These reforms are underway in the hopes of aiding and stimulating the economy (IMF Country Report, 2013)

Through the years Mexico's economic climate has contracted and improved (US Commercial Services, Department of Commerce, 2013); however, significant obstacles remain today (IMF Country Report, 2013). Even with the onset of many government sponsored initiatives (Bureau of Economic and Business Affairs, 2013), Mexican citizens must study entrepreneurship, investigating various methods to fund their start-ups, and gain confidence to create businesses in an economy that has long been corrupted (Kelesidou, 2013).

With the above in mind, the intent of this study is to uncover what entrepreneurship is like in Mexico. Questions addressed in this study are as follows: 1) How do entrepreneurs in Mexico fund their new ventures? 2) Are new ventures and small businesses in Mexico service oriented or product driven? 3) What motivates a Mexican entrepreneur to pursue a new venture opportunity? 4) What challenges or obstacles do Mexican small business owners/entrepreneurs face? 5) Are Mexican small business owners and entrepreneurs similar to American business owners/entrepreneurs? The research study focuses on finding answers about small business owners and entrepreneurs in Mexico. This study is essential because it will assist foreign investors, venture capitalists, angel investors, researchers, and business owners understand what Mexican small business owners and entrepreneurs are doing, what motivates them, how they fund their ventures, what types of companies they have and what challenges they are facing in the economy. In addition, it provides a better understanding of the kind of activities occurring across national borders.

The hope is to recognize the impact of entrepreneurship in Mexico and gain a deeper understanding of Mexican entrepreneurs compared to other countries. For the purpose of this study, entrepreneurship is defined as the pursuit of opportunity beyond the resources that a business owner controls and their desire to pursue and exploit these opportunities (Eisenmann, 2013; Stevenson and

Jarillo, 1990; Roberts *et al*., 2007; Shane, Edwin, and Collins, 2003).

An earlier version of this study was presented at the 2013 Applied Business and Entrepreneurship Association International Conference (ABEAI), Oahu, HI., November 16-20, 2013.

Motivation and reason for entrepreneurship:

After a lengthy review of literature, it is evident that human motivation plays a momentous role in new venture creation (Shane, Edwin, and Collins, 2003). Research cites that reasons people pursue new ventures depends on their opportunity risk (Shane, Edwin, and Collins, 2003; Amit, Meuller, & Cockburn, 1995), the amount of capital readily accessible (Shane, Edwin, and Collins, 2003; Evans & Leighton, 1989), their ability to find investors (Shane, Edwin, and Collins, 2003), and their overall career experience and personal networks (Shane, Edwin, and Collins, 2003; Carroll & Mosakowski, 1987). According to Allen (2009), the most cited reason for becoming an entrepreneur is for personal freedom, autonomy and to pursuing your own passions, (Buchanan, 2013; Bhat and McCline, 2005; Shane, 1993; Barringer and Ireland, 2010). In addition, new venture owners mention being your own boss and personal longing as reasons to create businesses (Barringer and Ireland, 2010). According to Bhat and McCline (2005), most citizens become entrepreneurs predominately to create something new, for autonomy, for increased wealth, for financial independence and to achieve personal desires.

Funding the start-up:

Regardless of what country, the vast majority of new venture owners have difficulty securing capital in today's economy using traditional sources, such as bank loans, largely because of team inexperience (Burnsed, 2008), or a lack of collateral (Barringer and Ireland, 2010). In addition, the Great Recession of 2008 made it even more challenging for entrepreneurs in America to qualify for traditional bank loans or obtain start-up funding because stricter requirements were set at the financial institution levels (Radojevich-Kelley, Hoffman and Black, 2013; Isadore, 2008). As a result, entrepreneurs must search for both traditional and non-traditional funding methods to launch their ventures.

When looking at American entrepreneurs, common methods used to raise new venture funding range from utilizing personal savings to using retirement plans or accounts, such as 401K or IRA accounts (Burnsed, 2008). In addition, entrepreneurs borrow money from family or friends, obtain bank loans, use angel investor groups, seek out venture capitalist, utilize accelerator programs, go to the Small Business Administration for micro-loans, use credit cards (Hisrich, Peters and Shepherd, 2010), and employ crowd funding or peer-to-peer lending to jump start their businesses.

In contrast to America and in an economy like Mexico, the traditional methods of funding businesses are often unavailable because of restricted access (Barnett, 2013); thus creating even harsher barriers for start-ups in the country. In addition, non-traditional methods of funding start-ups, such as peer-to-peer lending or crowd funding, is just emerging in Mexico (Barnett, 2013) and is rare. In fact, nearly 80% of Mexican entrepreneurs complain that grass-root capital is unavailable, thus forcing them to rely on personal savings or traditional bootstrap methods, family or friend loans or supplier line of credit financing (Barnett, 2013).

From a global perspective, there is concern that few citizens will attempt entrepreneurship due to their inability to obtain start-up capital; thus contracting entrepreneurship on a global scale (Barnett, 2005; Brainard and LaFleur, 2005).

Mexico country data:

According to the World Bank (2013), Mexico's population size is nearly 121 million people; it has a GDP of nearly $1.18 trillion, a GDP growth rate of 3.8%, and an inflation rate of 4%. The per capita income is nearly $ 9,600, the life expectancy of the average Mexican citizen is at 77 years of age, the poverty rate is reported at 52%, and the unemployment rate is 5% (World Bank, 2013). Unfortunately since 2005, the poverty rate has slowly increased from 47% to nearly 52.5%; thus half of the population is living at the official national poverty level (World Bank, 2013). Since the 1980's, the Mexican economy has struggled with deepening and serious poverty (Villarreal, 2010). Approximately 45% of the Mexico population earns less than 10$ USD per day (Villarreal, 2010).

In 1994, the USA, Mexico and Canada signed NAFTA (North American Free Trade Agreement) reducing trade barriers and taxes among the three neighboring nations. As a result of the free trade agreement, Mexico became the USA's largest trading partner (Villarreal, 2010). According to the US Commercial Services, Department of Commerce and Doing Business in Mexico report (2013), Mexico is America's 3rd largest trade partner and 2nd largest export market for American products and services. If we compare trade from 1993 thru 2012, the US- Mexico bilateral agreement increased trade from $ 88 billion in 1993, to $ 494 billion in 2012 (Doing Business in Mexico Report, 2013). This increase is greater than a 450% percent increase which resulted from the agreement and increased trade in the nations. According to the US Census Bureau, in 2013 Mexico exported goods to America totaling $ 226 billion dollars' worth of products and imported $ 280 billion dollars' worth of products (census.gov). In 2012, America had a trade deficit on goods with Mexico worth $61 billion and a trade surplus on services worth $ 11 billion in 2011 (Office of the United States Trade Representative, 2012).

In addition to the USA, Mexico's major trading partners are Canada, China, Colombia, Brazil and Germany (Observatory of Economic Complexity, 2013). Mexico is the top exporter of beer, exotic fruit, melon peels, tomatoes and silver (Observatory of Economic Complexity, 2013). In addition, Mexico is known for exporting petroleum (14%), vehicles (8%), computer monitors and projectors (5%), car parts (4%) and delivery vehicles (4%) (Observatory of Economic Complexity, 2013).

The International Monetary Fund World Economic Outlook Report (2013), indicates that Mexico made encouraging steps with various reforms, such as mobilizing tax revenue to manage oil wealth, and reducing the public's dependence on oil revenue (IMF World Economic Outlook Report, 2013). However, there is concern that the country is still plagued by poverty, widespread corruption, increased health and pension demands and social inequalities throughout the nation (www.imf.org). For more information and a comparison of economic indicators between Mexico, the USA and other Latin American nations please see Table 1.

Table 1: Latin American Country data (Mexico, Other Latin American countries and USA) (estimates)

Country 2012)	Population (Million) (The World Bank, 2012) (The World Bank, 2003)	Gross domestic product (Current US$)	GNI (per Capita) (Current US$ Atlas Method) (The World Bank, 2012)	GNI Per Capita, PPP (The World Bank,
Mexico	120.8	$ 1.178 trill	$ 9,640	$ 10,400
Peru	29.9	$ 203.8 bill	$ 6,060	$ 5,270
Brazil	198.6	$ 2.253 trill	$ 11,630	$ 7,290
Equador	15.5	$ 84.94 bill	$ 5,170	$ 5,840
Argentina	41.1	$ 475.5 bill	$ 5,170	$ 8,210
Colombia	47.7	$ 369.6 bill	$ 7,020	$ 6,190
USA	313.9	$ 16.24 trill	$ 52,340	$ 39,960

The World Bank http://data.worldbank.org/indicator/NY.GDP.MKTP.CD The World Bank Group http://search.worldbank.org/data?qterm=Argentina&language=EN&format=html and http://data.worldbank.org/region/LAC?display=graph

MATERIALS AND METHODS

Research design:

For the purpose of this study, the author utilized a quantitative survey research design. Data was collected using a previously developed instrument from a published study by the current author. The survey was created first in English, then translated to Spanish, then pre-tested and translated back to

English for accuracy. A total of four individuals from Mexico took the pre-test survey. The pre-test resulted in adjustments to various questions and to the instruction page on the instrument. The survey, a cover letter and an instruction page were dispersed together to ensure that respondents understood the purpose of the study. The intent of the study was to obtain descriptive and general information about entrepreneurs and small business owners in Mexico.

Sample:

For the purpose of this study, Mexico was selected as the nation for data collection. Mexico was chosen because many citizens are seeking to create and grow businesses in the region. In addition, new reforms have been made to help encourage small business development. Data was collected in Oaxaca, Chiapas and Mexico City. The sample included Mexican business owners that completed the questionnaire either in person, or electronically. The survey was hand-delivered or electronically dispersed to participants throughout the study. The sample was a random, convenience sample. There were a total of 90 emailed or hand-delivered surveys to business owners, resulting in 64 useable questionnaires. The response rate was 71.1%. According to Dennis (2003), this response rate is adequate given the sample size. In fact, the response rate for this study is much higher than the norm. Researchers claim that nearly thirty percent of articles published in top business and entrepreneurship journals have response rates of 25% or less (Dennis, 2003). Since the response rate for this study was 71.1%, the study exceeds the response rate averages and standards in the field.

Measures and analysis:

The author utilized a combination of open ended and close-ended questions on the survey. The open and close ended questions provided participants with the opportunity to select from pre-existing multiple choice questions, dichotomous answers and to elaborate on answers where needed or desired. Participants were encouraged to expand on their ideas, opinions and thoughts to ensure that the researcher understood the answers clearly. Descriptive statistics were calculated and results were reported for the purpose of this study.

RESULTS

Descriptive statistics:

As evident in Table 2, 36% of participants established their small businesses between the years 2000 and 2009. A small percentage of businesses were formed between 2010 and present (7%), while 33% started their ventures between the years 1965 and 1989. See Table 2 for a summary of descriptive statistics.

Table 2: Descriptive Statistics- Mexico Start-Up Activity

Decade/ year of business Inception-date	Sample (N = 64)	Percentage (%)
1965-1989	21	33
1990-1999	13	20
2000-2009	23	36
2010-2019…	7-so far	11
Skipped	0	

Table 3: Venture Funding Results (Close-ended questions)

Variable	% (N= 64)
Product producing business	39%
Service oriented	61%
Skipped Question	0%
Financing in last 5 years	
Debt	25.5%%
Equity	74.5%
Skipped Question	1%
Funding in last 5 years	
Bank Loan	12.5%
Borrow from family	28.1%
Borrow from friends	0%
Credit card	0%
Personal resources (savings, bootstrap)	53.1%
Other (Micro loan, angel investor)	6.3%
Skipped question	0%
Funding at start-up	
Bank loan	1.6%
Borrow from family	40.6%

Borrow from friends	1.6%
Credit card	0%
Personal resources (savings, bootstrap)	50%
Other (Micro loan, angel investor)	6.2%
Skipped question	0%

Equity versus debt results:

Results from Table 3 indicate that the majority of Mexican small businesses in the study are service based (61%), rather than product producing at nearly 39%. Almost 75% of business owners utilized equity funding, compared to debt funding (25%) to finance their ventures over the past five years. When entrepreneurs used debt funding, it was in the form of bank loans and credit card debt. According to the sample, very few Mexican entrepreneurs and small business owners used bank loans over the last five years (12.5%) or at start-up (1.6%). Most Mexico small business owners used traditional bootstrap methods or low-cost innovative methods in the last five years (53.1%) and at start-up (50%). After bootstrapping, Mexican business owners tended to borrow from family at (28.1%) in the last five years, compared to 40.6% at start-up. Bank loans (1.6%), borrowing from friends (1.6%) and using micro-loans or angels investors (6.2%) were uncommon for Mexican entrepreneurs at the start-up stages. Interestingly enough, no Mexican business owners used credit card debt (0%) to start their venture or to fund it over the past five years. In other words, at start-up the vast majority of entrepreneurs in Mexico bootstrapped and borrowed from family to get their business off the ground. In addition, as the venture grew and expanded, the majority of business owners continued to rely on bootstrapping (53.1%) and borrowing from family (28.1%), with a few participants using bank loans (12.5%) or other sources, such as micro loans (6.3%) to expand and grow. See Table 3 for a summary.

Motivation for starting a business:

According to the results, almost 64% of Mexican respondents claimed their primary motivation or reason for going into business was for financial independence, while realize their dreams (18.7%) and personal independence (17.2%) ranked lower. Nearly 94% of respondents said it was worthwhile to own a business, while 6% thought own a business was not worth it. See Table 4 for a summary.

Legal ownership structure results:

As apparent in Table 5, nearly 67% of the owners from Mexico were classified as sole proprietors at 67.2%, while 17% were classified as "other" corporations, 9.4% were limited liabilities companies and and 6% were partnerships. See Table 5 for a summary.

Benefit and value of owning a business:

The majority of participants cited that the greatest benefit of owning a business is financial prosperity, having higher discretionary income, being able to support the family and achieving basic financial and economic freedom (57.5%). Personal independence and freedom were the second most advantageous reason for owning a venture. Mexican business owners reported that having the ability to set their own hours, set the days of the week and not having a boss tell them what to do were great benefits at 33.6%, while realizing you own dreams was rated last at only 8.9%. Please see Table 6 for information.

Hardest thing about starting a business in Mexico:

According to the study, the hardest thing about starting a business in Mexico was getting funding (30%), creating the products/services (23%), getting clients/finding work (17%) and hiring employees (6%). Please see Table 7 for information.

Challenges with owning a business in Mexico:

The vast majority of respondents reported that the greatest obstacle with running a business in Mexico was bureaucracy, an inefficient government, corruption, bribery and excessive permit delays

(58%), and 30% cited that a lack of funding made it difficult to run or expand their ventures. Minor challenges were reported with competition, finding a market, and finding a location at 3% each. See Table 8 for more details.

Table 4: Motivation for starting a venture

Variable	% (N =64)
Motivation for creating business	
Financial independence	64.1%
Personal freedom	17.2%
Create/realize your own idea	18.7%
Skipped	0
Would you do it again?	
Yes	93.8%
No	6.2%
Skipped question	0

Table 5: Legal Ownership Structure Results

Variable	%(N=64)
Ownership structure	
Sole proprietorship	67.2%
Partnership	6.3%
Limited Liability Corp	9.4%
Other corporations	17.1%
Skipped	0

Table 6: Value of owning a venture (open ended survey questions)

Open ended questions/ categories built from commonalties	% (N=64)
Benefits of being in business for Yourself?	
Satisfaction and pleasure of realizing your dream	8.9%
Personal freedom / independence to make own choices	33.6%
Financial Gain/financial prosperity	57.5%

Table 7: Hardest part of starting a venture on Mexico

Variables	n/%(Total N= 64)
Hardest thing about starting a business in Mexico?	
Finding Location	2/3%
Getting idea/creating product or service	15/23%
Hiring People	4/6%
Getting Clients/finding work/first sale	11/17%
Getting Funding/Using Funding	19/30%
Everything was hard	5/8%
Other (filing out paperwork, no experience)	8/13%

Table 8: Challenges with owning a business in Mexico

Variables	n/%(Total N= 64)
Biggest obstacles and challenges with starting a business in Peru?	
In-effective government/ Permit Delays/Corruption	37/58%
Funding/lack of capital	19/30%
Competition	2/3%
Finding market	2/3%
Finding location	2/3%
Other (personal schedules, being foreign)	2/3%

Doing Business Abroad Rankings and Comparisons:

According to the World Bank Doing Business Abroad Report (2013), Mexico was ranked 53 out of 189 nations as far as ease of doing business. Mexico was ranked 48 out of 189 nations for starting a business. Mexico has 6 procedures which entrepreneurs must complete to register their venture, and costs 19.7% of their per capita income (World Bank Report, 2013). The country ranked 133 out of 189 nations for getting electricity. It takes approximately 133 days and costs 369% of the per capital income to receive electricity (World Bank Report, 2013). Mexico was ranked 42 out of 189 nations for getting credit. See Table 9 for a breakdown and comparison to other nations.

Table 9: Comparison of Mexico to other nations

Country	Overall Ease of Doing Business	Starting Bus	Get Electricity	Get Credit
Singapore	1	3	6	3
New Zealand	3	2	45	3
USA	4	20	13	3
Chile	34	22	43	55
Peru	42	63	79	28
Colombia	43	79	101	73
Mexico	53	48	133	42
Brazil	116	123	14	109
Argentina	126	164	80	73
Ecuador	135	176	64	86
GEM Country Data	Necessity Entrepreneurship	TEA	Fear of Failure	Ent. Intent
USA	21%	12.7%	31%	
	12.2%			
Mexico	7%	14.8%	32%	
	16.9%			
Peru	22%	23.4%	26%	
	33.9%			
Brazil	29%	17.3%	39%	
	27.2%			
Colombia	18%	23.7%	32%	
	54.5%			
Argentina	30%	15.9%	25%	31%

Reference: http://doingbusiness.org/rankings World Bank Report June, 2013 and GEM 2013 at http://www.gemconsortium.org/key-indicato

GEM: GLOBAL ENTREPRENEURSHIP MONITOR DATA

According to a study conducted by the Global Entrepreneurship Monitor (2013), 7% of Mexican citizens start a business due to necessity because they have no other choice for work, compared to 29% in Brazil, 21% in the USA and 30% in Argentina (www.gemconsortium.org). The Total Entrepreneurship Activity (TEA) assesses the percentages of nascent entrepreneurs or managers of new businesses in a given country. The TEA for Mexico is 14.8%, compared to USA 12.7%, Peru 23.4%, Colombia 23.7% and Brazil at 17.3%. For some citizens, fear of failure inhibits them from starting new ventures. In Mexico 32% claimed that fear of failure prevents them from starting a business, compared to 31% in America, 39% in Brazil, 25% in Argentina and 32% in Colombia. Lastly, 16% of Mexico citizens intend to start a venture in the next 3 years, compared to almost 40%

in Peru, 12% in America, 27% in Brazil, and 54% in Colombia. Please see Table 9 for more information and national comparisons.

DISCUSSION

According to the study, nearly 60% of Mexico entrepreneurs felt that the greatest challenges for business owners were government corruption, excessive red-tape, government inefficiency and bureaucracy. Nearly 88% of respondents mentioned bribery, excessive stalling and delays on permits, poor government administration, and poor capabilities to secure funding as major sources of frustration for entrepreneurs in Mexico. Other obstacles or hurdles that business owners reported were increased competition from other businesses (3%), frustration with securing a good location (3%), and frustration with finding customers (3%). For many businesses (30%), the inability to secure a loan and the overarching lack of monetary support in the nation inhibits starting a business in Mexico.

According to study results, nearly 94% of respondents felt that owning a business was worthwhile and rewarding. Participants explained that the greatest benefit (nearly 60%) of owning a business was financial prosperity, while one third argued that personal freedom and independence were just as important. These results are encouraging considering nearly 65% of Mexican business owners claimed to have gone into business to gain financial independence, compared with 17% who went into business for personal freedom.

More than half of the respondents funded their Mexico start-ups through bootstrapping, while 40% borrowed from family members. It is important to note that very few nascent owners obtained from loans from a bank (1.6%) or used credit cards to launch their ventures (0%).

The data suggests that equity funding is more prevalent among participants at nearly two-thirds or 75%. This supports the notion that credit cards and bank loans are either not readily accepted in the culture or not accessible to the majority of entrepreneurs in the nation. According to study results, Mexico entrepreneurs use personal savings and low cost bootstrap methods to launch their business, instead of credit card debt or bank loans. This is in contrast to American entrepreneurs who rely on a combination of bootstrapping and debt funding through credit card debt to launch their new ventures (Weitekamp and Pruitt, 2009).

This study supports the concept that start-up funding is difficult to obtain as an entrepreneur and in fact, is one of the greatest obstacles reported by the entrepreneurs in Mexico. Without proper funding, entrepreneurs are incapable to starting businesses, or pursuing innovations because they must rely on personal savings or family members to help them launch. If an entrepreneur has no resources, then they cannot move forward.

In addition to the above, this study supports various findings from the World Bank pertaining to Mexico entrepreneurs. According to the World Bank Mexico Country Profile Report (2010), entrepreneurs reported their top 6 constraints or obstacles for starting ventures in Mexico as follows: access to funding, corruption/bribery, crime/theft/disorder, government regulation burdens/red tape and problems or delays getting licenses and permits. These constraints are supported by the entrepreneurs in this study. In addition, the World Bank Mexico Country Profile Report (2010) reported that bribery and gift giving was in fact expected to help facilitate licenses and permits. In this study, the same finding resulted with several entrepreneurs. Participants complained of frustrations with similar bribery/gift-giving problems when trying to secure operating licenses, construction permits, import licenses, etc. Furthermore, study participants complained about needing to bribe individuals directly in order to secure government contracts and in meetings with tax inspectors.

The significance of this study is to add to the body of knowledge on Mexican entrepreneurs and small business owners. In addition, it supports many of the findings from World Bank reports. The intent of the study is to examine how Mexican entrepreneurs fund their ventures, to uncover their motives, and to identify the obstacles they face. Entrepreneurship is a growing field of study not only in America, but in every nation in the world. Further research can help academics, investors and future entrepreneurs recognize what entrepreneurship is like in a given country, what challenges are most common and what to expect.

The findings from this study may be used to compare other nations similar to Mexico to uncover similarities and variances between nations.

Limitations and Future Study:

The study is limited to a small sample of Mexico entrepreneurs located in Oaxaca, Tapachula (Chiapas) and Mexico City. A suggestion for future study is to obtain a greater sample size to confirm current results and to allow for generalization. Results from this study should not be generalized to the entire population of entrepreneurs in Mexico because the sample size is too small.

CONCLUSION

According to the study, Mexico entrepreneurs create ventures for financial prosperity and monetary rewards. Americans tend to create businesses for personal freedom (Allen, 2009). Mexico venture owners fund their start-ups through bootstrapping and by borrowing from family members. In addition as their venture grows, most Mexican entrepreneurs continue to finance their business through bootstrapping methods. Mexico entrepreneurs predominantly fund their start-ups through equity.

Furthermore, Mexico small business owners report their greatest challenges are related to government corruption, delayed and burdensome permit approvals, bribery, and a lack of funding capability.

It is important to note that there are a number of studies conducted in Mexico and translated in English. In addition, GEM and the World Bank conduct yearly studies on the entrepreneurship climate for the nation, which may be compared to the findings in this study.

More research is needed on entrepreneurship in Latin American countries. Specifically, studies should examine women and entrepreneurship, or non-traditional methods of funding, such as crowd-funding or peer-to-peer lending. It would be interesting to analyze the impact of non-traditional modern methods of funding on new ventures in Latin American nations. In addition, more research is needed to examine and analyze the corruption facing small businesses on a continual basis and how it deters the entrepreneurship climate in the nation. Lastly, more studies are needed to compare other Latin American or similar economies with cross-country comparisons to benefit researchers, business owners and foreign investors.

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MORE THAN A POSITION: INVESTIGATING THE BACKGROUNDS, EXPERIENCES AND LEADERSHIP STYLES OF PROMINENT CHIEF EXECUTIVES

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ABSTRACT

Leaders are much more than their singular CEO positions. Leaders of major corporations have diverse backgrounds and experiences that collectively influence their leadership styles. The leadership styles of three prominent leaders are investigated in this article. Their styles are analyzed and the leaders are positioned within the Blake and Mouton and Hershey-Blanchard models. Finally, information on their change management activities and other critical events are used to determine and slot these executives into one of four leadership influencing styles ranging from transformational, transactional, charismatic, and coalitional leadership.

INTRODUCTION

Leadership is one of the most important aspects of organizational success, performance, growth, and effectiveness. Its importance is vastly underestimated. Hogan and Kaiser (2005) indicate that leadership is real, significant and perhaps the single most important issue in the human sciences. Three top leaders manifest their leadership styles as they direct the most formidable global companies headquartered in the USA. They are Robert "Bob" A. Iger, Chairman and CEO of The Walt Disney Company; James "Jamie" Dimon, Chairman, CEO and President of JP Morgan Chase & Company; and Rex W. Tillerson, Chairman and CEO of ExxonMobil Company.

ExxonMobil is the world's largest publicly traded international oil and gas company; and the world's largest refiner and marketer of petroleum products, with operations on six continents.[1] Tillerson has led Exxon as CEO since 2006. He steered the company to $44.9 billion in profits in 2012 and as of 2013 it held the No. 2 spot on the Fortune 500 list and No. 5 among the companies

[1] The ExxonMobil website: http://corporate.exxonmobil.com/en/company/about-us.

on the Forbes Global 2000.[2] JPM Chase is a leader in investment banking, financial services for consumers, small business and commercial banking, financial transaction processing, asset management and private equity.[3] Dimon has been the Chairman, CEO and President of JP Morgan Chase & Company since 2006. Despite some huge mishaps in 2013, JP Morgan Chase recorded an impressive 12% increase in profits to $21.3 billion with a strong investment banking performance and increased fees for mergers and acquisitions, and debt and equity underwriting. JP Morgan Chase is No. 18 on the 2013 Fortune 500 list and No. 3 on the Global 2000 list as of May 2013 ahead of GE (No. 4) and Exxon (No. 5).

The Walt Disney Company, with its subsidiaries and affiliates, is a leading diversified international family entertainment and media enterprise. Its business segments include media networks, parks and resorts, studio entertainment, consumer products and interactive media. [4] Robert A. Iger has been at the helm of Disney as its CEO since 2005. The company ranks No. 66 on the Fortune 500 list and No. 106 on the Global 2000.

BACKGROUND AND EXPERIENCES

This section focuses on some of the background and experiences of the three CEOs. Guthrie & Datta (1997), using a sample of 214 CEOs, found an association between firm characteristics such as performance and CEO individual attributes such as experience and background. Moreover, Hogan, Curphy and Hogan (1994) and Hogan and Kaiser (2005) maintain that a leader's personality will dictate his/her leadership style, and therefore eventually impact, if not determine, organizational performance.

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[2] All ranks are from the Fortune 500 (2013) at http://money.cnn.com/magazines/fortune/fortune500/ and the Global 2000 at http://www.forbes.com/global2000/ lists.
[3] The JP Morgan Chase website: http://www.jpmorganchase.com/corporate/About-JPMC/about-us.
[4] The Walt Disney Company website: http://thewaltdisneycompany.com/about-disney/company-overview.

Rex Tillerson was born March 2, 1952 in Wichita Falls, Texas. His father was an executive with the Boy Scouts of America (BSA) and Rex was the ultimate Boy Scout, being awarded the rank of Eagle Scout in 1965 (Shimkus, 2011). He's quoted as saying, "I think the highlight of my youth and adolescent years were my achievements in Scouting" (Boy Scouts of America, 2009). Tillerson comes from a long legacy of volunteerism, holding leadership roles in the United Negro College Fund (UNCF) as former director and the Boy Scouts to name only two. In 2009 Tillerson was inducted into the Eagle Scout Hall of Fame; and during his national presidency in 2010, Tillerson earned the Silver Buffalo award, as did William "Bill" H. Gates III, former chairman and CEO of Microsoft Corporation. This award is bestowed to scouts who display noteworthy and exemplary service (Wendell, 2010).

> "To abandon the standards [K-12 Core Curriculum] is to endanger America's ability to create the technologies that change the world for the better."
>
> Rex Tillerson
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> ________
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> Source: Howard, Caroline (2013). The World's Most Powerful People. Forbes Magazine, October 30, 2013. Retrieved from: http://www.forbes.com/powerful-people/.

After completing his bachelor's degree is civil engineering from the University of Texas at Austin, Rex Tillerson dedicated his career life to the energy business at Exxon. His path to CEO at Exxon began as a production engineer in 1975. After rising up the ranks in 1995 he was named president of Exxon Yemen Inc. and Esso Exploration and Production Khorat Inc. (Thailand). In January 1998, he became vice president of Exxon Ventures (CIS) Inc. and president of Exxon Neftegas Ltd (Russia). These roles expanded his responsibility in Asia and with regard to Exxon's holdings in Russia and the Caspian Sea as well as the Sakhalin-I consortium operations offshore Sakhalin Island, Russia. When Exxon and Mobil merged, he became Executive Vice President of ExxonMobil Development Company. His expertise in science and technology quickly propelled him up the corporate ladder.

After nearly 31 years, 1975 to 2006, he became the Chairman and CEO of ExxonMobil.[5]

After taking over the company, Tillerson scored two major coups, gaining access to the world's fourth-largest oil field, in the United Arab Emirates, and prevailing in a five-year-old dispute over the development of Indonesia's largest untapped oil reserves. In both cases, Tillerson met with national leaders to break deadlocked talks and to make a final pitch for his company (Mouawad, 2006). He also led ExxonMobil in 2009 in its $41 billion purchase of Houston-based XTO Energy. This was Exxon's biggest business deal in 10 years, and it sparked massive concern within the industry. Through this deal, Tillerson wagered that the new dominant form of energy to power electricity would be natural gas. While many in the industry thought Exxon had overpaid for the XTO acquisition, Tillerson saw the purchase as strategically beneficial (Gonzalez and Gold, 2010)

Bob Iger was born in Oceanside, New York on February 10, 1951 to Arthur and Mimi Iger. His mother worked at a boarding school and his father had a career in the marketing. His mother retired as a teaching assistant in the library media center at Boardman Junior High School in Oceanside and His father retired as the executive vice president and general manager of the Greenvale Marketing Corporation (Long Island, NY) and held an adjunct professorship of advertising and public relations at the New York Institute of Technology. Iger earned a Bachelor's of Science degree in Communications from Ithaca College (NY) where he graduated magna cum laude. In his sixth grade yearbook, Iger's father wrote, "To thine own self be true." From 12 years of age, Iger has mused over this quote, which has had a definite impact on the way he conducts business (Iger, 2008).

[5] Bloomberg Businessweek's Energy Sector: Oil, Gas and Consumable Fuels Industry. Exxon Mobil Corp (XOM: New York): Rex W. Tillerson Executive Profile and Biography. Bloomberg Businessweek. Retrieved from http://investing.businessweek.com/research/stocks/people/person.asp?personId=1127018&ticker=XOM.

"I think it is incredibly important to be open and accessible and treat people fairly and look them in the eye and tell them what is on your mind."

Bob Iger

Source: Retrieved from: http://www.rugusavay.com/bob-iger-quotes/.

Iger actually began his career as a TV weatherman, but soon realized it was not his passion (Jewish Business News, 2013). He worked for the American Broadcasting Company(ABC) from 1974-1993, where he led the sports and entertainment divisions. He was the President of Capital Cities/ABC, which was sold to Disney in 1996. In 1999 he was named the President of Walt Disney International, President and COO (chief operation officer) of Disney in 2000, and then CEO in 2005. Over a span of approximately 31 years (1974 to 2005), he became CEO of The Walt Disney Company.

In 2005 Iger was credited for turning a profit in Disney International by expanding its presence outside the USA. He oversaw the opening of Disney Hong Kong, which was hugely successful and was key to the profitability of Disney International (Sellers, 2005). He is also credited with making Disney an industry leader in technology and making Disney the largest media company in the world with valuable brands like Pixar, Marvel and LucasFilm. Disney announced the $4.05 billion acquisition of LucasFilm for the Star Wars film franchise in October 2012 (Block, 2011).

Jamie Dimon was born on March 13, 1956 in New York City to Theodore and Themis Dimon. Jamie attended The Browning School, a top New York private college preparatory school for boys. He graduated from Tufts University in 1978 and earned an MBA from Harvard Business School in 1982. Both his father and grandfather were stockbrokers. His mentor, Sandy Weill, persuaded him to take a job as his assistant at American Express despite other lucrative offers. The draw was that he would have much more fun as Weill's assistant (Langley, 2004).

Jamie was hired as CEO of Bank One, the fifth largest bank, in March of 2000 to turn the troubled bank around (Khurana, 2002). Sandy eventually fired Jamie from CITI in 1998 due to a dispute rumored to be caused by Jamie's passing Sandy's daughter up for a promotion, although Weill said that it was because Jamie wanted to take over and he was not ready to retire. After being fired from CITI, Jamie took about 18 months off; and emerged as CEO of Bank One.

By July of 2004 he had done such a great job with Bank One, JP Morgan Chase decided to acquire them and make Jamie their CEO and eventually chairman of the board (JPMC, 2012). During the financial meltdown of 2007-2008 Jamie helped shore up the nation's banking system by facilitating JP Morgan Chase's acquisition of Bear Sterns and Washington Mutual (Moran, 2009; McDonald, 2009). He reached a pinnacle on Wall Street at a time when the quality of leadership was questionable (Crisafulli, 2009). Nevertheless, earlier in 2012, JP Morgan Chase took a multi-billion dollar trading loss, due to some large risky positions known as "The London Whale." This was seen as a sign that JP Morgan was getting too large for Jamie to effectively control. The Federal Reserve, the SEC, and the FBI investigated the loss. Jamie was summoned before Congress to account for this (Touryalai, 2012) and continues to deal with this issue (Stempel, 2014). For example, JPMC is currently facing a lawsuit from shareholders accusing it of securities fraud in which they believe JPMC misled them about its ability to manage risk, which surfaced when it lost $6.2 billion in the "London Whale" scandal (Stempel, 2014).

> "Scale can create value for shareholders; for consumers who are beneficiaries of better products, delivered more quickly and at less cost; for the businesses that are our customers; and for the economy as a whole."
>
> Jamie Dimon
>
> Source: Retrieved from: http://www.rugusavay.com/jamie-dimon-quotes/.

LEADERSHIP STYLES

Each of the three top leaders are positioned on three leadership styles frameworks according to the author's perspective of how each has handled key events as CEO of their companies or other aspects of their activities reported in the literature and/or popular press.

BLAKE AND MOUTON'S MODEL

Blake and Mouton studied leadership behavior and described two extremes of leadership concern: (1) *Concern for Production* in which the leader cares little about people and focuses on achieving results and productivity; and (2) *Concern for People* in which the leader places high levels of importance of relationships with people.

These extremes are depicted on a leadership grid that is anchored with five types. These run from 1,1 where the leader does just enough to keep his/her job (Impoverished); 1,9 where the leader attends to the needs of his/her employees at the expense of achieving results (Country Club); 5,5 where the leader focuses on productivity with a balance of team and morale building (Middle of the Road); 9,1 where the leader exclusively focuses on achieving results (Authoritarian); and 9,9 where the leader achieves high performance through team leadership, characterized by a high degree of participation, open-mindedness and involvement (Team).

The Blake and Mouton model does not promote "one best style". Rather the appropriateness of each style presented in this model depends on the leaders' preference, the situation, and the followers' needs. When faced with an impending disaster, employees might prefer that their leader use a 9,1 or Autocratic style to focus on achieving positive results.

Tables 1, 2 and 3 indicate how each leader is classified in this paper based on his background and experiences.

Table 1: Positioning of the Top Leaders on Blake and Mouton's Leadership Grid

Blake and Mouton's Leadership Grid Styles	Leader's Name
Impoverished (1,1)	
Country Club (9,1)	
Middle of the Road (5,5)	
Authoritarian (Produce or Perish) (9,1)	• Rex Tillerson • Jamie Dimon
Team (9,9)	• Bob Iger

Tillerson's upbringing plays a big role in the qualities that he brings to his CEO role. In his book, *1000 CEOs*, Davidson (2009) indicates that Tillerson is a global diplomat. He describes his leadership style as confident and straight-talking; but diplomatic. In addition, he indicates that with these attributes, Tillerson creates an atmosphere of stability and trust (Davidson, 2009). Tillerson's authoritative authoritarian style yields positive results. Such an authoritative style, which is associated with visionary leaders, is effective in motivating employees by clarifying how their work fits into the larger vision for the organization. This authoritative leadership style tends to maximize commitment to the organizations goals and strategy and to clearly define the standards for success and rewards (Goleman, 2000). In 2011, when Exxon was in need of expansion due to oil deposits shrinking in overused wells, Tillerson knew that he needed to leverage exploratory drilling in new areas. One of these areas was the politically volatile Russia, known to favor regional oil producers over foreign companies. Tillerson leveraged his time working in Europe and Russia to develop a close relationship with Vladimir Putin, convincing him to allow Exxon to drill in the Arctic rim. As an outgrowth of this relationship--in October 2012 according to a Kremlin decree--Russian President Vladimir Putin awarded Tillerson the Orders of Friendship medal. From this we can see that Tillerson is a strategist and very hands-on. Once he determines the direction, he continues to be a key player, providing direction and playing a key role in the successful execution of his plans.

The culture at Disney is very much team-oriented and strongly focused on innovation. In his own words, Iger said "One person can't run a company as big as ours. It's run by a team of people, and value is created by a very large team of people" (PRNewswire (2013). He encourages his employees to work together in order to achieve the end result (Minichiello, 2011). In addition, Iger's leadership philosophy focuses on risk taking. He encourages it as a way to support creativity, innovation, and development (World's CEOs Dossiers, 2013). He is likely to coach rather than scold employees who make mistakes as they explore innovative ideas. In the past several years of leadership, Iger has led Disney to become the largest media company in the world. It has grown approximately 8% since he took power. While he was President of Walt Disney International, he believed strongly in expanding Disney's presence throughout the world since it was such a success in the USA. This involved expanding into Hong Kong. His experience with Disney International without a doubt has helped him in his current position. Disney's current goal is to expand to China, building Disney Shanghai by 2015 or 2016 (Barboza and Barnes, 2011) and opening Disney's doors to more than 1 billion consumers.

Dimon is classified in this paper as an authoritative leader with an authoritarian leadership style. As such, he is a visionary who likes to build strong, healthy organizations. He is still the reigning king of Wall Street. He got that way by making JPMorgan Chase the nation's biggest bank and by building what he likes to call the firm's "fortress balance sheet" (Cohen and McLean, 2012). His style is described as hard-hitting and calculating. An example of this was his drastic cost-cutting, turn around measures during his first year in which he saved $1 billion for Bank One. An example of this was also his bus tour to visit employees and clients around the country. These tours were used to find out what improvements were needed. Dimon kept track of these employees' ideas using a spreadsheet; and over the three tours many of their ideas were put into practice (Cohan and McLean, 2012). He is quoted as saying, "It's all about having the best systems, the best people, the best products, and the best risk controls (Reingold, 2012). Dimon is able to mobilize people toward a vision as well as to gain buy-in through seeking and incorporating their input.

HERSEY-BLANCHARD'S LEADERSHIP MODEL

The three leaders were also slotted in Table 2 according to the leadership styles they exhibit on the Hersey-Blanchard Situational Leadership framework. Hersey was a professor and author of "The Situational Leader" in 1985; and Blanchard was author of the "One-Minute Manager" in 1986 and 2003 along with his co-author, Spencer Johnson.

This situational leadership framework indicates that instead of using just one style, successful leaders change their leadership styles based on their followers' needs, and the tasks required to get the job done. The framework includes four main leadership styles: Telling (S1) where the leader tells employees what to do and how; Selling (S2) where the leader mostly provides information and direction, selling employees on the way forward; Participating (S3) where the leader shares decision making with a greater focus on relationship building versus giving directions; Delegating (S4) where the leader is less involved in decisions, giving this to direct reports or groups of employees. While S1 and S2 are focused primarily on getting the task done, S3 and S4 are more concerned with developing team members' abilities to work independently.

Table 2: Positioning of the Top Leaders on Hershey-Blanchard's Model

Hershey-Blanchard's Leadership Styles	Leader's Name
Delegating (S4)	• Bob Iger
Participating (S3)	
Selling (S2)	• Jamie Dimon • Rex Tillerson
Telling (S1)	

Tillerson exhibits a "selling" style. For example, he is seen as a great balancer of people and relationships. It is said that when he walks in a room, he exudes confidence and stability (Thomas, 2003). He convinced OPEC multiple times to levy price controls on the market to sustain long-term stability in oil production (Lenzer, 2011). Moreover he sees himself as a facilitator for making the right decisions in the energy market (Tillerson, 2013).

Dimon also exhibits the "selling" style. He played a key role in combining JPM and Bank One after the merger. He had the technical expertise to integrate the two firms and the Emotional IQ to get people moving in the same direction and working together as a team even though they came from different corporate cultures. Merging two company cultures is one of the toughest tests for any leader and getting everyone to work together and be successful may be the ultimate example of the selling leadership style that is based on high concern for both relationships and tasks (Cohan and McLean, 2012).

Iger exemplifies the "delegating" style on the Hersey-Blanchard's model. For example, Iger supports employees with a general goal and gives them sufficient leeway to excel in their roles. Although this style might not be traditional for this type of business, Disney thrives on creativity. In order to encourage creativity employees are trained, indoctrinated, given freedom and expected to deliver in their performance (Minichiello, 2011).

LEADERS' INFLUENTIAL LEADERSHIP STYLES

The styles that leaders exhibit depend on their own personal preference, the situation they currently face, and their followers' needs. *Transformational* leadership often involves leaders in developing their followers into leaders. It inspires followers to go beyond self-interests for the good of the group; and it practically brings the company's vision of a desired future state to fruition. *Transactional* leadership is known as managerial leadership. It focuses on the role of supervision, organization and group performance. *Charismatic* leaders are essentially very skilled communicators. They are able to articulate a compelling or captivating vision, and are able to gain emotional commitment from their followers. Many of the world's most effective leaders are described as "charismatic". These include Martin Luther King, Jr., Gandhi, Steven Jobs, and Winston Churchill to name a few.

The very term *coalitional* leadership conveys a sense of collective action. The combination of individual and group efforts toward the same goal is precisely what coalitional leadership conveys. It includes decisive individual actions to forge sufficiently broad and deep cooperation to turn a vision into reality. Coalitional leadership is an approach that can often build a sustainable foundation for a widespread change. Nelson Mandela, who was part of the ruling post-apartheid coalition, often referred to the collective efforts of South Africans in tackling and dismantling apartheid.

TRANSFORMATIONAL, TRANSACTIONAL, CHARISMATIC, OR COALITIONAL LEADERSHIP STYLES

Tillerson's style among the choices in Table 3 is the **coalitional leadership** style. He builds consensus between many parties with different interests. He has the ability to leverage

ExxonMobil's market position to force change in the industry. Moreover, he leverages Exxon's ability to lobby political parties to influence legislation and systematically enforce legislation. As a former engineer, Rex Tillerson headed the push to purchase XTO energy, using his background to forecast the innovative benefits of electricity.

In his **transformational leadership** style, Bob Iger inspires his workers and followers to go above and beyond the basic job requirement and to put forth their best effort for the good of Disney. He has established ways to develop followers while still giving them their own freedom to be creative (Reingold, 2012). The culture of Disney is centered on providing happiness and entertainment to everyone. Whether at a theme park, hotel, or while watching a movie, Disney strives to envelop customers in this magical, happy world. The employees play a large role in creating this experience for Disney customers. If employees do not believe in the mission of the company, they will not be able to be the brand of the company. Their role is to not just market the idea of Disney; rather, it's to be Disney.[6]

Jamie Dimon's address to Harvard Business School MBA Class of 2009 provides a window into his **transactional leadership** style. In Dimon's speech to the Harvard graduating class he talked about doing everything to build a healthy vibrant company because that will give everyone the most opportunity. For example, he said, "I am devoted to making this company healthy and vibrant. I will make enormous sacrifices to do that. If I don't do that I'm hurting our employees, customers, families, and communities".[7] In 2000 Jamie Dimon was named Chairman and CEO of Bank One. In just four years, Dimon managed to turn it around to a point where it was an attractive acquisition target for JP Morgan Chase. He did this by acting quickly, hiring the right people,

[6] Disney website http://www.disney.in/corporate/culture.html
[7] Harvard Business School (2009, June 21st). Jamie Dimon: Address to HBS MBA Class of 2009.

making tough decisions, and taking calculated risks. In April 2001 under Dimon's leadership Bank One acquired Wachovia's credit card portfolio and in September of 2002 they announced plans to open 115 new branches across 13 states creating 1100 jobs. By the end of 2002 there were rumors of JP Morgan's intent to acquire Bank One. In 2003 Bank One made another acquisition, buying Zurich Financials life insurance business for $500 million. Finally in 2004 JP Morgan Chase acquired Bank One for $58 billion dollars and Jamie Dimon was named Chairman and CEO of JP Morgan Chase (World of CEOs Dossiers, 2013).

Table 3: Positioning of the Top Leaders as Transformational, Transactional, Charismatic, or Coalitional in Their Leadership Style

Predominant Leadership Styles	Leader's Name
Transformational Leadership	• Bob Iger
Transactional Leadership	• Jamie Dimon
Charismatic Leadership	
Coalitional Leader	• Rex Tillerson

CONCLUSIONS

Good leadership is a key ingredient of organizational effectiveness and profitability. Three of the most prominent leaders in the USA were explored in this paper to determine their predominant leadership styles within three leadership frameworks. While these types of leaders use multiple leadership styles, the goal was to ferret out their predominant leadership style from their background, experiences, and behaviors during critical events. Although their styles vary, each has made great strides in ensuring their companies' health and financial performance. In doing so mistakes were evitable. Nevertheless, the intention of this paper was not to focus on their failures or shortcomings. Instead, the goal of this paper was to peruse the events, backgrounds and experiences related to each of the three leaders in order to determine their predominant leadership style within the Blake and Mouton and Hersey-Blanchard leadership frameworks. In addition their predominant styles within the leadership models of transformational, transactional, charismatic, and coalitional leadership were explored. Many secondary data sources, reports, and videos were reviewed in order to determine each leader's placement on the leadership style frameworks and models.

Leadership theorists indicate that a leader's personality has an impact on firm performance. A leader's predominant style reflects his/her background and experiences as well as how they behave during critical events in their business environments. Each of the leaders studied in this paper have at least 15 years of experience as CEO. Being the CEO, the top leader in complex organizations such as Disney, Exxon, and JP Morgan Chase is not only an honor; but is also a test of the leader's ability to lead. Moreover, such provides opportunities to study their leadership behaviors in order to identify their predominant leadership styles. These predominant styles indicate how they consistently carryout their leadership roles. Moreover, their leadership behaviors reflect their personal leadership style preferences, their employees' style needs, and the style best suited for their current situations. Additional qualitative research is needed in this area to continue the dialogue about the extent to which a leader's collective background and experience has on his/her preferred leadership style. This paper represents an initial step in that direction. That is, it is an initial step toward understanding leadership styles based on the leaders' past and current behaviors in the CEO role.

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