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THE ASSOCIATION BETWEEN ACCOUNTING INFORMATION DISCLOSURE AND STOCK PRICE

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ABSTRACT

This study examines whether higher information disclosure firms have higher associations with accounting returns (EPS) and stock prices based on the Ohlson (1995) model. Survey results on information disclosure and transparency of Taiwan firms in 2004 were obtained from the Taiwan SEC. The results indicate that firms with high levels of information disclosure have a higher association between accounting earning and stock market price than firms with low levels of information disclosure. In addition, the results provide evidence that there is a positively significant relationship between book value and stock price as well as between earnings per share and stock price

JEL: G30, M41, M48, D82

INTRODUCTION

Earnings manipulation by Enron, WorldCom, and AOL Time Warner, has made market participants aware of fraudulent financial reporting. In addition, the Asia economic crisis of 1997 caused the world pay attention to executive officer fraud. Thus, worldwide regulating authorities proposed corporate governance and disclosure regulation to prevent a reoccurrence. The U.S. government set up Sarbanes-Oxley Act of 2002 (SOX) in order to reinforce investment confidence and protect investors by improving the accuracy and reliability of corporate disclosure. The Sarbanes-Oxley Act is the public company accounting reform and investor protection act with the goal of preventing business failures and fraudulent financial reporting.

In contrast, the Taiwan government proposed two methods to enhance corporate governance. First, it proposed to establish an independent board system to enhance the policy and procedures of corporate legitimacy and rationality. Second, it authorizes Securities and Future Bureau (SFB) to initiate an information disclosure and transparency ranking system to ensure corporations provide full and accurate information disclosure.

This study utilized SFB information disclosures and the system of transparency ranking as a proxy variable for information transparency to examine whether the high information disclosure firms have higher associations with accounting earnings (EPS) and stock prices then low information disclosure firms. Firms on the Taiwan OTC market were divided into two groups utilizing the Ohlson model. One group of firms is classified as higher information transparency firms and another group of firms is a lower information transparency group. This classification allows us to examine whether the firms with high level(good) of information disclosure have a higher association between accounting earnings (EPS) and stock market price than firms with low level (bad) of information disclosure.

The remainder of the paper is organized as follows. In the next section, we discuss the relevant literature and develop the test hypotheses. Next, we discuss the methodology used in the empirical examination. A discussion of the data and test results follows. Finally, the paper closes with some concluding comments.

LITERATURE AND HYPOTHESIS DEVELOPMENT

Collins, Maydew and Weiss (1997) investigated systematic changes in the value-relevance of earnings and book values over time. The sample was selected form the period 1953-1993. They investigated the value-relevance of earnings and book values over time using a valuation framework provided by Ohlson (1995), which expressed price as a function of both earnings and book value of equity. They estimated yearly cross-sectional regressions for a 41-year period spanning 1953 to 1993 and use R^2 as the primary metric to measure value-relevance. Then, they used a technique described in Theil (1971) and applied by Easton (1985) in order to compare the explanatory power that earnings and book value had over prices. They decomposed the combined explanatory power of earnings and book values into three components: (1) the incremental explanatory power of earnings, (2) the incremental explanatory power of book values, and (3) the explanatory power common to both earnings and book values. The results showed that the value-relevance of "bottom line" earnings has declined over time, having been replaced by an increased value-relevance of book value.

Verrecchia (1983 and 1990) found that increasing information disclosure results in increase costs, when the stock price of firm was understated. In order to reduce the information asymmetry between managers and outside investors, managers would like to increase the information disclosure to increase the stock price. Hearly and Palepu (1993) assumed that there was an information asymmetry between managers and outside investors. They posited that if there was divergence in owners' and manager's objectives, managers would make financial reporting decisions in their own interest, in which case financial disclosures might not be reliable.

Skinner (1994) pointed out that when firm value is overstated, mangers would disclose bad information to reduce the cost of a lawsuit. The disclosure of bad information is more reliable then the disclosure of good information and can reduce lawsuit costs. Skinner found that the firms might increase information transparency to improve the firm value and solve agency problems.

When the transaction cost is higher, the investors who have inside information are likely to use the information to earn an abnormal return (Copeland and Galai (1983), Glosten, Millgrom (1985) and Diamond (1985)). In order to prevent investors from using inside information to make profits and protect investors' benefits, managers will disclose information to investors. Thus under this model, managers have incentives to disclosure the good and bad news. These results suggest that if a firm value is understated or overstated, managers would increase the information transparency to reflect the reasonable firm value. Thus, this study posits that when transparency of information disclosure increases the value of accounting information increases, thus external investor can accurately assess the firm value.

Ohlson (1995) developed and analyzed a model of a firm's market value as it relates to contemporaneous and future earnings, book values, and dividends. Ohlson (1995) found that equity accounting provide the underpinnings of the model. The clean surplus relationship applies, and dividends reduce current book value but do not affect current earnings. Ohlson's model satisfied many appealing properties, and it provided a useful benchmark when one conceptualizes how market value relates to accounting data and earnings, book value, and dividends. Thus, based on Ohlson's model we argue that market price is associated with accounting earning and book value. Therefore, from Ohlson (1995) model and the above literature reviews we posit that:

Hypothesis 1: Firms with high levels (good) of information disclosure have a higher association between accounting earning (EPS) and stock market price than the firms with low levels (bad) of information disclosure

METHODOLOGY

Measurement

This study utilized Ohlson's (1995) model as the research basis, employed the SFB (Securities and Future Bureau) information disclosure and transparency ranking system and used public firms or OTC firms as the nonaccounting information to form the research model of this study as follows:

$$P_i = C + \beta_1 PERBV_i + \beta_2 EPS_i + \beta_3 DIS_i + \beta_4 TYPE_i + \beta_5 DIS_i * PERBV_i + \beta_6 DIS_i * EPS_i + \varepsilon_i \tag{1}$$

Where:

P_i is the market value, or price, of i firm's equity

$PERBV_i$: book value for firm i

EPS_i : earning per share for firm i

DIS_i : disclosure level for firm i

Dis = 1 presents for one third of sample firms are in the high level of disclosure group.
Dis = 0 presents for two third of sample firms are in the low level of disclosure group.

$TYPE_i$: TYPE=1 presents for Taiwan Security Exchange (TSE) and TYPE=0 presents for Taiwan OTC market (OTC)

$DIS_i * PERBV_i$ ：disclosure level interaction with book value for firm i

$DIS_i * EPS_i$ ：disclosure level interaction with earning per share o for firm i

ε_i ：the residual term for firm i

The sample was divided into two groups, one group with high level of disclosure and second group with low level of disclosure based on our survey questions. One-third of sample firms are in the high level of disclosure group, and the remaining two third of sample firms are in the low level of disclosure group. This study focuses on the disclosure level interaction with earnings per share and book value on i firm. Disclosure level interaction with earning per share presents the difference in the explanation power between high disclosure level of earnings and low disclosure level of earnings on i firm. This study examines whether earnings per share and book value of the high disclosure level firms can explain abnormal returns by testing the disclosure level interaction with earning per share and book value. If the results show a positively significant difference, it indicates that high disclosure level firms have higher EPS and book value than low disclosure level firms. This implies that the accounting disclosure level does help decision makers and investors to make correct decisions.

Variables

We used one dependent variable and seven independent variables to test our hypotheses. The dependent variable is stock price, which is the closing price of the sample firms on 3/31/2004. Seven independent variables were incorporated into the regressions as follows:

Book value (PERBV): PERBV is the total asset/outstanding shares at the end of year. Ohlson Model (1995) develops and analyzes a model of a firm's market value as it relates to contemporaneous and future earnings, book values, and dividends. Therefore, we posit that the market value at the end of year is positive relative to book value.

Earnings per Share (EPS): EPS denotes (net income from continuing operation/ weighted average of outstanding shares)/ at the beginning of market price.

Disclosure level (DIS): The Sample was divided by 2 sample groups, one group with high level of disclosure and second group with low level of disclosure based on our survey questions. One third of sample firms are in the high level of disclosure group, and the remaining two third of sample firms are in the low level of disclosure group. Dis equal 1 presents for one third of sample firms are in the high level of disclosure group. Dis equal 0 presents for two third of sample firms are in the low level of disclosure group.

TYPE: TYPE=1 presents for Taiwan Security Exchange (TSE), TYPE=0 presents for Taiwan OTC market (OTC)

$DIS_i * PERBV_i$: Disclosure level interaction with book value.

$DIS_i * EPS_i$: Disclosure level interaction with earnings per share.

ε_{it} ：The residual term

Grand (1980) found that the annual earnings announcements of OTC firms appear to possess more information content than those of the NYSE firms. Grand pointed out that OTC investors apparently have fewer alternative sources from which to acquire information on firms prior to the release of the annual earnings number. Therefore, when the announcement is made, the market reaction to the information contained in the report may be significant. Grand assessed the differences in the information content of annual earnings announcements between a sample of OTC firms and a sample of NYSE firms. Since the stock market in Taiwan is similar to in U.S. We predict, in a similar fashion, that there is also a significant difference of earning coefficient between OTC firms and TSE firms in Taiwan.

SAMPLE AND DATA COLLECTION

To enhance corporate governance, the Taiwan government proposed two regulatory approaches. Taiwan government in 2004 authorizes the Securities and Future Bureau (SFB) to implement an information disclosure and transparency ranking system to ensure that corporations provide full and accurate disclosure. The system was designed by seven famous academic professors and industry experts. The purpose of the information disclosure and transparency ranking system is to increase information transparency and to help investors and decision makers. The evaluation indicators of this system are based on voluntary and mandatory disclosures. The evaluation indicator classified five major evaluators based on 88 questions. The survey questions were designed to require either a yes or no response. This study employed SFB information disclosure and transparency ranking system results as a proxy variable for information transparency.

In 2004, there were 611 public firms on the Taiwan Security Exchange (TSE) and 308 sample of firms on OTC. The government required all of public firms in TSE and OTC to be SFB evaluated with a few exceptions including the following: non-TSE Firms, OTC over one year due to information is insufficiency and firms that change from one stock exchange to the other. The sample group included 205 high disclosure firms from the TSE market and 97 high disclosure firms from the OTC. Since this study needs to calculate the beta coefficient as the control variable, it needs at least 24 months in the estimation period. The final sample included 662 firms. We classified the sample into two groups, one group is high disclosure firms with one third of total sample and another group as low disclosure firms two third of the total sample. Table 1 show frequency statistics for our sample.

Table 1: the Distribution of Sample Firms

	High Disclosure Level	Low Disclosure Level	Subtotal
OTC Market	39	117	156
TSE market	163	343	506
Total	**202**	**460**	**662**

This table shows frequency statistics for the sample.

Table 2 shows the distribution of sample firms by industry and disclosure level. The first column indicates the number of firms. The second column indicates the percentage of the total sample represented by each group.

ANALYSIS AND PRESENTATION OF FINDING

Descriptive Statistics

Table 3 presents the descriptive statistics for the sample. Table 3 presents the mean, median, minimum, maximum, and standard deviation for the dependent variables and independent variables, which include PRICE, PERBV, EPS, DIS, and TYPE. Mean and median of PRICE during the period 1993 are $18.75525 and 13.95 respectively. Mean and median of PERBV during the period 1993 are $13.5029 and 13.0454 respectively. Mean and median of EPS during the period 1993 are $0.834268 and 0.72 respectively. Mean of DIS during the period 1993 is $0.305085. Mean of TYPE during the period 1993 is $0.762712.

Examining the Existence of Multicollinearity

Multicollinearity between independent variables causes large variances and covariance for the estimators of the regression coefficients, which makes difficult to distinguish their relative influences. This problem was tested by deriving the correlation coefficient matrix. Table 4 shows the results. The correlations between variables were computed by using Pearson Correlation Coefficients. The correlation matrix in Table 4 shows that the strongest correlation coefficient was 0.758 between firm PRICE and EPS. The second highest correlation coefficient was 0.747 between firm PRICE and PERBV. Gujarati (1988) suggests that simple correlations between independent variables should not be considered “harmful” unless they exceed 0.80 or 0.90. The Pearson correlation coefficient (reported in Table 4) suggests that multicollinearity is not severe for the independent variables in this study.

Table 2: Frequency Statistics for Sample Company Industry Distribution

	Low Disclosure Level		**High Disclosure level**		**Disclosure level ratio**	**subtotal**
Industry	**No(a)**	**Percentage**	**No(b)**	**Percentage**		
chemical	29	4.38%	10	1.51%	25.64%	39
cement	5	0.76%	3	0.45%	37.50%	8
retail and	10	1.51%	3	0.45%	23.08%	13
other	41	6.19%	8	1.21%	16.33%	49
Glass	5	0.76%	1	0.15%	16.67%	6
food	15	2.27%	9	1.36%	37.50%	24
textile	39	5.89%	15	2.27%	27.78%	54
paper	5	0.76%	2	0.30%	28.57%	7
Plastic	10	1.51%	15	2.27%	60.00%	25
computer	158	23.87%	106	16.01%	40.15%	264
transportation	17	2.57%	3	0.45%	15.00%	20
transportation	2	0.30%	2	0.30%	50.00%	4
cable	14	2.11%	1	0.15%	6.67%	15
commodity	1	0.15%	0	0.00%	0.00%	1
Plastic tire	5	0.76%	4	0.60%	44.44%	9
Electric	28	4.23%	7	1.06%	20.00%	35
steel	22	3.32%	7	1.06%	24.14%	29
construction	45	6.80%	6	0.91%	11.76%	51
entertainment	9	1.36%	0	0.00%	0.00%	9
Total	460	69.49%	202	30.51%	30.51%	662

This table shows the frequency statistics. The high disclosure industries include plastic (60%), transportation tool (50%) and plastic tire (44.44%); the low disclosure industries included entertainment (0%), commodity (0%) and cable (6.67%)

Table 3 Descriptive Statistics

Variable	**Mean**	**Median**	**Maximum**	**Minimum**	**Standard Deviation**
Dependent Variables					
PRICE	18.75525	13.95	199.41	0.37	16.81407
Independent Variables					
PERBV	13.5029	13.0454	47.7717	-10.9874	5.645713
EPS	0.834268	0.72	12.78	-7.34	2.075047
DIS	0.305085	0	1	0	0.460798
TYPE	0.762712	1	1	0	0.425748

P_i : the market value, or price, of the i firm's equity, DIS: disclosure level,1 presents for one third of sample firms are in the high level of disclosure group; 0 presents for two third of sample firms are in the low level of disclosure group. TYPE: 1: public company TSE; 0: OTC ; PERBV: book value per share; EPS: earnings per share

Table 4 : Pearson Corrélation Coefficient Matrix

Variables	**PRICE**	**PERBV**	**DIS**	**TYPE**	**EPS**
PERBV	0.747**				
DIS	0.219**	0.267**			
TYPE	0.144**	0.192**	0.071		
EPS	0.758**	0.736**	0.196**	0.159**	

**, and ** indicate correlation is significant at the 0.05 and .01 level (2-tailed) respectively.*

Analysis of Regression Effects

To test our predictions, we use one-year cross-sectional differences in disclosure levels. From the Ohlson model regression, we find that the full model explanatory power is 73.55% and the F value is 226.7409, indicating that the model has very good explanatory power. Table 5 shows the results of the regression model used in this study. The book value (PERBV) analysis (β=0.8121, t= 3.4123, p<.001) shows that stock price is positively and significantly associated with book value. The disclosure level interaction with book value (DIS*PERBV) analysis (β =-0.1002, t = -0.2991, p>0.1) shows that disclosure level interaction with book value is negatively and insignificantly associated with stock price.

Table 5: Results of Regression Equations Model

Variable	Predict Sign	Coefficient	Standard Deviation	T Value[b]
C		1.3849	2.6887	0.5150
PERBV	+	0.8121***	0.2379	3.4123
DIS*PERBV	+	-0.1002	0.3351	-0.2991
EPS	+	6.8162***	0.19116	7.4767
DIS*EPS	+	4.1537**	1.9422	2.1385
DIS	-	-5.9702	5.8887	-1.0138
TYPE	-	-0.6864	1.2690	-0.5409
R-squared				0.78792
Adjusted R-squared				0.735534
F-statistic				226.7409
Prob(F-statistic)				0

[a]n = 662, [b] Beta weights and -values reflect results for the full model ;When the predicted sign is either (+) or (-), then the value is a one-tailed test; when the predicted sign is (?), then the value is from a two-tailed test. p_i : the market value, or price, of the i firm's equity DIS: disclosure level,1 presents for one third of sample firms are in the high level of disclosure group; 0 presents for two third of sample firms are in the low level of disclosure group. TYPE: 1: public company in TSE; 0: OTC ; PERBV: book value per share; EPS: earnings per share.

The earnings per share (EPS) analysis (β =6.8162, t = 7.4767, p<.001) shows that earning per share is positively and significantly associated with stock price. The results of the interaction term (DIS*EPS) involve both disclosure level and earnings per share (β =4.1537, t = 2.1385, p<.01), which is found to be positively significant. Thus, the results support the hypothesis that disclosure level positively moderates the relationship between earnings per share and stock price. The fact that disclosure level interaction with earning per share is positively associated with stock price suggests that investors need to be particularly concerned about firms with higher disclosure levels. This situation produces interaction effects that increase earnings per share and increase the explanatory power of the stock price. The disclosure level (DIS) analysis (β =-5.9702, t = -1.0138, p>0.01) demonstrated that disclosure level is negatively and insignificantly associated with stock price. The (TYPE) analysis (β =-0.6864, t = -0.5409, p>.01) shows that type is negatively and insignificantly associated with stock price. Thus, the results demonstrated that the stock exchange where the firm is listed does not result in a different stock price.

CONCLUSIONS

To enhance corporate governance the Taiwan government authorized the Securities and Future Bureau (SFB) to set up an information disclosure and transparency ranking system in 2004. We examine whether the higher information disclosure firms have a higher association with accounting earnings (EPS) and stock price based on the Ohlson model(1995) . The results indicate that the firms with a high level of information disclosure have a higher association between accounting earnings (EPS) and stock market price than the firms with low levels of information disclosure. In addition, the results indicate that there is a positively significant relationship between book value and stock prices. Furthermore, we found that there is a positively significant association between earnings per share and stock price. We concluded that the firms that increase information disclosure transparency can increase accounting earnings; thereby, increasing stock market price.

The paper is subject to one primary limitation. That is, the SFB data does not disclose a firms score. Rather it provides a dummy variable indicating a disclosure classification. Had the data included the company score, additional information could be gleaned from the analysis. Future research can extend the analysis of the SFB data for longer periods of time to make the results more generalizeable. Future researchers might also test the relationship between information disclosure and earnings management.

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THE INFLUENCE OF INVESTMENT HORIZON ON EXPECTED RETURNS AND RISK PERCEPTION: EVIDENCE FROM THE INDONESIAN MARKET

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ABSTRACT

This study analyzes the investment horizon from a behavioral point of view by examining the overall influence of different investment horizons on expected returns and risk perception in Indonesia. We used students of Master of Science, Master of Management, and Doctorate Programs at the Faculty of Economics and Business, Universitas Gadjah Mada, Indonesia as the sample in this research. Of the 217 questionnaires delivered, 172 questionnaires were completed, and hence were utilized in this study. We found that the respondents tend to overestimate the investment returns in shorter investment horizon, and tend to underestimate the expected returns in longer investment horizon. The participants tend to underestimate the long-term risk while overestimating the short-term risk. They also tend to assess lower subjective risk in longer horizon and are significantly inclined to forecast higher risk-adjusted expected returns in long investment horizon than those in short investment horizon.

JEL: G11, G15, C15

INTRODUCTION

Investment horizon can be defined as the period of time someone plans to put his or her money aside to invest (Wu, 2002). Life expectancy and pensionable age are the salient factors influencing the investment horizon. Investment horizon then determines the portfolio construction since the longer the investment horizon, the less risky the portfolio (Crabtree, Root, & Tse, 2000). Rule of thumb says that when a person grows older, he/she tends to be more risk-averse.

A vast array of research has been conducted on the influence of investment horizon on investment decisions. People at different stages of life have distinctive investment horizons and strategies. Wu (2002) divides people's life into four stages: (1) age 18 – 30 years, "getting started" investors; (2) age 30 – 45 years, "building wealth" investors; (3) age 45 – 55 years, "new horizon" investors; and (4) age 55 years and more, "nest egg" investors. She elaborates that time horizon is relevant to portfolio construction since the longer the time horizon, the more risk one can afford to take on to maximize returns, and vice versa, the shorter the time horizon, the more conservative one's investment has to be. Subsequently, Radcliffe (2002) documents that the expected sum of continuous returns increase linearly with the number of periods.

Albrecht, Maurer, and Ruckpaul (2001) examined the risk and performance of long-term stock investment in Germany. They find that both shortfall probability and shortfall expectation show a monotonously decreasing development over time. However, both risk measures have a persistent characteristic, meaning that the corresponding risk measures do not converge rapidly but rather slowly against zero, and that even for a very long horizon (30 years), the risk remains at a substantially high level. On the contrary, Siebenmorgen, Weber, and Weber (2000) find significant evidence in Germany and the United States for an underestimation of long-term risk compared to short-term risk, either volatility forecasts or subjective risk assessments. Furthermore, a similar conclusion is reported by Siebenmorgen and Weber (2000), who conducted empirical research in Germany. It is found that there are significant differences between short-term and long-term risk perception behavior. The evidence exhibits that investors are inclined to underestimate the long-term returns and to underestimate the long-term risk likewise.

The choice of an optimal portfolio of assets is a classic problem, for both academics and practitioners. Common advice from stock market professionals is that long-term investors should invest a larger proportion in more risky assets, such as stocks, than should investors with shorter investment horizons (Booth, 2002). However, research conducted by Albrecht et al. (2001) in Germany proves that the question whether stocks dominate bonds or other less risky investments in the long run hinges on the used definition of risk. They find that the risk measure has a persistent characteristic, meaning that the corresponding risk measure does not converge rapidly but rather slowly against zero, and that even for a very long time horizon (30 years), the risk remains at a substantially high level.

The fact that the recommendations of professional advisors and "sages" are so at odds with the orthodox financial theory and that the topic is so fundamental in finance make this issue compelling to be discussed and examined. Besides, empirical research on various capital markets in the world with respect to the influence of different investment horizons on returns, risk, and investment decisions have yielded conflicting perspectives and conclusions. Hence, it is interesting to examine this phenomenon in Indonesia to find an evidence of how Indonesian investors perceive the risk and returns and consequently make investment decisions by taking their investment horizons into account.

Research Objectives

In this study, several research questions are discussed and examined: (1) Is there a difference between expected return perception in short investment horizon and that in long investment horizon for Indonesian investors? (2) Is risk perception in short investment horizon different from that in long investment horizon for Indonesian investors?

Research Benefits

Benefits to be obtained from this study's findings are: (1) the results can be harnessed to help Indonesian investors recognize their investment horizons and realize their risk and return characteristics, given the investment horizons as the frames, (2) the evidence is supposed to give recommendations for Indonesian investors of how they should allocate their funds in establishing their portfolios, both in the short horizon and in the long horizon, and (3) the results will enrich empirical evidence on this topic and may entice other researchers to further investigate these phenomena in the future.

This paper is divided into five sections. The first section is an introduction section. The second part discusses literature review and hypotheses development. Subsequently, research method is discussed in the third section. Section 4 comprises data analysis and discussion. Eventually, conclusions, implications, and suggestions are drawn in the final section.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Investment Horizon and Risk and Return

People at different stages of life have distinctive investment horizons and strategies. Wu (2002) divides people's life into four stages: (1) age 18 – 30 years, "getting started" investors; (2) age 30 – 45 years, "building wealth" investors; (3) age 45 – 55 years, "new horizon" investors; and (4) age 55 years and more, "nest egg" investors.

"Getting started" investors have the longest investment horizon, followed by "building wealth" investors, "new horizon" investors, and "nest egg" investors who have the shortest investment horizon. According to Wu (2002), time horizon is relevant to portfolio construction since the longer the time horizon, the more risk one could afford to take on to maximize returns, and vice versa. Another perspective, but almost similar to Wu (2002), is documented by Crabtree et al. (2000). They divide investment strategies into five categories, based on investors' investment horizons:

Income or principal preservation- This strategy is primarily used by retired investors who want to "live off" their investments, usually only taking the interest earned and maintaining principal. These investors may invest in corporate bonds, government bonds, utilities funds, or real estate investment trusts.

Typical conservative growth- It is generally considered by individuals whose investment horizons are between 5 and 10 years. These investors may invest in blue-chip funds (20%), corporate bonds (15%), value funds (10%), utilities funds (15%), high yield funds (15%), growth funds (15%), and equity income funds (10%).

Typical moderate growth- This type is usually used for individuals whose time horizons are 10 – 15 years. They may invest in growth funds (20%), value funds (20%), small cap value funds (20%), high yield funds (20%), and blue-chip funds (20%).

Typical aggressive growth- This strategy is purported for investors whose time frames are more than 15 years. These investors can invest in aggressive growth funds (20%), NASDAQ 100 Index funds (20%), small cap growth funds (20%), emerging market funds (20%), and international growth funds (20%).

Speculation: It is adopted by investors who strive for acquiring maximum returns without considering the risk. Derivatives securities such as options and futures are very tempting and challenging for them.

Investment decisions are supposed to be a function of expected returns, variance, and covariance structure of all investment alternatives' returns (Markowitz, 1952). However, informational constraints or bounded rationality may prevent ordinary investors from considering correlations or covariances when making portfolio allocations (Siebenmorgen et al., 2000). Nonetheless, at the very least, they should think of the expected returns and likely risk estimate on an investment. Even though investment theory reveals that risk and return have a positive relationship, existing empirical research on the time-series risk and return relation have depicted conflicting conclusions. Campbell and Hentschel (1992) and French, Schwert, and Stambaugh (1987) find that expected excess returns are positively related to its conditional variance (in Harrison and Zhang 1995). On the other hand, Breen, Glosten, and Jagannathan (1989), Campbell (1987), Fama and Schwert (1977), Glosten, Jagannathan, and Runkle (1993), Nelson (1991), and Pagan and Hong (1991) report a negative relationship between the expected excess returns and conditional volatility (in Harrison and Zhang, 1995). Harrison and Zhang (1995) conclude that analyzing the risk and return relation in longer horizon might yield sharper results, given the empirical evidence of greater return predictability in longer horizon.

In short horizon, the true long-run risk and return relation could be obscured by short-term noises, which might derive, for instance, from agents trading for portfolio rebalance and from unexpected immediate consumption. They also find a significant positive relation between the expected return and conditional volatility in the long holding interval. This result illustrates that different holding period can lead to significantly distinctive results since in the shorter interval, no meaningful risk and return relation emerges.

Subsequently, Radcliffe (2002) reveals that the expected sum of continuous returns increases linearly with the number of periods. Furthermore, if we consider variance to be a measure of risk, risk increases linearly with the investment horizon. However, when standard deviation is deemed to be the measure of risk, the risk does not increase linearly with the investment horizon. In other words, the risk does not increase at the same rate as does the expected payoff. Hence, investors who have long investment horizons may harness a benefit of lower relative risk in the long run compared to the investors whose investment horizons are short.

Albrecht et al. (2001) examines risk and performance of long-term stock investment in Germany. It is found that both shortfall probability and shortfall expectation show a monotonously decreasing development over time and that the shortfall expectation shows a phase of increasing value only at the beginning. However, both risk measures have a persistent characteristic, showing that the corresponding risk measure does not converge rapidly but rather slowly against zero. Even for a very long time horizon (30 years), the risk remains at a substantially high level. Hence, they suggest that investment horizon does not play a big role in the risk and return measurement. Besides, investors should beware to believe that relative risk in the long-term horizon is lower than that in the short-term horizon since it hinges on the definition of the risk. On the contrary, Siebenmorgen et al. (2000) find significant evidence for an underestimation of long-term risk vis-à-vis short-term risk, either volatility forecasts or subjective risk assessments. The findings show that the participants' five-year volatility forecasts remain under the historical five-year benchmark, and risk assessments for one-year investment horizon are higher than those for five-year investment horizon.

Subsequently, Siebenmorgen and Weber (2000) conducted empirical research in Germany, and find that there is a significant difference between short-term and long-term risk perception behavior. The evidence exhibits that investors are inclined to underestimate long-term returns and also underestimate long-term risk. However, investors with long-term information tend to overestimate the expected returns compared to participants with short-term information.

Hence, predicated on the theoretical background and previous studies, two hypotheses are proposed:

H_1: There is a difference between expected return perception in short investment horizon and that in long investment horizon for Indonesian investors.

H_2: Risk perception in short investment horizon is different from that in long investment horizon for Indonesian investors.

RESEARCH METHOD

Sample

We used the students of Master of Science, Master of Management, and Doctorate Programs at the Faculty of Economics and Business, Universitas Gadjah Mada, Indonesia as the sample in this research. We delivered questionnaires to 217 students. Several rationales underlying our decision are: (1) the population has an infinite characteristic; (2) we do not have a complete list of the population; (3) compared to other types of investors, students are practitioners who capture and master the techniques of investment analysis and portfolio management; and (4) the students of Master of Management Program mostly have backgrounds of practitioners, such as brokers and investment managers, whereas those of Master of Science and Doctorate Programs are mostly academics. Hence, the combination of practitioners' and academics' views may lead to more reliable research evidence.

In order to confirm that the participants really understood the research questions, we required that the participants be students who were taking or had completed the portfolio management course.

Nevertheless, students who passed intertwined courses such as corporate finance and financial institutions management were admitted as well.

Data Collection Method

Data collected in this study comprised both primary and secondary data. As mentioned in the previous section, we distributed questionnaires to 217 respondents. The questionnaire consisted of 4 pages. On the first page, participants were requested to envisage as though they had inherited IDR1,000,000,000, and they would have invested the money (not for consumption). We then offered three investment alternatives: (1) Indonesian Composite Stock Price Index-Fund (IHSG-Fund), (2) Japanese Nikkei 225 Index-Fund (N225-Fund), and (3) U.S. Dow Jones Industrial Average Index–Fund (DJIA-Fund).

We exhibited the historical returns on those three investment alternatives. Half of the respondents got the historical annual return information, and the others were exhibited historical five-year return information. Subsequently, in depicting the historical returns, we divided the information into five informational conditions:

R+ (1): We showed the participants the names of the three investment alternatives and we also presented historical annual returns on those investments,
R+ (5): In this condition, we again presented the names of the investment alternatives, but we showed the historical five-year returns,
R- (1): The respondents did not know the names of the investment alternatives. They were labelled "Stock Fund 1", "Stock Fund 2", and "Stock Fund 3". In addition, we showed the historical one-year returns,
R- (5): Once again people did not know the real names of the investment alternatives, but they saw the historical five-year returns,
N: In this condition, we only showed the names of the investments without any historical return information.

The second page contained questions regarding the one-year investment horizon. The respondents might envisage that next year would be their pension ages, and they could not withdraw the money up to one year. We asked our participants three types of questions:

1. Market expectations by estimating a lower bound (10%-quantile), a median value (50%-quantile), and an upper bound (90%-quantile) for IDR1,000,000,000 investment in each of the investment alternatives.
2. Subjective risk assessments on each of the three risky investments. The respondents were requested to assess the risk of those three investment alternatives on a scale from 1 to 9 in which 1 means no risk and 9 refers to the highest risk.
3. Portfolio allocation offering a risk-free investment opportunity and the three risky investment alternatives. Herein, we used an artificial risk-free investment that constantly gave a guaranteed annual return of 10 percent.

No sooner did they complete filling out their answers on page 2 of the questionnaires, the participants went on opening the next page of the questionnaires in which they were not allowed to reopen page 2. Questions on page 3 resembled those on page 2 with a crucial distinction that we altered the investment horizon into the five-year investment horizon. At the time, the participants were requested to envisage that they had to invest the money but could not withdraw the money up to the next five years. We required that the respondents not use the information of other respondents' questionnaires to affirm that cognitive bias did not influence the participants' decisions.

Variables, Measures, and Data Analysis Methods

***Hypothesis 1*:** There is a difference between expected return perception in short investment horizon and that in long investment horizon for Indonesian investors

The historical returns on the three investment alternatives (IHSG-Fund, N225-Fund, and DJIA-Fund) were calculated, both one-year returns and five-year returns. We calculated the annual returns as follows:

$$R_{it} = \ln(i_{te}/i_{tb}) \tag{1}$$

R_{it} = return on investment i (i = IHSG-Fund, N225-Fund, DJIA-Fund) in year t (t = 1970-2002 for N225-Fund and DJIA-Fund, but t = 1985-2002 for IHSG-Fund),
i_{te} = value or price of investment i the end of year t,
i_{tb} = value or price of investment i at the beginning of year t.

Therefore, we obtained $R_{IHSG1985}$-$R_{IHSG2002}$, $R_{N2251970}$-$R_{N2252002}$, and $R_{DJIA1970}$-$R_{DJIA2002}$. Subsequently, we calculated the average annual returns as follows:

$$\mu i1 = \frac{\sum_{t=1970}^{2002} R_{it}}{33} \tag{2}$$

μ_{i1} = average annual return on investment i,
R_{it} = return on investment i in year t.

Equation (2) above was intended to calculate the average annual returns on N225-Fund and DJIA-Fund. However, for IHSG-Fund, we had to adjust the number of the years since we only had the historical data of IHSG from 1985.

$$\mu i1 = \frac{\sum_{t=1985}^{2002} R_{it}}{18} \tag{3}$$

μ_{i1} = average annual return on investment i (i = IHSG-Fund),
R_{it} = return on investment i (i = IHSG-Fund) in year t.

Eventually, we calculated the historical one-year return on each asset as follows:

$$R_{i1historical(point)} = e^{\mu il} - 1 \tag{4}$$

$R_{i1historical(point)}$ = historical one-year return on investment i,
e = the base of natural logarithms,
μ_{i1} = average annual return on investment i.

The method of calculating historical five-year returns on each investment alternative was analogous with that of calculating the historical one-year returns. From page 2 and page 3 of our questionnaires, we obtained the market expectations of the respondents: estimated lower bound (10%-quantile), estimated median value (50%-quantile), and estimated upper bound (90%-quantile) for IDR1,000,000,000 investment in each investment alternative. In order to examine the data, we transformed the lower bound, the median, and the upper bound value estimates of each participant on each investment alternative in each investment horizon into the expected returns. We utilized the estimator of Pearson and Tukey applied by Siebenmorgen et al. (2000) and Siebenmorgen and Weber (2000). The formula is as follows:

$$E(R)_{ij} = 0.3\ln(Y_{ijl}{}^{0.1}/1{,}000{,}000{,}000) + 0.4\ln(Y_{ijm}{}^{0.5}/1{,}000{,}000{,}000) + 0.3\ln(Y_{iju}{}^{0.9}/1{,}000{,}000{,}000) \quad (5)$$

$E(R)_{ij}$ = expected return on investment i of participant j,
Y_{ijl} = lower bound estimate on investment i of participant j,
Y_{ijm} = median value estimate on investment i of participant j,
Y_{iju} = upper bound estimate on investment i of participant j.
We then found the expected return on each asset of each participant, both for one-year horizon and for five-year horizon.

Subsequently, we examined our first null hypothesis using the perceptional return bias. We used equation (6) and equation (7) below to calculate the expected return biases in one-year investment horizon and in five-year investment horizon, respectively.

$$E(R_{bias})_{ij1} = \frac{E(R)_{ij1}}{R_{i1historical(point)}} - 1 \quad (6)$$

$$E(R_{bias})_{ij5} = \frac{E(R)_{ij5}}{R_{i5historical(point)}} - 1 \quad (7)$$

$E(R_{bias})_{ij1}$ = expected return bias on investment i of participant j in one-year horizon,
$E(R_{bias})_{ij5}$ = expected return bias on investment i of participant j in five-year horizon,
$E(R)_{ij1}$ = expected return on investment i of participant j in one-year horizon,
$E(R)_{ij5}$ = expected return on investment i of participant j in five-year horizon,
$R_{i1historical(point)}$ = historical one-year return on investment i,
$R_{i5historical(point)}$ = historical five-year return on investment i.

Subsequently, we compared $E(R_{bias})_{ij1}$ to $E(R_{bias})_{ij5}$ on each investment alternative to find evidence whether $E(R_{bias})_{ij1}$ and $E(R_{bias})_{ij5}$ were from the same population. Although we had a large number of sample and that the data were in ratio scales, we decided to do the normality tests. We tested the normal distribution assumption using the one-sample Kolmogorov-Smirnov test, which resulted in an abnormality of our data. Consequently, the statistical tool utilized was a nonparametric version of paired-samples t-test, the Wilcoxon W-test.

Shefrin (2000) postulates that framing effect may lead investors to behave irrationally in making investment decisions. Hence, we examined the framing effect as well. We were motivated to know whether $E(R_{bias})_{ij}$ of participants who on page 1 of the questionnaires were given either only the names of the investment alternatives (N), only the historical returns (R-), or the names and the historical returns (R+), were the same. Kruskal-Wallis H-test, a nonparametric version of one-way ANOVA, was used to examine the framing effect. The testing was conducted on each investment alternative in both short investment horizon and long investment horizon.

Subsequently, we also wondered if $E(R_{bias})_{ij}$ of the participants who obtained historical one-year return information on page 1 of the questionnaires was the same with $E(R_{bias})_{ij}$ of the respondents who got the historical five-year return information on page 1 of the questionnaires. Mann-Whitney U-test was used to examine this statistical informational effect. The examination was done on each investment alternative in both short investment horizon and long investment horizon.

Hypothesis 2: Risk perception in short investment horizon is different from that in long investment horizon for Indonesian investors. We firstly calculated the standard deviation of the annual returns as follows:

$$\sigma_{i1} = \sqrt{\frac{\sum_{t=1970}^{2002} (R_{it} - \mu_{i1})^2}{33}} \qquad (8)$$

σ_{i1} = standard deviation of annual return on investment i,
μ_{i1} = average annual return on investment i,
R_{it} = return on investment i in year t.

The equation above was used for calculating the standard deviation of the annual returns on N225-Fund and DJIA-Fund. However, for IHSG-Fund, we again had to adjust the number of the years as follows:

$$\sigma_{i1} = \sqrt{\frac{\sum_{t=1985}^{2002} (R_{it} - \mu_{i1})^2}{18}} \qquad (9)$$

σ_{i1} = standard deviation of annual return on investment i (i = IHSG-Fund),
μ_{i1} = average annual return on investment i (i = IHSG-Fund),
R_{it} = return on investment i (i = IHSG-Fund) in year t.
Subsequently, we calculated the historical standard deviation of one-year return on each investment using the following formula:

$$\sigma_{i1historical(point)} = \sqrt{e^{2\mu_{i1}} . (e^{\sigma_{i1}^2} - 1)} \qquad (10)$$

$\sigma_{i1historical(point)}$ = historical standard deviation of one-year return on investment i,
e = the base of natural logarithms,
μ_{i1} = average annual return on investment i,
σ_{i1} = standard deviation of annual return on investment i.

The calculation of the historical standard deviation of five-year returns on each investment alternative was analogous with that of historical standard deviation of one-year returns. The participants exhibited their market expectations on page 2 and page 3 of the research questionnaires in which the market expectations were estimated in lower bound (10%-quantile), median (50%-quantile), and upper bound (90%-quantile) values for IDR1,000,000,000 investment in each investment alternative. In the testing of the first hypothesis, we found the expected returns on each asset in short and long investment horizons. In order to examine the data, we transformed the lower bound, the median, and the upper bound value estimates of each participant on each investment alternative in each investment horizon into the standard deviation forecasts of the expected returns.

$$\sigma_{ij\text{forecast}} = \sqrt{\begin{aligned}&(0.3\ln(Y_{ij}^{0.1}/1{,}000{,}000{,}000)^2 + 0.4\ln(Y_{ij}^{0.5}/1{,}000{,}000{,}000)^2 + \\ &0.3\ln(Y_{ij}^{0.9}/1{,}000{,}000{,}000)^2) - (E(R)_{ij})^2\end{aligned}} \tag{11}$$

$\sigma_{ij\text{forecast}}$ = standard-deviation-of-expected-return forecast on investment i of participant j,
Y_{ijl} = lower bound estimate on investment i of participant j,
Y_{ijm} = median value estimate on investment i of participant j,
Y_{iju} = upper bound estimate on investment i of participant j,
$E(R)_{ij}$ = expected return on investment i of participant j.

We then calculated the standard-deviation-of-the-expected-return forecasts of each respondent on each investment alternative, in both one-year horizon and five-year horizon. Eventually, we examined our second hypothesis using the standard deviation bias. We used equation (12) and equation (13) below to calculate the standard-deviation-on-the-expected-return biases in one-year investment horizon and in five-year investment horizon, respectively.

$$\sigma_{(\text{bias})ij1} = \frac{\sigma_{ij1\text{forecast}}}{\sigma_{i1\text{historical(point)}}} - 1 \tag{12}$$

$$\sigma_{(\text{bias})ij5} = \frac{\sigma_{ij5\text{forecast}}}{\sigma_{i5\text{historical(point)}}} - 1 \tag{13}$$

$\sigma(_{\text{bias}})_{ij1}$ = standard-deviation-of-expected-return bias on investment i of participant j in one-year horizon,
$\sigma(_{\text{bias}})_{ij5}$ = standard-deviation-of-expected-return bias on investment i of participant j in five-year horizon,
$\sigma_{ij1\text{forecast}}$ = standard-deviation-of-expected-return forecast on investment i of participant j in one-year horizon,
$\sigma_{ij5\text{forecast}}$ = standard-deviation-of-expected-return forecast on investment i of participant j in five-year horizon,
$\sigma_{i1\text{historical(point)}}$ = historical standard deviation of one-year return on investment i,
$\sigma_{i5\text{historical(point)}}$ = historical standard deviation of five-year return on investment i.

Our null hypothesis states that the risk perceived by investors in short investment horizon is the same as the risk perceived in the long investment horizon. We compared $\sigma(_{\text{bias}})_{ij1}$ to $\sigma(_{\text{bias}})_{ij5}$ on each investment alternative to prove whether $\sigma(_{\text{bias}})_{ij1}$ was significantly different from $\sigma(_{\text{bias}})_{ij5}$. Wilcoxon W-test was used to examine the hypothesis. We required that α or the credence level be 5 percent to be able to reject the null hypothesis.

As conducted in the examination of our first hypothesis, we examined the framing effect likewise. We applied the Kruskal-Wallis H-test to examine the framing effect on each investment alternative in both short investment horizon and long investment horizon. Moreover, Mann-Whitney U-test was again utilized to test the statistical informational effect. The examination was conducted on each investment alternative and in both investment horizons.

As mentioned in the previous part, risk perception in this study is divided into the standard deviation forecasts and the subjective risk assessments. On page 2 and page 3 of the questionnaire, not only did we request the respondents to give their market expectations, but we also asked the participants to give their subjective risk assessments on each investment alternative. The respondents assessed the risk of the three investment alternatives on a scale from 1 to 9 in which 1 means no risk and 9 refers to the highest risk.

Accordingly, we acquired the subjective risk assessments on each asset in one-year and five-year horizons. We denote the subjective risk assessment on investment i of participant j as SR_{ij}. We then made a comparison between SR_{ij1} and SR_{ij5}, where SR_{ij1} is the subjective risk assessment on investment i of participant j in one-year horizon and SR_{ij5} is the subjective risk assessment on investment i of participant j in five-year horizon. Using the Wilcoxon W-test, we desired to find evidence whether the subjective risk assessment in the short investment horizon was the same as that in the long investment horizon for each investment alternative.

In the testing of the first hypothesis, we would like to know whether the expected return bias in the short investment horizon was the same as that in the long investment horizon. Subsequently, from the second hypothesis testing, we desired to find whether the risk perception in the short investment horizon was also the same as that in the long investment horizon. It is unreasonable to talk about investment returns without considering the risk. Hence, in order to get more formal evidence, we combined those two variables, the expected returns and the standard deviation forecasts. By dividing the expected returns by the standard deviation forecasts, we obtained the risk-adjusted expected returns.

$$\text{R - a E(R)}_{ij1} = \frac{E(R)_{ij1}}{\sigma_{ij1forecast}} \tag{14}$$

$$\text{R - a E(R)}_{ij5} = \frac{E(R)_{ij5}}{\sigma_{ij5forecast}} \tag{15}$$

R-a $E(R)_{ij1}$ = risk-adjusted expected return on investment alternative i of participant j in the one-year investment horizon,
R-a $E(R)_{ij5}$ = risk-adjusted expected return on investment alternative i of participant j in the five-year investment horizon,
$E(R)_{ij1}$ = expected return on investment i of participant j in the one-year horizon,
$E(R)_{ij5}$ = expected return on investment i of participant j in the five-year horizon,
$\sigma_{ij1forecast}$ = standard-deviation-of-expected-return forecast on investment i of participant j in one-year investment horizon,
$\sigma_{ij5forecast}$ = standard-deviation-of-expected-return forecast on investment i of participant j in five-year investment horizon.

We then compared R-a $E(R)_{ij1}$ to R-a $E(R)_{ij5}$ in which the testing procedures were the same with that of the expected return biases. Risk-adjusted expected return is the main consideration for making an investment decision; hence, by analyzing the difference between the risk-adjusted expected return in short horizon and that in the long horizon, we expected to acquire a better measure of how investors consider their investment horizons in calculating the returns and the risk.

DATA ANALYSIS AND DISCUSSION

Descriptive Statistics

As elaborated in the previous chapter, we delivered the questionnaires to 217 participants. We could only find 172 questionnaires completed properly, which were used for analysis. Table 1 below exhibits the condition of questionnaires received.

Table 1: Received Questionnaires per Condition

Statistical Information	Only Names	Only Historical Information		Names and Historical Information	
		1 year	5 years	1 year	5 years
	N	R- (1)	R- (5)	R+ (1)	R+ (5)
Number of the questionnaires	41	33	26	38	34

As shown in Table 1, we received nearly an equal number of questionnaires for each condition.

<u>Testing of the Differences of Expected Returns</u>

Prior to testing the hypothesis, first of all we checked for the normality of the data. Although we had a large number of sample, and that the data were in ratio scales, we decided to do the normality tests using the one-sample Kolmogorov-Smirnov test. The results are exhibited in the following table.

Table 2: Normality Tests on the Expected Return Data

Variable	Kolmogorov-Smirnov Z
$E(R_{bias})_{IHSGj1}$	1.509*
$E(R_{bias})_{IHSGj5}$	1.542*
$E(R_{bias})_{N225j1}$	1.769**
$E(R_{bias})_{N225j5}$	1.567*
$E(R_{bias})_{DJIAj1}$	1.882**
$E(R_{bias})_{DJIAj5}$	1.908**
R-a $E(R)_{IHSGj1}$	1.343
R-a $E(R)_{IHSGj5}$	3.021**
R-a $E(R)_{N225j1}$	0.898
R-a $E(R)_{N225j5}$	2.527**
R-a $E(R)_{DJIAj1}$	1.034
R-a $E(R)_{DJIAj5}$	2.784**

** significant at the credence level of 5 percent,*
*** significant at the credence level of 1 percent.*

The results in Table 2 show that almost all of the data to be examined in this research were not normally distributed. Accordingly, we used the nonparametric statistical tools to examine the hypothesis. In order to examine the first hypothesis, we compared $E(R_{bias})_{ij1}$ to $E(R_{bias})_{ij5}$ on each investment alternative using the Wilcoxon W-test to find evidence whether $E(R_{bias})_{ij1}$ and $E(R_{bias})_{ij5}$ were from the same population. The results are shown in the following table.

Table 3: Tests of the Differences between Expected Return Bias in One-year Horizon and Those in Five-year Horizon

Variable			Mean	Median	Z
$E(R_{bias})$	One-year	IHSG-Fund	0.453965340	0.174012285	-7.480**
	Five-year	IHSG-Fund	-0.505253709	-0.607050194	
	One-year	N225-Fund	2.533902989	1.086276476	-5.483**
	Five-year	N225-Fund	0.375234457	0.134455099	
	One-year	DJIA-Fund	1.968830662	1.074539265	-7.601**
	Five-year	DJIA-Fund	-0.211784085	-0.046749800	

** significant at the credence level of 5 percent,*
*** significant at the credence level of 1 percent.*

From the testing results depicted in Table 4, it can be seen that investors tend to overestimate the investment returns in the shorter investment horizon and tend to underestimate the expected returns in the longer investment horizon, except for the expected return on the N225-Fund that is slightly overestimated in the long horizon. Nevertheless, the overestimation of the N225-Fund in the short investment horizon is still much higher than its overestimation in the long investment horizon. In other words, in general, five-year returns are inclined to be underestimated vis-à-vis one-year returns. The evidence prevails for all the three investment alternatives. Moreover, the differences between the expected return biases of the three assets in short investment horizon and those of the assets in long investment horizon are strongly significant for all assets. Hence, we may reject the first null hypothesis, indicating that that there is a significant difference between the expected return perception in the short investment horizon and that in the long investment horizon for Indonesian investors. The investors are inclined to overestimate the expected returns in the shorter investment horizon and tend to underestimate the expected returns in the longer horizon. Subsequently, we examined the framing effect regarding the three types of information. We would like to know whether the differences of expected return perception were influenced by the framing effect. The testing was conducted using the Kruskal-Wallis test, and the results are shown in the following table.

Table 4: Tests of Framing Effect on the Expected Return Biases

			Frame						
	Variable		**N**		**R-**		**R+**		χ^2
			Mean	**Median**	**Mean**	**Median**	**Mean**	**Median**	
	One-year	IHSG-Fund	0.6895	0.2986	0.8136	0.2986	0.0250	-0.0726	4.889
	Five-year	IHSG-Fund	-0.4194	-0.6124	-0.5571	-0.6556	-0.5116	-0.5954	1.733
	One-year	N225-Fund	6.0594	4.5148	2.0225	0.8531	0.9453	0.1588	26.269**
	Five-year	N225-Fund	0.9969	0.6071	0.0563	-0.0627	0.2824	-0.0166	14.079**
	One-year	DJIA-Fund	3.7899	2.6975	1.4717	0.4597	1.3390	1.0705	17.837**
$E(R_{bias})$	**Five-year**	DJIA-Fund	0.6479	0.2722	-0.0743	-0.2601	0.1978	0.0482	13.236**

* *significant at the credence level of 5 percent,*
** *significant at the credence level of 1 percent.*

From the testing results, it can be seen that the framing effect does not influence the IHSG-Fund, both in one-year horizon and in five-year horizon. However, the N225-Fund and the DJIA-Fund are significantly influenced by the framing effect. The investors tend to assess higher expected returns in N condition than in R+ and R- conditions. The possible reason for this phenomenon is that when the respondents were only given the names of the investment alternatives without any historical return information, they estimated the assets' returns using their commonsense and knowledge that Dow Jones Industrial Average and Nikkei 225 were very famous and prospective market indices as they were located in the largest and second largest economies in the world, respectively. Accordingly, due to the unavailability of historical returns, the respondents had to estimate the returns by relying on their personal judgments on the DJIA-Fund and the N225-Fund, which might include the popularity of those assets and the mindsets of respondents towards those investment alternatives.

Meanwhile, we cannot significantly find the framing effect on the IHSG-Fund. The salient reason that may elaborate the evidence is that the investors have sufficient knowledge of the Indonesian capital market and its market index, including its developments and even its historical returns, since most of the respondents have traded stocks on the Jakarta Stock Exchange. Hence, the frames, either R+, R-, or N, do not influence the investors' expected returns since the participants have had huge amount of information on the characteristics and the prospect of the market index.

We also examined the statistical informational effect on the expected return bias in which we desired to know whether the participants who were given the assets' historical annual returns on page 1 of their questionnaires estimated the same expected returns as the respondents who got the historical five-year returns on page 1 of their questionnaires. Mann-Whitney U-test was utilized, and the testing results are shown in the following table.

Table 5: Tests of Statistical Informational Effect on the Expected Return Biases

Variable			Statistical Information				U
			Annual Returns		Five-year Returns		
			Mean	Median	Mean	Median	
	One-year	IHSG-Fund	0.19204	0.12191	0.60291	0.12366	2017.500
	Five-year	IHSG-Fund	-0.57148	-0.65566	-0.48552	-0.59669	1971.500
	One-year	N225-Fund	1.29271	0.18889	1.59354	0.49280	2111.500
	Five-year	N225-Fund	0.11545	-0.06274	0.25781	-0.04089	2041.000
	One-year	DJIA-Fund	0.58330	0.08748	2.36393	1.38387	1382.500**
$E(R_{bias})$	Five-year	DJIA-Fund	-0.14213	-0.25379	0.33251	0.04910	1624.500**

* *significant at the credence level of 5 percent,*
** *significant at the credence level of 1 percent.*

Except for the DJIA-Fund, both in short horizon and in long horizon, we cannot find any significant statistical informational effect on the expected return perception. For the DJIA-Fund, the respondents who acquired the historical five-year return data on page 1 of their questionnaires tended to assess higher expected returns than those who got the historical one-year returns on page 1 of their questionnaires. The possible rationale is intertwined with the data coverage. The historical annual return data encompassed the data from 1970 to 2002 whereas the data of historical five-year return only covered the period of 1970-1999. Accordingly, the historical annual return data included the period when World Trade Center tragedy occurred; consequently, the DJIA decreased sharply at the time. Hence, the participants who were given the historical five-year return data on page 1 of their questionnaires were inclined to assess higher expected returns compared to those who got the historical annual return data on page 1 of their questionnaires.

Examination of the Differences of Risk Perception

While the first hypothesis is concerned with the expected return perception, the second hypothesis is related to the bias of standard deviation perception or the bias of the risk perception. The null hypothesis postulates that the risk perception in the short investment horizon is the same with that in the long investment horizon.We tested the normality of data in the first hypothesis. Likewise, we also checked the normality of data in the second hypothesis. The following table summarizes the results.

We again found the abnormality on part of the data. Therefore, the nonparametric tests were used for examining the hypothesis. In the testing of the second hypothesis, we compared $\sigma(_{bias})_{ij1}$ to $\sigma(_{bias})_{ij5}$ in order to find whether the risk perception in the short investment horizon was the same as that in the long investment horizon. The results are as follows.

Table 6: Normality Tests on the Standard Deviation Data

Variable	Kolmogorov-Smirnov Z
$\sigma(_{bias})_{IHSGj1}$	0.659
$\sigma(_{bias})_{IHSGj5}$	1.884**
$\sigma(_{bias})_{N225j1}$	0.963
$\sigma(_{bias})_{N225j5}$	1.827**
$\sigma(_{bias})_{DJIAj1}$	0.792
$\sigma(_{bias})_{DJIAj5}$	2.127**

* *significant at the credence level of 5 percent,*
** *significant at the credence level of 1 percent.*

Table 7: Tests of the Differences between Standard Deviation Bias in One-year Horizon and That in Five-year Horizon

Variable			Mean	Median	Z
$\sigma_{(bias)}$	**One-year**	IHSG-Fund	-0.027047340	-0.019692959	-11.098**
	Five-year	IHSG-Fund	-0.683814402	-0.655886041	
	One-year	N225-Fund	0.916728247	0.923914360	-10.718**
	Five-year	N225-Fund	-0.264626891	-0.211582745	
	One-year	DJIA-Fund	2.184228816	2.259319519	-11.136**
	Five-year	DJIA-Fund	-0.010600186	0.102920467	

* *significant at the credence level of 5 percent,*
** *significant at the credence level of 1 percent.*

The evidence shows that the difference between the risk perception in the short investment horizon is significantly different from that in the long investment horizon for the three investment alternatives. Hence, we can reject the second null hypothesis. The findings indicate that the investors tend to underestimate the long-term risk while overestimating the short-term risk, except for the risk perception on IHSG-Fund that is somewhat underestimated in the short horizon. Nevertheless, the underestimation of the risk perception on the IHSG-Fund in the longer horizon is much higher than the underestimation of the IHSG-Fund's risk in the shorter horizon.

Subsequently, we checked for the framing effect on the risk perception. We would like to know whether the differences of standard deviation perception were influenced by the framing effect, which was participants were given either only the names and descriptions of the three risky investments (N), only the historical returns (R-), or the names and the historical returns (R+). The testing was conducted using the Kruskal-Wallis test.

Table 8: Tests of Framing Effect on the Standard Deviation Bias

Variable			Frame						
			N		**R-**		**R+**		χ^2
			Mean	**Median**	**Mean**	**Median**	**Mean**	**Median**	
$\sigma_{(bias)}$	One-year	IHSG-Fund	-0.0257	-0.0139	0.0205	0.0145	-0.0667	-0.0658	0.975
	Five-year	IHSG-Fund	-0.6757	-0.6556	-0.6904	-0.6575	-0.6830	-0.6535	0.286
	One-year	N225-Fund	1.4683	1.5257	0.8413	0.8088	0.6643	0.4123	16.634**
	Five-year	N225-Fund	-0.1522	-0.1133	-0.3141	-0.2350	-0.2880	-0.2366	12.986**
	One-year	DJIA-Fund	2.9693	3.0601	1.8234	1.9143	2.0328	2.1760	15.370**
	Five-year	DJIA-Fund	0.1540	0.1994	-0.1043	-0.0011	-0.0275	0.1003	17.162**

* *significant at the credence level of 5 percent,*
** *significant at the credence level of 1 percent.*

It is very interesting to see that the findings substantiate the testing results of the framing effect on the expected return biases. While the framing effect does influence the expected return perception, where investors who received the questionnaires in N condition (only names of the assets were given) tend to overestimate the expected return on the N225-Fund and the DJIA-Fund, we also find that the framing effect significantly influences the standard deviation perception on the N225-Fund and the DJIA-Fund. The investors who received the questionnaires in N condition are inclined to estimate higher volatility forecasts than those who received the questionnaires in R+ and R- conditions.

It is possible that due to the unavailability of historical returns in N condition and because of the unfamiliarity of the respondents to the N225-Fund and the DJIA-Fund, the investors tend to be careful and anxious about the risk, especially after the World Trade Center tragedy and in the circumstances of Gulf War II. Therefore, they estimate higher risk on those funds in N condition than the risk in R+ and R- conditions.Moreover, we would like to examine whether the standard deviation biases of the participants who got the historical one-year return information on page 1 of the questionnaires were the same as those of the respondents who obtained the historical five-year return information on page 1 of the questionnaires. Mann-Whitney U-test was utilized again to test the statistical informational effect. The testing was conducted for each investment alternative and in both investment horizons.

Table 9: Tests of Statistical Informational Effect on the Standard Deviation Bias

Variable			Statistical Information				U
			Annual Returns		Five-year Returns		
			Mean	Median	Mean	Median	
$\sigma_{(bias)}$	One-year	IHSG-Fund	-0.02950	-0.02040	-0.02500	-0.04219	2112.500
	Five-year	IHSG-Fund	-0.68400	-0.65616	-0.68911	-0.65456	2012.500
	One-year	N225-Fund	0.73946	0.68759	0.74957	0.54962	2074.500
	Five-year	N225-Fund	-0.30051	-0.23508	-0.29897	-0.23665	2126.000
	One-year	DJIA-Fund	1.5556	1.66992	2.39153	2.37725	1453.500**
	Five-year	DJIA-Fund	-0.07387	-0.00274	-0.04824	0.05789	2041.500

* *significant at the credence level of 5 percent,*
** *significant at the credence level of 1 percent.*

Table 9 above exhibits that in general, the statistical informational effect does not influence the participants' risk perception. The only significant result is prevalent for the DJIA-Fund in short investment horizon. From the testing of the statistical informational effect on the expected return biases, the investors who acquired the historical five-year return data on page 1 of their questionnaires tend to estimate higher expected returns than those who got the historical one-year returns on page 1 of their questionnaires. Hence, the possible rationale for the phenomenon is that they expect higher rate of returns subsequent to the higher risk assumed. Therefore, not only do they overestimate the expected returns, but they also overestimate the risk when they received the historical five-year return data on page 1 of their questionnaires.

We had tested the differences of risk perception in terms of standard deviation forecasts. Afterwards, we desired to examine the differences of the respondents' subjective risk assessments as a complement to the volatility forecasts. As explained in the previous chapter, we also requested the participants to give their subjective risk assessment on the three investment alternatives by choosing a number from 1 to 9 for each asset, where 1 means no risk at all while 9 indicates the highest risk. Since the data were in ordinal scales, we directly utilized the Wilcoxon test to examine the differences. We exhibit the results in Table 10 below.

Table 10: Tests of the Differences between Subjective Risk Assessments in One-year Horizon and Those in Five-year Horizon

Variable			Mean	Median	Z
SR	**One-year**	IHSG-Fund	5.9012	6.00	-6.262**
	Five-year	IHSG-Fund	5.0233	5.00	
	One-year	N225-Fund	5.6744	5.00	-8.265**
	Five-year	N225-Fund	4.6512	4.50	
	One-year	DJIA-Fund	4.4826	4.00	-5.679**
	Five-year	DJIA-Fund	3.6570	3.00	

* *significant at the credence level of 5 percent,*
** *significant at the credence level of 1 percent.*

As found in the differences of standard deviation forecasts, we find consistent results in the testing of the subjective risk assessments. The investors tend to assess lower subjective risk in the longer horizon than that in the shorter investment horizon. The differences are significant for all investment alternatives. Accordingly, this evidence substantiates the finding on the underestimation of the long-term volatility forecasts, and supports the rejection of the second null hypothesis.

In the testing of the first hypothesis, we prove that the expected return biases in the short investment horizon are significantly different from those in the long investment horizon, where the investors are inclined to estimate higher expected returns in the short horizon than in the long horizon. From the results of the second hypothesis testing, we find that the risk perception in the short investment horizon is also significantly different from that in the long investment horizon. The participants tend to underestimate the long-term standard deviations and tend to perceive higher risk in the short horizon than in the long horizon. It is unreasonable to discuss investment returns without considering the risk. Hence, in order to get more formal evidence, we combined those two variables, the expected returns and the standard deviation forecasts. By dividing the expected returns by the standard deviation forecasts, we obtained the risk-adjusted expected returns. We then compared R-a $E(R)_{ij1}$ to R-a $E(R)_{ij5}$ in which the testing procedures were similar to that of the expected return biases. We show the results below.

Table 11: Tests of the Differences between Risk-adjusted Expected Returns in One-year Horizon and Those of in Five-year Horizon

Variable			Mean	Median	Z
R-a E(R)	**One-year**	IHSG-Fund	0.242345184	0.261078810	-10.000**
	Five-year	IHSG-Fund	0.744162316	0.541177210	
	One-year	N225-Fund	0.214124836	0.209929184	-10.697**
	Five-year	N225-Fund	0.688281852	0.558564962	
	One-year	DJIA-Fund	0.302201868	0.287518506	-10.558**
	Five-year	DJIA-Fund	0.851145105	0.602763610	

* *significant at the credence level of 5 percent,*
** *significant at the credence level of 1 percent.*

The testing results in Table 11 indicate that the investors are significantly inclined to assess higher risk-adjusted expected returns in the long investment horizon than those in the short investment horizon. The first hypothesis testing finding leads us to conclude that Indonesian investors tend to give lower expected returns in the longer investment horizon. However, it must be noted that the result is not conflicted with the finding that the investors are inclined to expect higher risk-adjusted returns in the longer investment horizon. In the first hypothesis testing, the denominators were the historical expected return on the three investment alternatives whereas in the testing of the risk-adjusted expected returns, the denominators were the standard deviation forecasts.

Accordingly, the underestimation of the standard deviations really plays an important role in increasing the risk-adjusted expected returns in the long investment horizon. In other words, the underestimation of the standard deviation forecasts in the longer investment horizon is much higher than the overestimation of the expected returns in the shorter investment horizon. Hence, we may conclude that different investment horizons do exert a significant influence on the expected returns and the risk perception of Indonesian investors.

CONCLUSIONS

After examining the hypotheses and testing several effects, we find evidence as follows. First, the difference between the expected return bias in short investment horizon and that in long investment horizon is strongly significant for all assets analyzed in this study. The investors tend to overestimate the investment returns in the shorter investment horizon and tend to underestimate the expected returns in the longer investment horizon, except for the expected return on the N225-Fund that is slightly overestimated in the long horizon. Hence, the first null hypothesis is rejected, and the alternate hypothesis is substantiated.

Second, the investors are inclined to estimate much higher expected returns in N condition than in R+ and R- conditions. The framing effect does not influence the IHSG-Fund, both in one-year horizon and in five-year horizon. However, the N225-Fund and the DJIA-Fund are significantly influenced by the framing effect.

Third, except for the DJIA-Fund, both in short horizon and in long horizon, we cannot find any significant statistical informational effect on the expected return perception. For the DJIA-Fund, the investors who acquired the historical five-year return data on page 1 of their questionnaires tend to estimate higher expected returns than those who got the historical one-year returns on page 1 of their questionnaires.

Fourth, the difference between the risk perception in the short investment horizon is significantly different from that in the long investment horizon. The results are evident for the three investment alternatives. Hence, we reject the second null hypothesis. An elaboration that can be made from the findings is that the investors tend to underestimate the long-term risk while overestimating the short-term risk, except for the risk perception on IHSG-Fund that is somewhat underestimated in the short horizon. Nevertheless, the underestimation of the risk perception on the IHSG-Fund in the longer horizon is much higher than the underestimation of the IHSG-Fund's risk in the shorter horizon.

Fifth, the framing effect significantly influences the standard deviation perception on the N225-Fund and the DJIA-Fund, both in short horizon and in long horizon. The investors who received the questionnaires in N condition are inclined to estimate higher volatility forecasts than those who received the questionnaires in R+ and R- conditions.

Sixth, in general, the statistical informational effect does not influence the participants' risk perception. The only significant result is prevalent on the DJIA-Fund in short investment horizon.

Seventh, the investors tend to assess lower subjective risk in the longer horizon than that in the shorter investment horizon. The difference is significant for all investment alternatives. Accordingly, this evidence substantiates the finding of the underestimation of the long-term volatility forecasts, and supports the rejection of the second null hypothesis.

Eight, the investors are significantly inclined to estimate higher risk-adjusted expected returns in the long investment horizon than those in the short investment horizon. The underestimation of the standard deviations really plays a crucial role in increasing the risk-adjusted expected returns in the long investment horizon. In other words, the underestimation of the standard deviation forecasts in the longer investment horizon is much higher than the overestimation of the expected returns in the shorter investment horizon.

IMPLICATIONS

Based on the findings of this study, there are several implications for investment community. First,
In making investment decisions, investors should consider their investment horizons. The longer their horizons, the higher their opportunities to put their funds in riskier assets.Second, due to the tendency of the investors to be willing to assume higher portfolio risk in the longer investment horizon, the investment managers, including the mutual fund managers, should accommodate this intent. The investment professionals should recommend their investors whose investment horizons are long to invest in riskier assets while recommending their investors whose horizons are short to invest in less risky assets. Third,
this research finds that the framing effect has an influence on the expected returns, the risk perception, and the investment decisions when the investors do not well recognize the characteristics of the assets. In the situation, they hinge on personal judgments on the assets where the popularity of the assets may also affect the investors' decisions. Unfortunately, the fact shows that the popular assets do not necessarily provide higher risk-adjusted returns vis-à-vis the less popular assets. Hence, in order to minimize the framing effect in the real investing circumstances, investors should analyze the fundamentals of those assets, including their historical returns, before making investment decisions.

LIMITATIONS AND SUGGESTIONS

Research on the investment horizons is still a new study in Indonesia, and we acknowledge that this study has limitations to be improved in subsequent research. These limitations are. First, the sample used in this research is graduate students of Universitas Gadjah Mada, Indonesia. The students may come from various backgrounds, not only financial managers or investors. Hence, next researches had better use various types of investors. Second, this study does not examine the sequence effect, which is whether the investment decisions of respondents who firstly answer short-horizon questions and then answer long-horizon questions are different from the investment decisions of respondents who firstly answer long-horizon questions and then answer short-horizon questions. Therefore, future studies may accommodate this effect. Third, one of the natural weaknesses of behavioral finance is the distinction between perceptions and real actions. The perceptions given by the investors do not necessarily guarantee that the respondents will precisely conduct what they have answered in the questionnaires. Hence, bias in behavioral finance research is not impossible.

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ORGANIZATIONAL CULTURE: PREFERENCES AND REALITIES

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ABSTRACT

An understanding of the organizational cultural preferences of new hires is required in order to achieve a person-organization fit—the key to reducing job turnover and maintaining a committed workforce. In addition, because all organizations socialize new hires (formally or informally) to understand "the way things are done around here," a knowledge of preferences that are changeable—and those that are not—is both valuable and necessary. In this study we have provided findings on both the changeability of preferences through organizational socialization, as well as findings on differences in preferences across five world regions, across four countries in two world regions (Europe and Asia), and across countries within a world region (Latin America)—all with an emphasis on graduates with MBA degrees.

JEL: D23, M12, M14, M16, M51,M53,M54

INTRODUCTION

Job turnover is a major concern for organizations. The cost for recruiting new hires in the United States averages $6,000 (Leibowitz, Scholossberg, and Shore, 1991) and, for new MBA hires, the worldwide average is $12,073 (Schoenfeld, 2005). These recruiting costs alone make it in the best interest of the organization to reduce turnover. When the monetary and non-monetary costs of training, start-up time, and integration into the organization's operations and culture are also considered, the importance of reducing job turnover becomes even more apparent.

Previous research suggests that turnover can occur when new hires fail to integrate into the organizational culture (Leibowitz, Scholossberg, and Shore, 1991; Cable and Parson, 2001) or when there is a lack of person-organization fit (Chatman, 1991). Research further suggests that a fit between organizations and their employees results in greater commitment to the organization, higher job satisfaction, and reduced intention to leave (e.g. Bretz and Judge, 1994; Chatman, 1989; O'Reilly, Chatman, and Caldwell, 1991; McMillan and Lopez, 2001). Person-organization fit is a key to maintaining a committed workforce, which is especially important in today's competitive business environment and increasingly tight labor market. Both selection and socialization process determine successful person-organization fit (Chatman, 1991). The selection process involves a mutual assessment between the prospective employee and the organization (McMillan and Lopez, 2001; Cable and Parson, 2001). Once the individual is hired, organizations then employ a series of techniques to ensure a smooth process of socialization and acculturation.

Organizational socialization is the process by which employees learn the values, abilities, expected behaviors, and social knowledge that are essential for integrating effectively into an organization (Louis, 1980; Selmer and de Leor, 1993; Chatman, 1991). When the socialization process is effective, employees' personal values align with organizational values, and those values are a fundamental element in most definitions of organizational culture. Organizational culture is a system of values and beliefs that form the foundation of an organization's management practices and behaviors (Denison, 1990). An understanding of the organizational cultural preferences of new hires is required in order to achieve a person-organization fit—the key to reducing job turnover and maintaining a committed workforce. In addition, because all organizations socialize new hires (formally or informally) to understand "the way things are

done around here," a knowledge of preferences that are changeable—and those that are not—is both valuable and necessary.
Because person-organization fit is a key factor in maintaining a committed workforce, and because workforces are becoming increasingly heterogeneous, it is important to understand the organizational culture preferences of potential employees. This paper reports the result of a study conducted to increase this understanding through the pursuit of answers to two research questions:

1. To what extent are the organizational culture preferences of new hires affected by organizational socialization; and

2. To what extent do individuals from different cultures differ in their preferences?

The focus of the study is on individuals who graduate with MBA degrees. To answer the first question, the study reports the organizational culture preferences of MBA students prior to the selection and socialization process. These preferences are compared to MBA alumni with eighteen months of post-MBA work experience and post-MBA organizational socialization. To determine the extent to which MBA student preferences will likely be satisfied in reality, their preferences are compared to actual organizational culture reported by MBA employers. In addition, MBA alumni preferences are compared to actual organizational culture to determine the extent to which preferences are modified by the organization. Differences among preferences of MBA students by world region and select countries are examined to answer the second question. Data for the study are from surveys sponsored by the Graduate Management Admission Council (GMAC), a not-for-profit education association best known around the world as provider of the Graduate Management Admission Test (GMAT). In pursuit of answers to the second question, we do not mean to suggest that cultural influences bind the behavior of individuals or organizations or operate in a simplistic manner without complex interactions that ultimately determine outcomes. Rather, in asking and answering our two questions, we wish to present to the HRM and OB communities previously unavailable information on MBAs, highly valued additions to organizations' workforces.

LITERATURE REVIEW

Deshpandé and Farley (1999) draw on research by Quinn (1988) to categorize four types of organizational cultures: Competitive (which emphasizes competitive advantage and market superiority); Entrepreneurial (which emphasizes innovation and risk taking); Bureaucratic (which emphasizes internal regulations and formal structures); and Consensual (which emphasizes loyalty, tradition, and internal focus). Organizations typically exemplify a combination of these four types of culture, but with an emphasis on particular types.

The extent to which prospective employees select an organization and new employees acculturate into an organization is dependent on the fit between the individual and the organizational culture. Individuals posses personal values, preferences, and expectations before they enter an organization. Additionally, an individual's national culture also influences their unique values and norms. Geert Hofstede (1980, 1991) developed four dimensions of differences in values that constitute elements of national cultures that are especially relevant to research on management; and Hofstede and Bond (1988) added a fifth dimension. The first dimension is Power Distance, defined as the acceptable degree of inequality among people. In a culture with high Power Distance, such as France and India, you could expect a preference for relatively bureaucratic organizations (Deshpandé and Farley, 1999; Overby, 2005). The second dimension is Individualism, the degree to which people prefer to act as individuals, often expecting personal, rather than group, awards. Much literature exists about the individualism of Western cultures compared to the collectivism of Eastern cultures. The third dimension is Masculinity, the degree to which "masculine" values such as assertiveness and competition are preferred over "feminine" values such as importance of relationships and service. The fourth dimension is Uncertainty Avoidance, which is the degree to which people prefer structured situations in which the rules about how they should behave are clear (Hofstede, 1980). France is an example of a culture that emphasizes uncertainty avoidance. French managers often emphasize rules, regulations, and control of employees (Overby, 2005). Finally, the fifth dimension is long-term orientation, the degree to which a culture focuses on the future.

Although Hofstede's work has been widely cited in the social sciences, recent research has questioned the extent to which "between-country differences in cultural values and related concepts are large relative to within-country differences" (Gerhart and Fang 2005). Indeed, these authors demonstrate that Hoftede incorrectly interpreted the results of his statistical analysis and that only between 2 and 4 percent of the variance in the items he analyzed is explained by country differences. Other objections relate not so much to Hofstede's work, but to the way in which it has been applied. Bearden et al (2005) argue that Hofstede's VSM and VSM 94 are intended to measure "aggregate-level values at the country level" and are not appropriate for measuring "individual-level behavioral phenomena" (pp. 195-6).

Leung et al (2005), in their compressive review of advances in the understanding of the relationship between culture and international business, note that "recently scholars have argued that, instead of addressing whether or not national culture makes a difference, it is more useful to address the issue of *how* and *when* it makes a difference" (p. 368). Accordingly, these authors point to the need to understand factors that moderate the influence of culture. In the study of HRM practices, this has been done extremely well. Aycan (2005), for example, derives thirty-five propositions from published studies that describe the complex interactions of culture and institutional/structural contingencies (e.g., organization size, type of industry/job, public/private sector) associated with differences in HRM practices. As Leung et al (2005) conclude: "Yes, culture does matter. However, there will be certain circumstances when it matters more and others when it matters less" (p. 370).

In addition to studies of the influence of culture, past research has made general connections between selection and socialization experiences and an individual's preferences and changes in preferences. The socialization research literature has discovered much about how new employees learn about a culture after they enter an organization; however, little research exists on an individual's organizational culture preferences prior to employment (for an exception, see Cable and Parson, 2001; Cable et al., 2000). Understanding individual values and preferences in the context of organizational culture and the organization's socialization process is especially important today, as business is becoming more and more global. Multinational companies are increasingly interested in promoting their organizational culture to improve control, coordination, and integration of their subsidiaries. In addition, globalization produces increasingly heterogeneous workforces. This places additional demands on human resource personnel as they coordinate selection decisions.

METHODOLOGY

The findings reported are based on surveys among three constituencies: MBA graduates, MBA alumni, and MBA employers. We first discuss the general methodology used in the surveys and then the specific methodologies for each of the three surveys utilized in this paper.

Surveys were conducted online; therefore, item non-response errors are eliminated using available technology that requires questions to be answered before advancing further. Randomization is used to control for order bias.

Global MBA® Graduate Survey

The Global MBA® Graduate Survey, first implemented in 2000, is an annual survey of students in their final year of graduate business school. The survey objectives are to gauge the opinions of graduating students regarding their education and the value of the MBA degree, to gather information on how students choose the school they attend, whether they would recommend their school, what they intend to do with their degree after graduation, as well as other objectives.

To develop the sample for Global MBA® Graduate Surveys, schools provide email addresses for their graduates. A link to the online survey is sent via email to sample members by GMAC or, in some cases, by the schools themselves. Data from Global MBA® Graduate Surveys conducted in 2002, 2004, and 2005 are used in this study because questions were asked in these survey years on the organization culture preferences of graduates. Table 1 shows the number of schools participating, the sampling frames, sample sizes, and response rates for each of the years. As the table shows, an average of 126 schools participated during these years; and the average response rate was 32%. Seventy-nine percent of respondents are from schools located in the United States. Schools located in other world regions contributed the balance of respondents, as follows: Europe, 9%; Canada, 8%; and Asia/Australia, 4%.

Table 1: Global MBA Graduate Surveys

Survey Aspect	2002	2004	2005	Average
Number of Schools	113	128	136	126
Sampling Frame	15,027	18,504	18,520	17,350
Sample Size	4,736	6,223	5,829	5,596
Response Rate	32%	34%	31%	32%

Respondents to Global MBA® Graduate Surveys indicate their citizenship by selecting from a list of 214 specific countries, plus "other country" category. In order to explore possible differences in the cultural preferences of graduates from different regions of the world, five regional categories were created: Asia, Canada, United States, Latin America and the Caribbean, and Europe. Some respondents could not be included in these world regions and are excluded from the analysis. Results are based on a combined sample of respondents from Global MBA Surveys conducted in 2002, 2004, and 2005. Citizens of 137 of the 214 specific countries are represented in this combined sample.

MBA Alumni Perspectives Survey

The MBA Alumni Perspective Survey is a biannual panel survey of graduate business school alumni who previously participated in Global MBA® Graduate Surveys. The survey objectives are to understand first and/or current job characteristics, track changes in responsibilities, promotions, and salaries, assess the performance of graduate management education, monitor the educational needs of alumni, as well as other objectives.

The analysis for this paper is based on results from the MBA Alumni Perspective Survey conducted in March 2002. A sub-sample of alumni from the class of 2000 with 18 months of post-MBA work experience is used. The response rate to the March 2002 survey was 61%.

Both the 2002 Global MBA® Graduate Survey and the Alumni Perspectives Survey were conducted in March 2002. The decision to use a sub-sample of graduates from the MBA class of 2000 controls for possible environmental effects (social and economic) on results and assures that respondents have been exposed to post-MBA organizational socialization.

Corporate Recruiters Survey

The Corporate Recruiters Survey, an annual survey of MBA employers, was first implemented in the 2001–2002 recruiting season. The survey objectives are to gather information that graduate business school professionals, MBA students, and prospective students can use to gauge the job market and better understand employer expectations; to gather information MBA employers can use to develop recruiting and hiring plans; and to provide comprehensive data to business school professionals and employers that they can use to benchmark their MBA recruiting practices.

This study uses results from the 2003–2004 Corporate Recruiters Survey. To develop the sample for the Corporate Recruiters Survey, schools provide the names and email addresses of those who hire their students. For the 2003–2004 survey, 209 schools were invited to participate and 79 did so (a response rate among schools of 37.8%). This produced a sampling frame of 11,463 recruiters and a sample size of 1,299 (a response rate of 11.3%). A company-based analysis of respondents showed a response rate among companies of 21.3%.

In summary, then, the samples used to answer the two research questions are as follows: 1. To what extent does organizational socialization affect the organizational culture preferences of new hires? Three samples are used: a sample of all graduates who participated in the Global MBA Graduate Survey 2002, a sub-sample of alumni who participated in an MBA Alumni Survey conducted at the same time (i.e., those who graduated in 2000), and a sample of corporate recruiters; 2. To what extent do individuals from different cultures differ in their preferences? One sample is used: a combined sample of graduates who participated in Global MBA Surveys 2002, 2004, and 2005 that is subdivided by world region or country of citizenship.

To assess organizational culture and respondent preferences (where applicable), nine pairs of items were presented that can be used to describe organizational culture. Respondents to graduate and alumni surveys were presented with the following: Each of the following pairs of items describes different types of organizational culture. Most organizations reflect a mixture, but most people prefer one or the other item in each pair. Please select the item in each pair that best describes your preference for organization culture. Respondents to the Corporate Recruiters Survey were asked to select the item that best described their organization. Table 2 lists the nine pairs of items, along with a summary descriptor (e.g., focus, competition-cooperation, etc.). Respondents did not see these summary descriptors. In order to control for order bias, the item pairs were randomized when presented on respondents' screens.

Percentages of respondents preferring each item in the nine pairs (graduates and alumni) or describing their organization with the item (corporate recruiters) are used to summarize responses. In this study, ANOVA evaluates the overall statistical significance of differences across groups used in each analysis; and post hoc Bonferroni tests evaluate the significance of differences between pairs of groups. This involves coding the items in each pair as either one or two and assumes that the underlying scale is interval. While it could be argued that the underlying scales are ordinal, rather than interval, and that a nonparametric analysis may be more appropriate, the large sample sizes in most analyses suggest that a more conservative approach would not have yielded results substantially (or meaningfully) different from those achieved with ANOVA. Due to the large sample sizes, a $p < .001$ significance level is used in the ANOVA analyses across the three groups—students, alumni, and corporate recruiters, as large samples are likely to produce statistically significant results. This .001 level reduces the possibility of concluding that results are statistically significant when those same results may not be practically significant

FINDINGS

Students, Alumni, and Organization Reality

MBA students in the Global MBA® Survey 2002 indicated their preferences for organizational culture using the same nine pairs of items that respondents of the Corporate Recruiters Survey 2003–04 used to describe the actual culture in their organizations. In addition, alumni of the MBA graduating class of 2000 indicated their preferences for organizational culture in the MBA Alumni Perspectives Survey conducted when they had about eighteen months of post-MBA work experience. It is possible, then, to evaluate (1) the extent to which preferences of students are likely to be satisfied in reality; and (2) the extent to which preferences of alumni may be modified by reality. The data necessary to do this are presented in Table 3. In this table, the cultural pairs are ranked from those on which there is most agreement among corporate recruiters (e.g., focus, competition-cooperation) to those for which there is least agreement (e.g., responsibilities, decision-making). As noted earlier, ANOVA was used with post hoc Bonferroni tests to evaluate statistical significance. Results of these analyses are presented in Table 4, which shows ANOVA findings across the three groups, as well as results of the pairwise Bonferroni tests. In the discussion following Table 4, pairwise conclusions are drawn based on a significance level of $p < .05$.

Table 2: Organizational Culture Descriptors: Item Pairs

Pair Descriptor	Item Pairs
Focus	Focus on company success
	Focus on public good
Competition-cooperation	Internal competition
	Cooperative atmosphere
Career path	Well-defined career path
	Flexible career opportunities
Atmosphere	Formal atmosphere
	Informal atmosphere
Goals	Clear, well-communicated vision
	Flexible, adaptable corporate goals
Procedures	Formalized procedures
	Loosely defined procedures
Rewards	Individual performance-based reward
	Team-based reward
Responsibilities	Clearly defined responsibilities
	Varied/fluid responsibilities
Decision making	Centralized decision making
	Decentralized decision making

Simultaneous consideration of Tables 3 and 4 shows the following: *Focus* - Students have a significantly greater preference for a focus on public good than do alumni. Alumni preferences for a focus on public good match the organization reality reflected by recruiters. *Competition-cooperation* - The preference of students for a cooperative atmosphere significantly exceeds the preferences of alumni; and the preferences of alumni significantly exceed organization reality.

Career Path - Students have a significantly greater preference for flexible career opportunities than do alumni. The preference of alumni for flexible career opportunities matches the organization reality reflected in the descriptions from recruiters. *Atmosphere* - Both students and alumni have a significantly greater preference for an informal atmosphere than the reality described by recruiters. *Goals* - Students have a significantly greater preference for a clear, well-communicated vision than do alumni. However, the preference of alumni for a clear, well-communicated vision matches the organization reality reflected in the descriptions of recruiters. *Procedures* - Both students and alumni have a significantly lower preference for formalized procedures than the reality described by recruiters. *Rewards*- Alumni have a significantly greater preference for individual performance-based rewards than do students *or* the description of reality given by recruiters. Furthermore, the description given by recruiters significantly exceeds the preference indicated by students. *Responsibilities*- Students have a significantly lower preference for varied, fluid responsibilities than do alumni. The preference of alumni for varied, fluid responsibilities matches organization reality. *Decision Making* - The preference of students for decentralized decision making significantly exceeds the preferences of alumni; and the preferences of alumni significantly exceed organization reality.

Table 3: Organizational Culture Preferences and Realities

Company Characteristic	MBA Students (Class of 2002) *n* = 4,736	MBA Alumni (Class of 2000) *n* = 378	MBA Employers (2003–04) *n* = 1,279
Focus*			
Focus on company success	73%	85%	86%
Focus on public good	27%	15%	14%
Total	100%	100%	100%
Competition-cooperation*			
Internal competition	8%	16%	20%
Cooperative atmosphere	92%	84%	80%
Total	100%	100%	100%
Career path*			
Well-defined career path	15%	23%	21%
Flexible career opportunities	85%	77%	79%
Total	100%	100%	100%
Atmosphere*			
Formal	16%	19%	31%
Informal	84%	81%	69%
Total	100%	100%	100%
Goals*			
Clear, well-communicated vision	76%	69%	65%
Flexible, adaptable corporate goals	24%	31%	35%
Total	100%	100%	100%
Procedures*			
Formalized	56%	52%	63%
Loosely defined	44%	48%	37%
Total	100%	100%	100%
Rewards*			
Individual performance-based	57%	71%	62%
Team-based	43%	29%	38%
Total	100%	100%	100%
Responsibilities*			
Clearly defined	47%	39%	41%
Varied/fluid	53%	61%	59%
Total	100%	100%	100%
Decision-making*			
Centralized decision making	16%	31%	48%
Decentralized decision making	84%	69%	52%
Total	100%	100%	100%

*In this table, we show the percentages of each group preferring each one of the two items in each of the cultural pairs. As regards Focus, for example, the majority of students, alumni, and employers prefer a focus on company success (73%, 85%, and 86%, respectively). However, 27% of students prefer a focus on public good, contrasted with 15% of alumni and 14% of employers. * $p < .001$, ANOVA from Table 4*

This analysis suggests that organization reality has its most powerful influence on the modification of the individual in four areas: *Focus* - The preference for public good as opposed to company success.

Career Path - The preference for flexible career opportunities as opposed to a well-defined career path.

Goals - The preference for a clear, well-communicated corporate vision as opposed to flexible, adaptable career goals.

Responsibilities - The preference for varied, fluid responsibilities as opposed to clearly defined responsibilities. Organization reality appears less powerful in modifying the preferences of individuals in two areas. In these areas, the preferences of alumni move in the direction of organization reality, but remain significantly different from it:
Competition-cooperation - The preference for a cooperative rather than competitive atmosphere.

Decision-making - The preference for decentralized decision-making rather than centralized decision-making.

In two other areas, organization reality appears to have no effect on individual preferences: *Atmosphere* - The preference for an informal atmosphere over a formal one. *Procedures* - The preference for loosely defined procedures over formalized procedures. Finally, in one area—Rewards—the preference of alumni (within 18 months of graduation) for individual performance-based rewards appears to be intensified by their organizational experience. The preference of alumni for individual, performance-based rewards is greater than that of students or organizational reality as described by recruiters.

Table 4: Significance Tests for Table 3 Analysis

Company Characteristic	**ANOVA***		**Post Hoc Bonferroni Tests (Sig.)**		
	F, df=2	**Sig.**	**Students, Alumni**	**Students, Recruiters**	**Alumni, Recruiters**
Focus	61.7	0.000	0.000	0.000	NS
Competition-cooperation	94.3	0.000	0.000	0.000	0.037
Decision-making	20.0	0.000	0.000	0.000	0.000
Career path	74.5	0.000	0.000	0.000	NS
Goals	309.6	0.000	0.020	0.000	NS
Procedures	31.0	0.000	NS	0.000	0.000
Atmosphere	13.4	0.000	NS	0.000	0.000
Rewards	15.4	0.000	0.000	0.009	0.008
Responsibilities	12.2	0.000	0.005	0.000	NS

**ANOVA across the three groups for Table 3 findings is significant for all nine cultural pairs ($p < .001$). As regards the post hoc Bonferroni tests and the pairwise comparisons for Focus in Table 3, for example, the preferences of students differ significantly from those of alumni ($p < .001$) and from those of recruiters ($p < .001$), but the preferences of alumni do not differ significantly from those of recruiters (NS).*

Cultural Preferences in Five World Regions

To answer our second research question, we turn to Table 5—the organizational culture preferences of citizens from the five world regions; the same order of cultural item pairs is used as in the previous analysis. ANOVA results show that students differ significantly in their preferences across the five regions for all nine pairs of cultural orientation. Results of the post hoc Bonferroni tests show whether respondents from each region differ significantly from those of each other region in their preferences. Table 6 reports all pairwise comparisons, $p < .01$.

Table 5: Preferences of Students from Five World Regions

Company Characteristic	**Asia** *n* **= 2,863**	**United States** *n* **= 9,665**	**Canada** *n* **= 1,141**	**Latin America** *n* **= 774**	**Europe** *n* **= 1,620**	**F, df=4**	**Sig.**
Focus							
Focus on company success	76%	72%	74%	78%	77%	10.7	.000
Focus on public good	24%	28%	26%	22%	23%		
Total	100%	100%	100%	100%	100%		
Competition-cooperation							
Internal competition	13%	10%	11%	8%	10%	7.4	.000
Cooperative atmosphere	87%	90%	89%	92%	90%		
Total	100%	100%	100%	100%	100%		
Career path							
Well-defined career path	31%	21%	19%	24%	18%	41.3	.000
Flexible career opportunities	69%	79%	81%	76%	82%		
Total	100%	100%	100%	100%	100%		
Atmosphere							
Formal atmosphere	23%	21%	19%	23%	14%	15.6	.000
Informal atmosphere	77%	79%	81%	77%	86%		
Total	100%	100%	100%	100%	100%		
Goals							
Clear, well-communicated vision	76%	77%	78%	73%	73%	4.8	.001
Flexible, adaptable corporate goals	24%	23%	22%	27%	27%		
Total	100%	100%	100%	100%	100%		
Procedures							
Formalized procedures	65%	58%	53%	69%	54%	29.3	.000
Loosely defined procedures	35%	42%	47%	31%	46%		
Total	100%	100%	100%	100%	100%		
Rewards							
Individual performance-based reward	55%	67%	62%	51%	60%	44.7	.000
Team-based reward	45%	33%	38%	49%	40%		
Total	100%	100%	100%	100%	100%		
Responsibilities							
Clearly defined responsibilities	69%	47%	45%	58%	54%	123.2	.000
Varied/fluid responsibilities	31%	53%	55%	42%	46%		
Total	100%	100%	100%	100%	100%		
Decision-making							
Centralized decision making	22%	24%	18%	13%	16%	26.4	.000
Decentralized decision making	78%	76%	82%	87%	84%		
Total	100%	100%	100%	100%	100%		

In this table, we show the percentages of students from each world region preferring each one of the two items in each of the cultural pairs. As regards Decision-making, for example, the majority of students prefer decentralized decision-making, regardless of world region. The preference for centralized decision-making is lowest among citizens of Latin America, Europe, and Canada (13%, 16%, and 18%, respectively) and highest among citizens of Asia and the United States (22% and 24%, respectively).

Tables 5 and 6 show the following regional differences: *Focus* - While the majority of graduates from all world regions prefer a focus on corporate success, those from the United States are significantly more likely to prefer a focus on the public good than are those from Asia, Latin America, and Europe.
Competition-cooperation - The majority of graduates from all world regions prefer a focus on a cooperative atmosphere. Those from Asia are significantly more likely to prefer internal competition than are those from the United States, Latin America, and Europe, although in each world region, the preference for internal competition is the preference of a small minority. *Career path* - Asians are significantly less likely to prefer flexible career opportunities than are citizens of all other world regions; and Europeans prefer flexible career opportunities more than do Latin Americans. *Atmosphere-*

Europeans prefer an informal atmosphere significantly more than do Asians, U.S. citizens, and Latin Americans. *Goals* - U.S. citizens prefer a clear, well-communicated vision more than Europeans do. *Procedures* - Asians and Latin Americans prefer formalized procedures more than U.S. citizens, Canadians, and Europeans do; and U.S. citizens prefer formalized procedures more than Canadians and Europeans do. *Rewards* - Individual, performance-based rewards (as opposed to team-based rewards) are preferred more by U.S. citizens and Canadians than Asians; more by U.S. citizens than Latin Americans and Europeans; and more by Canadians and Europeans than by Latin Americans. *Responsibilities* - Varied, fluid responsibilities are preferred less by Asians than by citizens of all other world regions and are preferred more by U.S. citizens and Canadians than by Latin Americans and Europeans. *Decision-making* - Asians prefer decentralized decision-making less than do Latin Americans and Europeans; and decentralized decision-making is preferred less by U.S. citizens than Canadians, Latin Americans, and Europeans.

Table 6: Comparisons of Organizational Culture Preferences among World Regions

Cultural Orientation	Citizens of this World Region Prefer the Orientation	Significantly More than Citizens of this World Region
Focus on company success	Asia, Latin America, Europe	U.S.
Cooperative atmosphere	U.S., Latin America, Europe	Asia
Flexible career opportunities	U.S., Canada, Latín America, Europe	Asia
	Europe	Latin America
Informal atmosphere	Europe	Asia, U.S., Latin America
Clear, well-communicated vision	U.S.	Europe
Formalized procedures	Asia, Latin America	U.S., Canada, Europe
	U.S.	Canada, Europe
Individual, performance-based rewards	U.S., Canada	Asia
	U.S.	Latin America, Europe
	Canada, Europe	Latin America
Varied, fluid responsibilities	U.S., Canada, Latin America, Europe	Asia
	U.S., Canada	Latin America, Europe
Decentralized decision-making	Latin America, Europe	Asia
	Canada, Latin America, Europe	U.S.

Cultural Preferences in Four Countries

While regional analysis is clearly instructive, additional insight into the preferences of students can be gained through analysis at the country level. For these analyses, two European countries were selected (United Kingdom and France) and two Asian countries (China and India). As sample sizes are reduced from those in the preceding regional analysis, we return to a $p < .05$ level of significance in the interpretation of results. Table 7 shows the preferences of graduates from the four countries, as well as ANOVA results across the four countries. .

As Table 7 shows, students across the four countries do not differ significantly in their preferences for goals (a clear, well-communicated vision versus flexible, adaptable corporate goals). Nor do they differ in their preferences for individual, performance-based or team-based rewards. For the seven other cultural pairs, ANOVA results show significant differences across the four countries. A summary of significant between-country differences (based on $p < .05$ for the Bonferroni tests) for these seven other cultural pairs appear in Table 8.

Tables 7 and 8 show the following significant differences among the four countries: *Focus* - Citizens of India prefer a focus on company success significantly more than do citizens of France. *Competition-cooperation* - Citizens of India prefer a cooperative atmosphere less than do citizens of the other four countries. *Career Path* - Citizens of both European countries (the United Kingdom and France) prefer flexible career opportunities more than do citizens of both of the Asian countries (China and India); and within Asia, citizens of India prefer flexible career opportunities significantly more than do citizens of China. *Atmosphere* - An informal atmosphere is preferred less by citizens of China than by citizens of the other three countries. *Procedures* - Formalized procedures are preferred less by citizens of the United Kingdom than by citizens of the other three countries and more by citizens of China than by citizens of India. *Responsibilities* - Varied, fluid responsibilities are preferred more by citizens of the United Kingdom than by citizens of the other three countries and more by citizens of France and India than by citizens of China. *Decision-making* - Citizens of China prefer decentralized decision-making less than do citizens of the other three countries.

Table 7: Preferences of Students from Four Countries

Cultural Orientation	**UK** $n = 341$	**France** $n = 238$	**China** $n = 765$	**India** $n = 841$	**F, df=3**	**Sig.**
Focus						
Focus on company success	74%	70%	78%	79%	3.4	.017
Focus on public good	26%	30%	22%	21%		
Total	100%	100%	100%	100%		
Competition-cooperation						
Internal competition	11%	7%	10%	17%	9.3	.000
Cooperative atmosphere	89%	93%	90%	83%		
Total	100%	100%	100%	100%		
Career path						
Well-defined career path	16%	14%	36%	27%	24.4	.000
Flexible career opportunities	84%	86%	64%	73%		
Total	100%	100%	100%	100%		
Atmosphere						
Formal atmosphere	11%	13%	30%	17%	26.7	.000
Informal atmosphere	89%	87%	70%	83%		
Total	100%	100%	100%	100%		
Goals						
Clear, well-communicated vision	72%	73%	78%	76%	1.9	NS
Flexible, adaptable corporate goals	28%	27%	22%	24%		
Total	100%	100%	100%	100%		
Procedures						
Formalized procedures	46%	63%	69%	62%	18.1	.000
Loosely defined procedures	54%	37%	31%	38%		
Total	100%	100%	100%	100%		
Rewards						
Individual performance-based reward	57%	54%	59%	57%	0.6	NS
Team-based reward	43%	46%	41%	43%		
Total	100%	100%	100%	100%		
Responsibilities						
Clearly defined responsibilities	37%	61%	77%	63%	58.7	.000
Varied/fluid responsibilities	63%	39%	23%	37%		
Total	100%	100%	100%	100%		
Decision-making						
Centralized decision making	14%	16%	33%	13%	39.3	.000
Decentralized decision making	86%	84%	67%	87%		
Total	100%	100%	100%	100%		

Example: In this table, we show the percentages of students from each of the four countries preferring each one of the two items in each of the cultural pairs. As regards Decision-making, the majority of students prefer decentralized decision-making, regardless of their country of citizenship. However, 33% of the students from China prefer centralized decision-making, contrasted with 14% of those from the UK, 16% of those from France, and 13% of those from India.

Table 8: Comparisons of Organizational Culture Preferences in Four Countries

Cultural Orientation	Citizens of this Country Prefer the Orientation	Significantly More than Citizens of this Country
Focus on company success	India	France
Cooperative atmosphere	UK, France, China	India
Flexible career opportunities	UK, France	China, India
	India	China
Informal atmosphere	UK, France, India	China
Clear, well-communicated vision	(No significant differences)	
Formalized procedures	France, China, India	UK
	China	India
Individual, performance-based rewards	(No significant differences)	
Varied, fluid responsibilities	UK	France, China, India
	France, India	China
Decentralized decision-making	UK, France, India	China

Cultural Differences within a World Region: Latin America

We now shift our focus from an emphasis across world regions and across countries in different world regions to a focus on countries within a world region—specifically, Latin America. Included in this analysis are all Latin American countries in our combined sample of graduating MBA students for which $n > 30$: Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela. Table 9 presents the results. At a significance level of $p < .01$, citizens of the seven countries overall differ significantly on only one cultural dimension—atmosphere. Although the majority of Latin Americans prefer an informal atmosphere to a formal one, pairwise comparisons of countries show that citizens of Mexico prefer a formal atmosphere significantly more than do citizens of Argentina and Brazil—35% of Mexicans, contrasted with 12% and 18% of Argentineans and Brazilians, respectively ($p < .05$). Colombians, whose preference for a formal atmosphere matches that of Brazilians, are not included in the contrast because of a smaller sample size (yielding a marginally significant $p = .059$). This effect from smaller sample sizes for Latin American countries than for European and Asian countries in the previous analysis makes the present analysis more suggestive than conclusive. That is, differences across countries for some of the other cultural dimensions should be noted, even if they are not statistically significant. Among these are the preferences of 30% of Colombians and Peruvians for a well-designed career path, contrasted with 18% of Chileans, as well as the preference of 18% of Venezuelans for centralized decision-making, contrasted with 9% of Colombians. Indeed, these differences—essentially exploratory in nature in light of the relatively small sample sizes—offer a foundation for more extensive, large-scale investigations at the country level.

Table 9: Comparisons of Organizational Culture Preferences in Seven Latin American Countries

Cultural Orientation	**Argentina** ***n*** **= 86**	**Brazil** ***n*** **= 113**	**Chile** ***n*** **= 39**	**Colombia** ***n*** **= 88**	**Mexico** ***n*** **= 162**	**Peru** ***n*** **= 100**	**Venezuela** ***n*** **= 62**	**F, df=6**	**Sig.**
Focus									
Focus on company success	83%	75%	82%	76%	80%	81%	77%	..440	NS
Focus on public good	17%	25%	18%	24%	20%	19%	23%		
Total	100%	100%	100%	100%	100%	100%	100%		
Competition-cooperation									
Internal competition	9%	4%	13%	6%	9%	7%	5%	.401	NS
Cooperative atmosphere	91%	96%	87%	94%	91%	93%	95%		
Total	100%	100%	100%	100%	100%	100%	100%		
Career path									
Well-defined career path	21%	20%	18%	30%	28%	30%	19%	1.331	NS
Flexible career opportunities	79%	80%	82%	70%	72%	70%	81%		
Total	100%	100%	100%	100%	100%	100%	100%		
Atmosphere									
Formal atmosphere	12%	18%	18%	18%	35%	24%	21%	3.918	.001
Informal atmosphere	88%	82%	82%	82%	65%	76%	79%		
Total	100%	100%	100%	100%	100%	100%	100%		
Goals									
Clear, well-communicated vision	77%	73%	64%	70%	75%	71%	69%	.688	NS
Flexible, adaptable corporate goals	23%	27%	36%	30%	25%	29%	31%		
Total	100%	100%	100%	100%	100%	100%	100%		
Procedures									
Formalized procedures	59%	70%	72%	65%	71%	79%	65%	2.194	NS
Loosely defined procedures	41%	30%	28%	35%	29%	21%	35%		
Total	100%	100%	100%	100%	100%	100%	100%		
Rewards									
Individual performance-based rewards	56%	44%	54%	45%	56%	41%	52%	2.216	NS
Team-based reward	44%	56%	46%	55%	44%	59%	48%		
Total	100%	100%	100%	100%	100%	100%	100%		
Responsibilities									
Clearly defined responsibilities	55%	61%	59%	61%	59%	56%	48%	.911	NS
Varied/fluid responsibilities	45%	39%	41%	39%	41%	44%	52%		
Total	100%	100%	100%	100%	100%	100%	100%		
Decision-making									
Centralized decision making	12%	12%	10%	9%	12%	13%	18%	.303	NS
Decentralized decision making	88%	88%	90%	91%	88%	87%	82%		
Total	100%	100%	100%	100%	100%	100%	100%		

Example: In this table, we show the percentages of students from each of the seven Latin American countries that prefer each one of the two items in each of the nine cultural pairs. As regards Atmosphere, for example, the majority of students from Latin American countries prefer an informal atmosphere, regardless of their country of citizenship. Thirty-five percent of Mexicans, however, prefer a formal atmosphere, contrasted with 12% of Argentineans and 24% of Peruvians, for example.

DISCUSSION

Individuals' organizational culture preferences prior to the organizational socialization process are markedly different from reality. This could be a function of context, wherein students are moving out of a cooperative, team-based learning environment into the business world.

The findings from this study suggest that these preferences change as employees have gone through an organization's socialization process and have gained experience with the realities of the business environment. They move towards a preference for *Bureaucratic Culture* (which emphasizes internal regulations and formal structures). This may reduce their *Uncertainty Avoidance* (the degree to which people prefer structured situations in which the rules about how they should behave are clear). This is exactly the purpose of *Organizational Socialization* (the process by which employees learn the values, abilities, expected behaviors, and social knowledge that are essential for integrating effectively into an organization). Alternatively, it could be because the educational environment fosters (or allows) values that are more idealistic than realistic.

Because value orientations are pervasive in their influence on behavior, it is important that managers fully understand them. Leung et al (2005) assert that, in their experience, "most managers are entirely unaware of the impact of culture" (p. 370). Aycan's (2005) discussion of the interplay of cultural and institutional/structural contingencies, however, shows just how complex the impact can be.

Below we speculate on how our findings may affect specific areas with the goal of increasing managerial awareness. In each case, of course, we are only illustrating a possible influence of culture, while ignoring factors that may modify that influence.

Selection. Person-organization fit, as discussed earlier, affects job turnover and job satisfaction. It serves neither the job applicant nor the organization if possible world-region or national differences in organizational cultural preferences are not recognized and considered in the selection process. HR managers responsible for coordinating the recruitment of MBA graduates can utilize the findings presented here to sensitize themselves (and others involved in the recruiting process) to the likely cultural preferences of individuals from different world regions and the four specific countries studied here. For example, 31% of Asians prefer a well-defined career path (contrasted with 18% of Europeans). Recruiting efforts targeted toward new MBAs from Asia clearly need to attend to this difference. That is, the recruiter should expect more specific questions about career path and be prepared with answers that are both responsive to the differential needs of Asians and consistent with the organization's practices and needs.

Placement. Decisions about the first job assignment of recently graduated MBAs can also benefit from knowledge of differences in organizational culture preferences. For example, while the majority of graduates from the four countries studied here prefer an informal atmosphere, Chinese graduates are nearly three times as likely as MBAs from the United Kingdom to prefer a formal atmosphere (30%, compared with 11%). It would appear incumbent upon those deciding the organizational assignments of a new Chinese MBA hire to consider whether the individual prefers a formal atmosphere and to accommodate that desire for both the benefit of both the individual and the organization. Other findings in this study show that organizational reality is not likely to modify the preferences of alumni, at least not within eighteen months of graduation.

Supervision. Supervisors at all levels of the organization need to be able to distinguish between competence-based and culture-based influences on job performance. To assume a competence-based effect when, in fact, the effect is culture-based risks incorrect personnel actions. For example, Chinese citizens are more than twice as likely to prefer clearly defined responsibilities as UK citizens (77%, compared with 37%). A Chinese MBA new to the organization could appear to have competence-based performance problems when, in fact, all that is needed is a clearer definition of responsibilities and performance expectations.

Rewards. The collectivist orientation of Asian and Latin American cultures appears to influence the findings in this study—a relative preference for team-based rewards, compared with MBAs from other world regions. Although the majority of MBAs prefer individual, performance-based rewards regardless of world region, the more common preference for team-based rewards among Asian and Latin American MBAs means their response to reward systems needs to be differentially considered. That is, if individual, team-based rewards are intended to be motivational, they may be less effective with Asians and Latin Americans whose reward-structure preferences differ from existing practices. One could incorrectly conclude that an Asian or Latin American "can't be motivated" when the problem is with the reward system and not the individual.

Socialization. Since the purpose of organizational socialization is to align personal values with organizational values, it is important for both line management and human resource management to understand organizational cultural preferences that are changeable—and those that are not. This study sheds light on the values that are most changeable, at least among MBA graduates after eighteen months of post-MBA work experience. Current expectations of individual change within specific organizations and situations should be informed by what this study shows about likely changes in general across organizations.

Globalization. The effects described in the preceding five areas are multiplied in multinational organizations. With many multinationals moving from having international divisions to embracing a global perspective and a multinational workforce, many companies strive to instill their organizational culture in all locations to provide necessary coherence, coordination, and control. Scrutiny of findings on world region and national similarities and differences should aid the management of multinationals in developing recruiting and training programs that will achieve the global perspective they seek.

FURTHER RESEARCH

An understanding of the organizational cultural preferences of new hires is required in order to achieve a person-organization fit—the key to reducing job turnover and maintaining a committed workforce. In addition, because all organizations socialize new hires (formally or informally) to understand "the way things are done around here," a knowledge of preferences that are changeable—and those that are not—is both valuable and necessary. In this study, we have provided findings on both the changeability of preferences through organizational socialization, as well as findings on differences in preferences across world regions, across four countries in different world regions, and across seven countries within a world region—all with an emphasis on graduates with MBA degrees.

These findings are important because new MBAs are a fundamental source of talent for organizations: correct selection, placement, and development are critical. Recruiters in the GMAC Corporate Recruiters Survey 2007 expected to offer the typical MBA graduate a base salary of $85,000 (Murray, 2007). However, the number of new hires without MBAs far exceeds the number with MBAs. Thus, the first suggestion for further research is the replication of this study among graduates with baccalaureate degrees. Second, as regards the changeability of preferences, the study of MBA alumni should be expanded to include stages in the socialization process beyond the eighteen months of post-MBA work experience studied here. Third, longitudinal research should be conducted to confirm whether conclusions drawn from our cross-sectional design are supported. Fourth, our research is in the tradition of early studies of cross-national cultural influence in which the focus is on cross-national differences. Additional research among MBAs should focus on how and when suspected influences do and do not emerge. Finally, the sample of specific countries needs to be expanded—especially those in Latin America—to permit further generalizations valuable to multinationals whose operations require integration across cultures and countries.

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AN ALTERNATIVE RANKING METHODOLOGY OF THE BEST COLLEGES AND UNIVERSITIES FOR AFRICAN-AMERICANS

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ABSTRACT

For an African-American, choosing the best college or university is important since the choice of college includes the complex decision of whether to attend one of the nation's 89, 4-year Historically Black Colleges or Universities (HBCU) or a Traditionally White Institution (TWI). Numerous periodicals publish annual rankings of the nation's "best colleges." Black Enterprise magazine (BE) focuses on the best colleges for African-Americans. Recently, BE's rankings were criticized by the editors of the Journal of Blacks in Higher Education (JBHE 2005) for "stacking the deck" in favor of HBCUs by applying a low weight to important factors such as retention and graduation rates. This study uses a variation of the College-Football Success Model (Walker, Keogh, & Civils, 2006), to determine the rankings of the best universities for African Americans. With this model we also answer the question; what type of institution, the HBCU or the TWI, is the "best" college choice for African-Americans? The results collected on 411 of the most influential African-Americans in the country, indicate that HBCUs with approximately 32 percent of undergraduate degrees conferred nationally produced 156 of the 411 (or 38%) most influential African-Americans in 2005. It was also found that although HBCUs represent only 4 percent of the nation's approximately 1,800 four year colleges, 52 (or 26%) of the 202 undergraduate schools attended by these individuals were HBCUs. The study also indicates that there is no difference between HBCUs and TWIs in the movement of graduates into "top-quality" graduate schools.

JEL: I21, I23

INTRODUCTION

Attending College is an observable, positive trend in the African-American community. The decision to attend college results in several important choices for future students, such as deciding which type of college to attend. There are approximately 1,800 four year colleges nationally. Magazine based rankings of the nation's colleges and universities assist future students in sorting through the maze of colleges. Many college or university rankings such as U.S. News and World Report, and the Princeton College Review, utilize a multivariable index model employing a number of input and outcome factors to define "best" schools. For example: enrollment, accreditation, average SAT or ACT scores, retention and graduation rates are some of the factors in which schools are ranked. Other factors recently used have included social factors that filter in cultural issues and environment, such as campus infrastructure and student and faculty diversity. For the African-American student contemplating college, factors such as social life, the frequency and severity of racial incidents, the availability of scholarships, general reputation (including male to female ratios), and employment placement rates are also included in the definition of "best" college.

This research supports the idea that all of these factors are important at various subjective weight levels. However, since the subjective weighting scales employed can result in different outcomes, most if not all rankings using the existing multivariable index model are subject to bias. This is the crux of the differences noted in the BE and JBHE discussion. It is observed that HBCUs have a sizable population of students, yet none of these schools are ranked in the first or second tier of colleges or universities in the existing rankings of the main stream media. The obvious bias is towards large richly endowed traditionally white colleges and universities. This is not an indictment of these schools, or the media, since the results reflects the majority view. For the majority of students sorting through the maze of colleges and universities the existing ranking methodologies are aligned with their (or the majority) expectation and although biased, provide a valuable decision guide. The BE rankings seek to fill the vacuum by providing information to the minority population reflecting the African-American experience "that what is good for the majority student may not be good for the minority student". In this paper we introduce a competitive college and university ranking methodology that ranks schools based on the success of its alumni.

We posit that regardless of input factors and values added during the college years, the true test of a school's desirability is the impact that its alumni have on the community in which it serves. A byproduct of this work is an alternative ranking of the 2005 best colleges and universities for African-Americans based on the achievement of the alumni of such schools.

LITERATURE REVIEW

That the best college or university is ultimately determined by the impact of the institution on the "community" is not a new theme. For example: recently Humphreys & Korb (2006) in their study of the short-term economic impact of the nation's HBCUs indicates that the driving motivation to conduct their study was to document "the economic roles that HBCUs play in the community." The study indicates that for the 2001 year the combined spending by the 101 Title IV HBCUs was $6.6 billion and the economic impact was $10.2 billion. They further state that a college or university improves the skills of its graduates, thereby increasing their productivity and lifetime earnings.

The comparative merits of the HBCU vs. TWI educational structures have been debated for a number of years. The consensus by many is that the HBCU has a major advantage in the "best" comparison with respect to the African-American student, primarily due to its nurturing social environment and the absence of racial incidences. For example, Fleming (1984) and Love (1993) indicate that the HBCU environment promotes the graduation of black students because they are in the majority in a supportive environment which lacks racial incidents. Foster (2005) argues that the predominately white institution bombards the black student with countless interactions with the non-black majority that "involve subtle slights and misguided acts by professors, fellow students, resident assistants, academic advisors and in the university community- that lead to alienation among black students". Allen (1992) adds that "African-American students must form cultural connections to survive on a TWI campus." A competitive advantage also exists. Many have suggested that due to the scarcity of resources many lower and upper divisional courses at an HBCU are taught by experienced professors with terminal degrees. In contrast, it is well known that due to their emphasis on research, many TWIs delegate lower divisional courses to current graduate students who may not be experienced teachers and are often overburdened with the concurrent pursuit of an advance degree.

The advantage of the TWI education is the financial resources available for scholarships and infrastructure. In contrast, Gasman, Baez, Drenzer, Sedgwick, Tudico & Schmid (2007) indicate that between 1996 and 2005, "25 percent of Southern Association of Colleges and Schools (SACS) sanctions pertained to black colleges. In addition since 1989 half of the institutions that lost their accreditation from SACS were HBCUs." It is further noted that most reprimands and revocations of accreditation are due to financial deficits, faculty qualifications and campus infrastructure. All of these areas are directly or indirectly linked to the financial resources of the HBCUs.

The underpinnings of the HBCU vs. TWI educational comparisons can be traced to the long-standing debate found in the Supreme Court ruling of Plessy vs. Ferguson, which resulted in the so-called doctrine of “separate but equal”. It is clear, however that in 1896, separate but equal educational systems between black and white was a sham. Due to resource allocation at that time, separate education clearly was not equal. However, as stated by Wright (2005), “Segregation or separate but equal, whatever might have been the nefarious intentions of its creators, allowed black people the space for some level of self-determination. Even with secondhand textbooks and grossly underfinanced schools, black teachers produced students whose education was not merely equal to that of whites at the time, it was superior!”

Later, in the 1954 case of Brown vs. the Board of Education, the Plessy vs. Ferguson “separate but equal” doctrine was put to the test by attorney Thurgood Marshall and his team of lawyers. The result was the reallocation of resources and the general commitment by existing authority to desegregate educational facilities. “The Court in 1954 was right to act against the forced social isolation it decreed in 1896. What was unequal was the division of resources allocated for black education at local, state, and national levels. What was excellence was the legacy of schools under the control of the black community” Wright, (2005). Phillips (2005) adds that while Brown vs. the Board of Education “worked to dispel the fallacy of separate but equal, it created other challenges to create an environment [on TWIs campuses] that is inviting to students of color”.

Boykins and Jones (2005), amplify the argument of effective black educational systems and the general idea that the social environment is important in the enhancement of education for African-Americans. Their research suggests that learning and performance conditions imbued with a communal theme…, one that is historically associated with people of African descent, can lead to higher performance outcomes on a variety of tasks and cognitive demands.” Boykin (1994) further adds that “Today psychological well-being is increasingly associated with embracing and valuing social identities. Research suggests that ethnic or racial identity may often be a source of elevated psychological well-being.”

We now witness a public debate among African-American scholars and practitioners regarding the desirability (or lack thereof) of the educational structures of TWIs versus the HBCUs. The current debate among blacks has intensified to the point that those in the TWI camp find it incomprehensible that those in the HBCU camp would find HBCU educational structures superior to TWI education. And, those in the HBCU camp find the opposite just as incomprehensible. It appears that the TWI camp is anchored on the resource view: greater resources and endowments must result in a first class education. The HBCU camp reflects the prior and future success at the production of results given scarce resources as a measure of academic effectiveness. This study takes a closer look at long-term outcomes, to answer the question: are HBCUs better, worse, or on the same playing field as TWIs in the education of African-American students.

<u>Retention Issues</u>

According to the Black Enterprise Ranking survey (2004), a total of 16 HBCUs were identified among their “50 Best Colleges for African-Americans.” The top three schools listed were Morehouse, Spelman, and Hampton Universities. These rankings were based on the review of the educational structures of 482 colleges collected from 1,855 African-American educators, based primarily on variables such as academic strength and social environment. This approach was considered flawed by the Journal of Blacks in Higher Education (2005). The Black Enterprise (BE) 50 best colleges and universities listings during 2004 and 2005 are noted in Exhibit A.

The Journal of Blacks in Higher Education (2005), in its article, “News and Views; There Are Serious Flaws in the Black Enterprise Ranking of the Best Colleges for African-Americans” is critical of the BE rankings claiming that the BE approach “stacked the deck” (or reflected a bias) in favor of HBCUs. The disagreement was primarily due to the low weight assigned by BE to what JBHE describes as “vital factors such as retention and academic rigor” and the relatively high weight BE employed in areas of "less important factors" such as enrollment rates and social environment. Since BE included a large number of HBCUs with relatively low retention and graduation rates, that were ranked higher than select TWIs, the retention rate issue appears prominent in JBHE's concerns. Subsequent to the Black Enterprise's 2004 rankings and JBHE's 2005 critique, the Virginian-Pilot daily newspaper published an article entitled, Virginia College Graduation Rates (2005), based on data from the 2003 Department of Education which highlighted the relatively high retention rate of the University of Virginia (UVA). At 85 percent, UVA had the highest retention rate for African-Americans of all schools in the State of Virginia. Moreover, since the best college rankings published by U.S. News & World Report (2006) placed Princeton University at number 1 alongside Harvard, JBHE also criticized BE for excluding Princeton from its rankings. According to JBHE, Princeton "has the highest black student graduation rate in the nation".

However, it should be noted that the JBHE (2005) and the Virginia Pilot (2005) articles did not include the number of degrees conferred or enrollment by headcount in support of their statistics. The use of percentages without the underlying numbers, calls into question the conclusions reached, since it must be acknowledged that a 100 percent retention rate is meaningless if extracted from a small population. For example: the total number of African-American students attending Princeton in 2005 was approximately 450 (College Board, 2007).

The University of Virginia has a very high black student graduation rate and there is no question that UVA is an educational powerhouse. According to JBHE, with respect to the black student retention rate, "clearly, black students are more likely to succeed at the University of Virginia." However, when one reviews enrollment numbers rather than percentages, it is found that the total African-American student population at UVA is approximately 1,150, which means at maximum, 975 (assuming an 85% graduation rate) of these students will graduate in six years. In comparison, Hampton University, a Virginia-based HBCU, ranked number 3 on the BE list, has a graduation rate of 54.2 percent during 2005, and a total population of approximately 6,000 students. Roughly 3,300 Hampton students are estimated to graduate in a six-year period (Virginia Pilot, 2005).

When one reviews enrollment figures rather than percentages, it is clear that UVA will graduate less than one third, and Princeton will graduate approximately one eight of the number of African-American students graduating from Hampton University. Therefore, the general idea suggested by BE that certain HBCUs would be the "best" place for African-American students, appears correct with respect to the impact that these schools will and have had on the African-American community.

We can also dismiss the call for a greater emphasis on retention and graduation rates in the multivariable criteria for the best school, by considering the profile of the population of students that are being recruited by the TWI. Unlike many HBCUs the TWI is not as accessible to the average, nor the below average non-athletic African-American student. Since HBCUs can be accessed by most students, on this point alone the best colleges for the majority of African-Americans students (other than student athletes) must be the HBCUs. On the other hand, due to the mission of many HBCUs of providing higher education to promising students who may be less prepared or possess lower financial endowment, retention is a factor. In the final analysis an HBCU would obviously exhibit greater volatility regarding retention rates than a TWI since a greater proportion of its students may be financially or academically challenged. The competing TWIs do not have this problem due to student selectivity, and its unlimited available scholarship resources.

However, it is also obvious that the academically talented African-American student being recruited by a TWI with a scholarship is not concerned about a college's retention or graduation rates. Stated differently, the advocacy by JBHE that a higher weight be assigned to the retention variable would result in a ranking emphasis on this variable, which would be irrelevant to an academically gifted African-American students and an insignificant variable for a TWI bound student with a scholarship in hand. Because of this the retention variable for a TWI, *ceteris paribus,* would result in a positive variable while representing a harsh variable for the HBCU. Black Enterprise responded to the JBHE criticism of its 2004 rankings by adjusting the weights on the retention variable resulting in a 2005 best college rankings which was unrealistic. For example: Morehouse College dropped from number 1 in the BE's 2004 rankings to a number 46 rank in 2005. Florida A&M University was ranked number 1. These rankings were also criticized by JBHE (2006).

If there are other hidden factors perceived by the prospective African-American student to hinder their movement through a TWIs academic process. Such "hidden variable(s)" must be connected to the social environment of the school considered. Hence, BE 2004 in seeking a methodology to capture the best colleges for African-American was correct in weighting social environment at a higher level than retention rates. If anything, the social environment variable effectively captures the retention rate emphasis. It is suggested that the social environment or more pointedly the absence of racial incidents, of a school is of a greater concern to the academically talented student than retention, *per se*. Additional evidence of the value of "social environment" has been expressed by the managing editor of JBHE (2006), in response to a challenge by Carnegie Mellon University (CMU) regarding the inherit weaknesses, discrepancies, inaccuracy and the timing of retention rate data. In its response to CMU, the editor was quoted as follows: "Clearly, the racial climate at some colleges and universities is more favorable towards African-Americans than at other campuses." This was BE's point exactly, during 2004. Moreover, Sibulkin & Butler (2005) indicate the weakness of the retention variable noted in their critique of the Journal of Blacks in Higher Education's (1999) study of the NCAA. Their remarks show that the retention statistic is distorted since data on student transfers is not included.

The above discussion and the observed disagreement underscores the complexity of the "best college" debate and results in the primary question. The best college for African-Americans can be filtered through the discussion above, and is also implied by the following quote from the editors of JBHE (2004 & 2006): "The danger is that these [BE] rankings steer academically talented black students to schools that often have limited academic resources and whose graduates are less likely to go on to top-quality graduate schools or positions in the highest of the nation's corporations, law offices or other professional firms."

RESEARCH METHODOLOGY

This research study responds to the above "dangerous" quote by tracking the college degrees of the nation's most successful African-Americans in law, higher education, entrepreneurship, government, and corporate America as of 2005. The analysis compares the various degrees obtained by these alumni at the baccalaureate, graduate, and post-graduate level. The conceptual model in this research follows the Best College Football Index model (Walker, et al, 2006). The Best College Football Index used by Walker, et al (2006) to determine the nation's best college football program by tracing the number of a school's alumni that entered the National Football League. The assessment included the number of starters, the length of performance careers, whether or not the alumni were on a team that won the divisional playoffs, the number of Super Bowl rings, etc. The results indicated that the best college football program in the nation was Florida State University. A similar concept would extend to the best college or university for African-Americans, based on the school that produced the highest number of the most influential African-American leaders. This information was assessed as of 2005 and will be assessed biannually, henceforth. Since many of these individuals received advanced degrees in business, law, or education, a separate analysis tracks the movement of HBCU or TWI undergraduates into graduate level training. Our expected outcome is if the JBHE's remarks are valid, then TWIs would represent a disproportionate and significant number of schools attended by the most influential African-Americans. Given the full sample population we answer the following questions:

1.) What colleges or universities produced the largest number of undergraduate alumni who were the most influential African-Americans in the U.S. during 2005?

2.) Are there a greater proportion of HBCU graduates that are influential African-Americans than the proportion of all African-Americans completing undergraduate degrees? Likewise is there a greater proportion of HBCUs represented on the list of successful alumni, than TWIs?

3.) Was a higher ratio of alumni from HBCUs or those that graduated from TWIs capable of entering graduate schools?

Due to the large sample size and the uniqueness of the degree, while controlling for majority school and selection bias, we tested the issue of the quality of graduate schools attended by HBCU and TWI alumni using entrance into law schools of high quality as a proxy measurement. This effort resulted in the following question:

4.) Is there a difference in the ability of African-Americans who graduated from HBCUs or from TWIs to enter the nation's "top quality" law schools?

Definition: Influential African-Americans

The term influential African-American is defined by the researchers as those members of the black community publicly acknowledged as at the top of their chosen field. As an additional guide we followed the JBHE "dangerous quote" which highlights certain areas in which they believed students from HBCUs would have difficulty entering, such as the top graduate schools, or positions in the highest of the nation's corporations, law offices or other professional firms. Using this quote as a guide we sought publicly available lists of the top blacks in corporations and law. Since we are assessing those African-Americans of influence, the top entrepreneurs with sufficient gross revenues also fit the criteria as influential because of their collective economic impact on the community. We did not seek influential blacks in the fields of entertainment or sports directly, although it is acknowledged that many of these individuals have influence with respect to culture via entertainment, corporate product marketing and advertisement to African-Americans. However, in this area, members of the African-American community considered influential are filtered through the lens of Ebony Magazine's 2005 "100+ Most Influential Blacks" list. This list includes influential entertainers, politicians, billionaires, fraternity/sorority leaders, religious leaders, politicians, athletes, poets etc. In the educational field, black college presidents were chosen as those of influence rather than endowed professors or athletic coaches since ultimately the president is the representative spokesman for an institution. Clearly the list is not exhaustive and could be expanded to the top 1,000 African-Americans of influence. One could also find someone who should be on the list, but it would be difficult to argue that someone on the list should not be. For example: the Executive Leadership Council is composed of hundreds of members who represent the top African-American leadership in corporate America. Only 75 of those of the highest authority are included in the sample based on publicly acknowledged lists.

Data Collection and Analysis

The most influential African-Americans was compiled from the BE list of the "75 Most Powerful African-Americans in Corporate America" (Meeks, 2005), the Black Enterprise (2005) BE 100s list (of entrepreneurs) and Black Enterprise's (2005) list of "America's Top 50 African-American Lawyers". In addition, we included without duplication the list of Ebony Magazine's "The 100+ Most Influential Blacks" (2005) and black presidents of the nation's four year colleges and universities. From this data, after the elimination of duplications a total of 432 influential African-Americans emerged. Each of these individuals was traced by graduate student researchers using a GOOGLE search engine to derive data on education background. A separate check of the data was made by an instructor and where discrepancies were noted each of the two remaining authors reviewed data and conducted independent searches. Data regarding the educational background of black college presidents of four year institutions was based on a GOOGLE search and assistance in data collection with the research office of the National Association for Equal Opportunity in Higher Education (Berger, L., and 2007 March). Seven of the 432 individuals did not attend, or did not complete college and another 14, (primarily entrepreneurs) with missing background data were excluded from the analysis.

The remaining 411 individuals were identified with the colleges or universities attended. Data regarding the type of school attended were segmented by undergraduate, graduate, and post-graduate educational categories. Since a large number (135), of the samples are attorneys, to test for the quality of graduate schools attended, a separate category was devoted to law schools. The Distribution of data sources of the most influential African-American is shown in Figure 1. The college education distribution of the most influential African-American is included in Figure 2.

Figure 1: Source of Data for Most Influential African-Americans (N= 411)

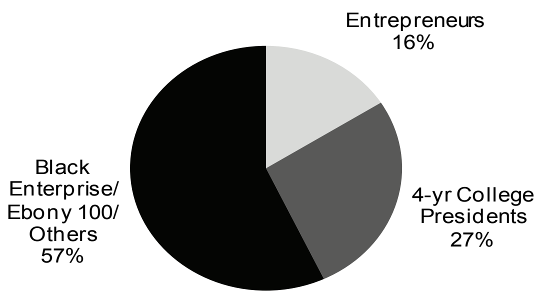
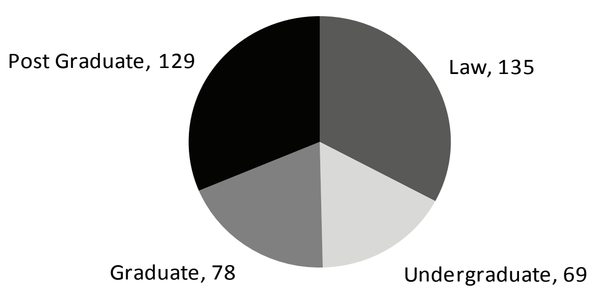


Figure 2: Education Level Distribution of Most Influential African-Americans



RESULTS

In response to question 1, although HBCUs represent approximately 4 percent of the nation's four year colleges, the data indicates that 156 of the total 411 African-Americans of influence (or 38%) received their undergraduate degrees from an HBCU. There were 202 undergraduate colleges and universities attended by the African-Americans represented in the data. Of this number 52 were HBCUs and 150 were TWIs. There are approximately 89 Title IV HBCUs and roughly 1,700 four-year TWI colleges and universities in the United States. Hence, roughly 58 percent of the population of HBCUs contributed to the list of influential Black alumni while only 9 percent of the population of TWIs contributed to the list.

As indicated in Table 1 below, of the top 42 colleges and universities, two HBCUs, Howard University and Morehouse College had the greatest number receiving undergraduate degrees, at 15 each, followed by Harvard and Yale Universities with 12 and 9 graduates respectively. The top schools are grouped by their relative impact and influence on the black community. For instance, Morgan State, Hampton, and Fisk Universities are considered to have the same impact on the black community as Cornell, Northwestern and the University of Michigan.

It is also clear from the above discussion that a very small number of TWIs contributed to the list of the most influential African-Americans. In fact, if we exclude graduates from a few top schools as indicated in the U.S. News & World Report "Best College and Universities" (2006), the impact on the African-American community from TWIs is insignificant. The primary competition facing HBCUs are the Ivy League institutions. If we combine the 89 HBCUs and the 8 Ivy League institutions these 97 colleges and universities, which represent approximately 5 percent of the total population of the 1,800 4-year colleges, produced 48.42 percent (199 out of 411) of the most influential African-Americans listed in 2005. If we consider the number of schools that do not appear on the list, there is very clear evidence that the remaining TWIs contribute little to the African-American community other than scholarships and some interesting retention statistics.

In Figure 3, the top 27 schools with at least four of the most influential African-Americans are presented. Thirteen of the 27 are HBCUs. These 13 colleges and universities produced 94 of the 167 (or 55%) African-Americans represented in the "top group".

Figure 3: Undergraduate Schools Attended by the Most Influential African-Americans (2005) Based on 4 or Above

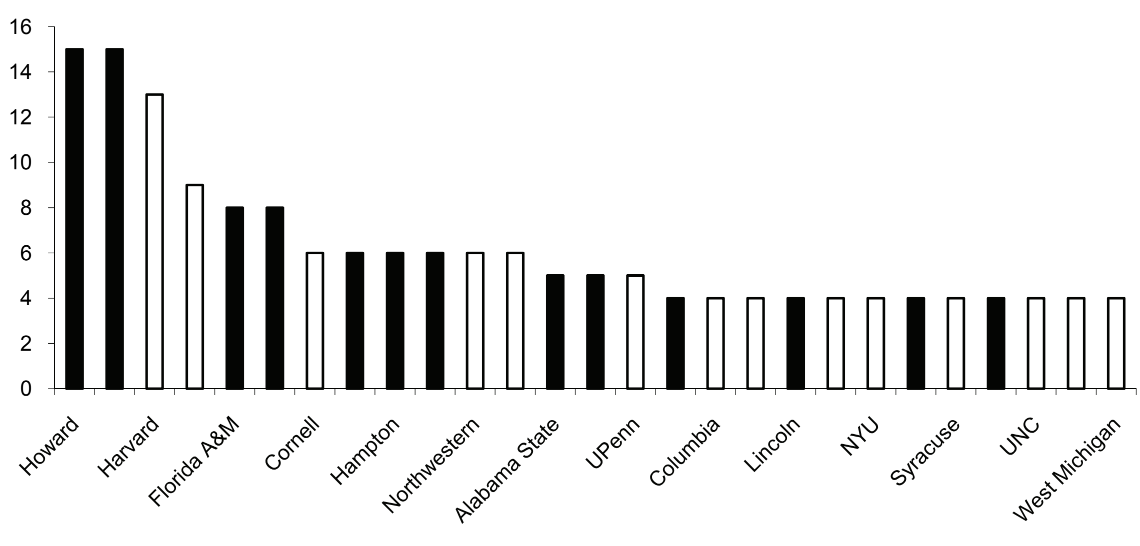


Table 1: The Hampton Rankings of Best Colleges & Universities for African Americans

Type	Name of The Institution	TWI Graduates	HBCU Graduates
HBCU	**Howard University**		15
HBCU	**Morehouse College**		15
TWI	Harvard University	13	
TWI	Yale University	9	
HBCU	**Florida A&M University**		8
HBCU	**North Carolina A&T University**		8
TWI	Cornell University	6	
HBCU	**Fisk University**		6
HBCU	**Hampton University**		6
HBCU	**Morgan State University**		6
TWI	Northwestern University	6	
TWI	University of Michigan	6	
HBCU	**Alabama State University**		5
HBCU	**Tennessee State University**		5
TWI	University of Pennsylvania	5	
HBCU	**Central State University**		4
TWI	Columbia University	4	
TWI	Georgetown University	4	
HBCU	Lincoln University		4
TWI	University of Maryland	4	
TWI	New York University	4	
HBCU	**Shaw University**		4
TWI	Syracuse University	4	
HBCU	**Tuskegee University**		4
TWI	University of NC, Chapel Hill	4	
TWI	Wesleyan University	4	
TWI	Western Michigan University	4	
TWI	Antioch College	3	
HBCU	**Grambling State University**		3
TWI	Kettering University	3	
HBCU	**Oakwood College**		3
TWI	Princeton University	3	
HBCU	**South Carolina State University**		3
HBCU	**Talladega College**		3
HBCU	**Tougaloo College**		3
HBCU	**University of Arkansas Pine Bluff**		3
TWI	University of California- Berkley	3	
TWI	University of California- LA	3	
TWI	Wayne State University	3	
HBCU	**Johnson C Smith**		3
HBCU	**North Carolina Central**		3
TWI	West Virginia State University	3	
42	HBCU= 21(50%) TWI=21 (50%)	95 (45.00%)	116 (55.00%)

Since most of the individuals observed in the sample are older that 45 (and assuming a graduation age of 21), the average graduation rates of 20 to 30 years ago is used to prepare tests of the significance of observed data. The number of bachelor degrees conferred by category during the periods 1976 and 1985 is presented in Table 2 below.

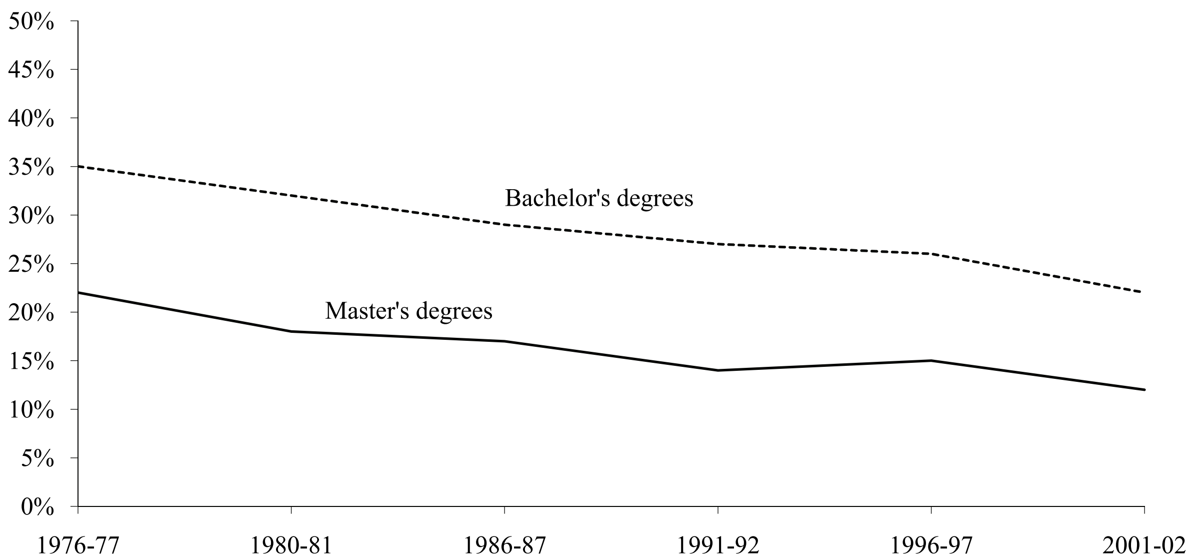
Table 2: The Number of Undergraduate Degrees Conferred to African-Americans (1976-1985)

Year	TWI	HBCU	Total African-Americans	TWI (%)	HBCU (%)
1976-77	37,882	20,754	58,636	64.61%	35.39%
1984-85	41,147	16,326	57,473	71.59%	28.41%
Average	39,514	18,540	58,054	68.06%	31.94%

Source: National Center for Education Statistics (NCES, 2004 & 2005)

According to the data above there were on average 58,054 bachelor degrees conferred annually to African-Americans for the years 1976-77 and 1984-85. It should be noted that the percentage of the total number of bachelor degrees awarded to African-Americans by HBCUs has decreased consistently since 1976. The number of bachelor degrees conferred by HBCUs decreased from 35 percent in 1976 to 23.6 percent in 2002. Figure 4 below provides evidence of this trend.

Figure 4: The Number of Degrees Conferred by HBCUs to African Americans as a Percentage of All of Degrees Granted 1976-77 to 2001-02.



Source: (NCES, 2004)

In Table 3 data is provided which indicates that 37.96 % of the most influential African-Americans in 2005 received their undergraduate degrees from a HBCU. The data also indicates that 31.94% on average of the total population of African-Americans graduated from HBCUs during the relevant years. To statistically test the difference between the contribution of TWIs and HBCUs of the most influential African-Americans, we constructed a null hypothesis following Question 2 that the proportion of the HBCUs graduates on the list of the most influential African-Americans is greater than the average percentage of all African-American graduates from HBCUs during the relevant time period.

This hypothesis could not be rejected at 5.0% (p-value .0069.) The data indicates that the proportion of African-Americans graduates on the list in 2005 is significantly larger than the proportion of the average number of African-American graduates from HBCUs during the relevant years. The proportion of

African-American graduates from the nation's TWIs is significantly lower than the average percentage of African-American that graduated from a TWI during those years. This is strong overall evidence that the best type of college or university for African-Americans is the HBCU.

Table 3: Proportional Data Analysis of Bachelor Degrees

	TWI	HBCU	Total African-American	TWI (%)	HBCU (%)
Number of Alumni the 2005 List	255	156	411	62.04%	37.96%
Average number of African-American Undergraduates in 1976-1985	39,514	18,540	58,054	68.07%	31.93%
Influence ratios	0.0064	0.0084	0.0071		
Differential				-6.02%	6.02%

Assessment of Graduate School

The sample has 342 African-Americans with a graduate degree representing 83 percent of the sample population of 411. This data is summarized in Table 4.

Table 4: Summary of Graduate Degrees Earned by Influential Alumni

Undergraduate Institution Type	Number with Graduate degrees	Number without Graduate Degree	Total Degrees by Type	Percentage with Graduate Degree
HBCU	131	25	156	83.97%
TWI	211	44	255	82.75%
Total	342	69	411	83.21%

The proportion of HBCU in the sample of influential alumni with a graduate degree was 83.97 percent (131/156) while the proportion of TWIs alumni with a graduate degree was 82.74% (or 211/255). The test of differences in the proportion of graduate degree holders in the two sub-samples indicated no difference. The observed p-value of this test was 0.37 with an insignificant *Z*-score of -0.33. This result indicates that there is no disadvantage in the ability of a graduate of a HBCU or an observable advantage of a graduate of a TWI to attend graduate school. A list of the top graduate schools attended by the most influential African-Americans in 2005 is noted in Figure 5.

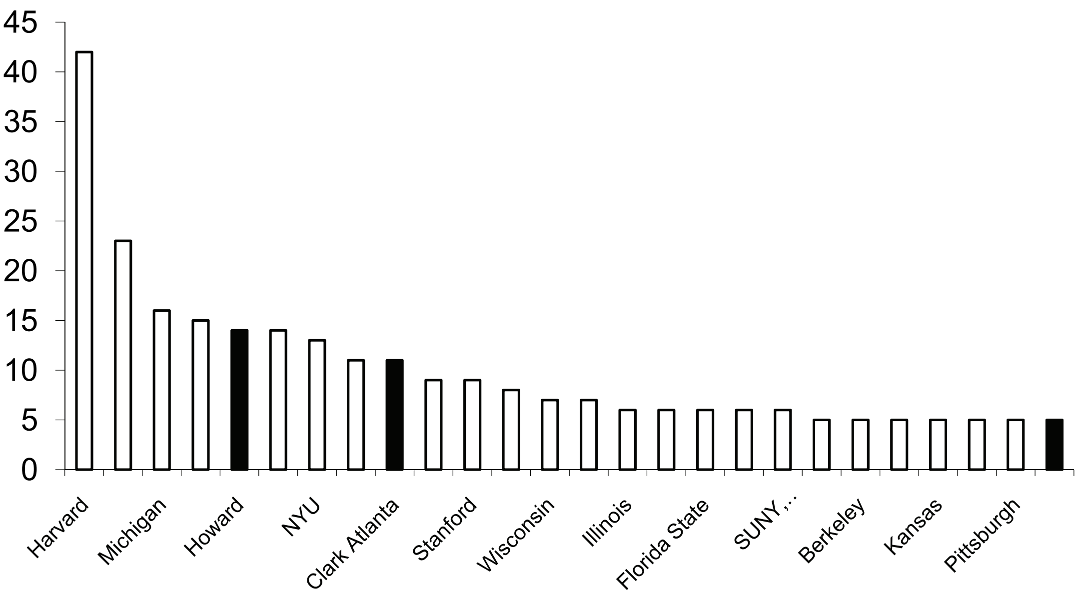
The top graduate school by far is Harvard University with 42 individuals attending, followed by Columbia and the University of Michigan with 23 and 16 persons attending respectively. Only three of the top schools were HBCUs with Howard (primarily law), Clark Atlanta (MBA) and North Carolina Central (Law) Universities attended by 14, 11, and 5 of the most influential African-Americans attending graduate schools, respectively. This is general evidence that at the graduate level the TWI is the best type (or the primary type) of college or university attended by African-Americans. We did not segment the sample based on the numerous types of master degrees earned, since tests conducted on the small "scattered" data sets would not result in tractable statistical inferences.

Quality of Graduate Schools Attended

There are 135 individuals of the sample that attended a law school. Of this number 35 were alumni of a HBCU and 100 were alumni of a TWI. We tested the proportion of law school graduates who were alumni from HBCUs versus the TWIs. The following hypothesis was constructed: the proportion of law school graduates from HBCUs is less than the proportion of law school graduates from TWIs. The results indicate that there is no difference (p value of 0.0196). Statistically, the same proportion of lawyers with undergraduate degrees from TWIs made the list of the most influential African-Americans as the undergraduates from HBCUs.

To answer Question 4, our test responds to the issue of whether students that attended HBCUs have less success in securing admission to “top quality” graduate schools than those students that attended a TWI. To test this area, alumni that graduated from either a HBCUs or a TWI that attended law school are provided a “quality score” based on the rankings of the law school attended, according to the U.S. News & World Report rankings for 2005-06.

Figure 5: Top Graduate Schools for African Americans by Type - 2005



We use the law schools as a proxy of the quality dimension of the movement of African-Americans into graduate schools since most if not all law schools are TWIs. Although the use of the U.S. News & World Report (2006) is a multi-variable index subject to bias, the populations of the nation’s law schools in the rankings are predominately TWIs. Hence, whatever bias may exist should be minimal. None of the four HBCU law schools were ranked in the top 100 by U.S. News and World Report “Best Law School Rankings”. These law schools are ranked either 3rd, or 4th-tier. The majority-based bias in the U.S. News & World Report Rankings is painfully obvious when one considers that Howard University produced a Supreme Court Justice and is yet relegated to third tier status below lesser known TWI ranked schools that lack such a distinction. Eleven of the influential African-American alumni attended both an undergraduate HBCU and a HBCU law school and four of the TWI alumni attended a HBCU law school.

This result is problematic since the assignment of a value to the quality index (either high or low) to the HBCU law school could confound results. In addition, since all members of the sample are influential, the attendance at a HBCU law school may be by choice (selection bias) rather than by default. Because of this, to remove any perceived bias in the U.S. News & World Report rankings, all alumni either of a TWI or a HBCU attending a HBCU law school was eliminated for purposes of conducting quality-based statistic tests. After this adjustment the remaining 120 law schools are all TWIs, thus increasing the power of subsequent tests and inferences thereof.

Law schools were assigned point values as the inverse of their respective rank. Where rank 1-10 equaled 300, rank 31-40 equals 270, and rank 71-80 equaled 230 points and so on. Since all 120 law schools are

TWIs 3rd and 4th tier school were assigned a value of 165 and 125 respectively. The scoring system is noted in Table 5 below:

Table 5- Law School Quality Scoring Index

Scoring system	Score
Rank 1-10	300
Rank 11-20	290
Rank 21-30	280
Rank 31-40	270
Rank 41-50	260
Rank 51-60	250
Rank 61-70	240
Rank 71-80	230
Rank 81-90	220
Rank 91-100	210
Tier 3	165
Tier 4	125
Unranked	75

In this test the "quality" or average score was determined by dividing the total quality points earned by the number of influential alumni members of the HBCU and TWI groups. The results indicated that on average the HBCU alumni law school quality index was 258.54 and the TWI law school quality index was 272.65. The results indicate that the quality scores of the TWI law schools attended by the HBCUs' graduates is not significantly lower than the quality of TWI law schools attended by the alumni of TWI graduates. The p- value is .088 on a one tailed t test, and is not significant at the 10 percent level. On average there is a non-significance difference in the number of graduates of HBCUs who attended a "top quality" TWI law school in comparison with the number of alumni of TWIs who attended a top quality TWI law school. This analysis is summarized in Table 6:

Table 6- Tests of the Quality of TWI Law Schools Attended by Influential Alumni

	Number	Average Quality Score
HBCU Alumni with Law degrees from a TWI	24	258.54
TWI Alumni with Law degrees from a TWI	96	272.65
p-value (one-tail t-test)	120	0.088

We thus conclude that the JBHE assertion that the BE rankings may steer gifted students to HBCUs and that they will have a difficult time in entering the nation's top quality graduate schools is not sustained by the results noted in these tests.

Summary of Results

Numerous magazines and journals publish annual rankings of the nation's "best colleges" and among these publications Black Enterprise magazine (BE) focuses on the best colleges for African-Americans. Recently, the BE rankings were severely criticized by the editors of the Journal of Blacks in Higher Education (JBHE, 2004) for "stacking the deck" in favor of HBCUs by applying a low weight to important factors such as retention and graduation rates resulting in misleading rankings (JBHE, 2006). This study uses a variation of the College-Football Success Model (Walker, et al, 2006), to determine the rankings of the best colleges and universities for African-Americans. With this model we answer the question, what type of institution, the HBCU or the TWI is the "best" college choice for African-Americans. The results collected on 411 of the most influential African-Americans in the country, indicates that HBCUs with approximately 31.93 percent of undergraduate degrees conferred nationally during the relevant time period, produced 37.96 percent or 156 of the 411 of the most influential African-American in 2005. It was also found that although HBCUs represent only 4 percent of the nation's approximately 1,800 four year colleges, 52 (or 26%) of the 202 undergraduate schools attended by these individuals were HBCUs.

Howard University and Morehouse College had the largest number of influential undergraduate alumni at 15 each, followed by Harvard and Yale Universities with 12 and 9 graduates respectively. Of the top 27 contributing schools 13 were HBCUs. Moreover, of the total 167 influential African-Americans included in the top 27 schools, 90 (or 53.9%) attended an HBCU for their undergraduate education. The study also indicates that there is a no difference between HBCUs and TWIs in the movement of graduates into the "top-quality" graduate schools.

Future Research

This study was conducted based on information available publicly during 2005 and early 2006. It is expected that the annual rankings will change over time. The researchers consider this project on-going with updates to the rankings bi-annually. In the future, the standard used to develop the database of this research may include (without duplication) African-American members of the board of directors of U.S. corporations, and partners of Certified Public Accounting firms.

The ranking of colleges and universities based on the number of influential alumni provides interesting, reliable and useful information to assist African-American students in choosing the best colleges. However, the methodology results in groups of schools that are tied by the number of the most influential members. With this methodology it is difficult to discriminate between similar schools. We can sort schools by using a deflator. An excellent deflator would be the number of degrees conferred or the endowment of a school.

CONCLUDING COMMENTS

Differences between the two types of schools, the HBCU and the TWI included in this study are clearly present. For example, the resources available to the top TWIs that the HBCUs are directly competing with are in the billions. The JHBE statement that the HBCUs have limited resources is true. However, it would seem from the results of this study that although TWIs financial endowment is a key variable for recruitment, institutional resources have a minor direct impact on the "striving" of a school's alumni. For example, one argument presented by JHBE in its critique of the BE 2004 rankings was that it was "highly unlikely that Tuskegee University would be ranked higher than MIT". However, the results of this study suggest rather conclusively that Tuskegee University is a better choice for an African-American undergraduate education than MIT. The research indicates that 4 of the most influential African-Americans in the U.S. during 2005 were graduates of Tuskegee University while on this basis MIT is not of the top 42 universities. JBHE also questioned Black Enterprise for its low ranking of the University of Virginia. UVA has the highest retention rate in the State of Virginia. The argument presented by JBHE is that African-Americans would be more successful at UVA because of its high retention rate. However, important the retention rate is, UVA does not appear on the list of the top 42 best colleges and universities for African-Americans. In contrast, Hampton University a Virginia based HBCU has 6 graduates on the list. JBHE however, is correct in its assessment of the stature of Princeton University. Princeton has 3 African-American alumni, placing it in the top 42 list consistent with JBHE's discussions.

The main point of this research is that only a few HBCUs with relatively limited resources are competing directly and clearly succeeding against richly endowed Universities such as the Ivy League schools and other highly successful TWIs. Most of the nation's 1,700 or so TWIs are not in competition at all with the top HBCUs. Moreover, based on the results of this study, it is not at all dangerous (JBHE, 2004) for a gifted African-American student to attend a HBCU. In fact, the evidence indicates that all things considered, the opposite is true. With the exception of Harvard, the collective success of the undergraduate alumni from HBCUs greatly out-distanced the collective success of those who graduated from the "top" at TWIs. It is also clear from this research that there is no observable penalty or benefit from attendance of an HBCU or a TWI with respect to the ability to enter, or the quality of the graduate school attended by African-Americans. This result also supports the ranking methodology used by Black Enterprise magazine in its annual rankings of the Best Colleges for African-Americans during 2004.

In the final analysis, the determination of what is the best college is summarized by our current graduate students; *"It should be recognized that all data can be viewed from a variety of perspectives and the determination of the best school or group of schools is inherently subjective. This is especially so with opinions and abstract terms such as what is best. Ultimately it is the current student and active alumni who determine if an institution of higher education is truly best. It is the alumni who utilize the knowledge gained in school in pursuit of his or her career. It appears from this study that the alumni of Historically Black Colleges & Universities collectively have both learned and subsequently applied such knowledge, more successfully than the African-American alumni of Traditionally White Institutions".*

APPENDIX

Exhibit A: 50 Top Schools for African American

50 Top Schools for African Americans (Black Enterprise 2004, 2005)

2004	College / University	2005	College / University
1	**Morehouse College**	1	**Florida A & M University**
2	**Spelman College**	2	**Howard University**
3	**Hampton University**	3	**North Carolina A & T University**
4	**Howard University**	4	Harvard University
5	**Xavier University**	5	**Spelman College**
6	**Florida A&M University**	6	**Hampton University**
7	Stanford University	7	Stanford University
8	Columbia University	8	Columbia University
9	Harvard University	9	University Of Pennsylvania
10	Duke University	10	Wesleyan University
11	Georgetown University	11	Dickinson College
12	**Clark Atlanta University**	12	Wellesley College
13	Berea College	13	Amherst College
14	Univ Of N. C.- Chapel Hill	14	Duke University
15	Oberlin College	15	Smith College
16	Williams College	16	Bernard College
17	**N. C. A&T State University**	17	**Tennessee State University**
18	Emory University	18	Georgia State University
19	Wesleyan University	19	Brown University
20	**Fisk University**	20	Yale University
21	University of Maryland- College Park	21	Georgetown University
22	**Tuskegee University**	22	Wake Forest University
23	University Of Pennsylvania	23	Babson College
24	Cornell University	24	Williams College
25	University Of Michigan	25	Florida State University
26	George Washington University	26	Cornell University
27	Amherst College	27	**Prairie View A&M University**
28	Mount Holyoke College	28	**Jackson State University**
29	Wellesley College	29	Oberlin College
30	University Of Southern California	30	**North Carolina Central University**

50 Top Schools for African Americans (Black Enterprise 2004, 2005)			
2004	**College / University**	**2005**	**College / University**
31	Wake Forest University	31	Mills College
32	New York University	32	University Of North Carolina
33	**Johnson C Smith University**	33	Grinnell College
34	**Morgan State University**	34	**Morgan State University**
35	John Hopkins University	35	University Of Virginia
36	Swarthmore College	36	Mount Holyoke College
37	Florida State University	37	Emory University
38	Yale University	38	Princeton University
39	Vassar College	39	Swarthmore College
40	**Southern University A&M College**	40	University Of Michigan
41	Brown University	41	Temple University
42	**Dillard University**	42	Washington University
43	**Tennessee State University**	43	Davidson College
44	Ohio State University	44	Simmons College
45	Temple University	45	**Morehouse College**
46	**Bethune-Cookman College**	46	Johns Hopkins University
47	Florida International University	47	Dartmouth College
48	Mass. Institute of Technology	48	Vassar College
49	California State University- Los Angeles	49	Northwestern University
50	University Of Chicago	50	University Of Maryland, College Park

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ICT AND NIGERIAN BANKS REFORMS: ANALYSIS OF ANTICIPATED IMPACTS IN SELECTED BANKS

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ABSTRACT

Banking has become highly Information Communication Technology (ICT) based and due to its inter-sectoral link, is reaping the benefits of technological revolution as evidenced by its application in most of its operations. This study empirical analyzes the anticipated role ICT has in enhancing the operations of selected Nigerian banks in the light of current reforms. Primary data was employed, which was analyzed using cross-tabulations and regression technique built on the framework of technical progress. Factors such as bankers' age, educational qualification, computer literacy and type of ICT gadgets, were found to influence banks' degree of ICT usage, while ICT impacts significantly the speed of banking operations, productivity and profitability. The need for banks to regularly train their workers, and procure quality ICT gadgets, which will enhance efficiency, etc, was stressed. This is crucial in the sector's current reforms where attention is focused on the ability of banks to attract and retain customers, which is primarily accomplished through efficient service delivery.

JEL: G21, G28 M41

INTRODUCTION

In recent times, Information Communication Technology (ICT), which basically involves the use of electronic gadgets especially computers for storing, analyzing and distributing data, is having a dramatic influence on almost all aspects of individual lives and that of the national economy- the banking sector inclusive. The increasing use of ICT has allowed for integration of different economic units in a spectacular way. This phenomenon is not only applicable to Nigeria but other economies of the world, though the level of their usage may differ. In Nigeria, ICT usage especially in the banking sector, has considerably improved, even though it may not been as high as those observed for advanced countries (Adeoti, 2005; Adeyemi, 2006).

The use of ICT in the banking sector became of interest to this study due to the significant role it plays in the economy. It helps in stimulating economic growth by directing funds to economic agents that need them for productive activities. This function is very vital for any economy that intends to experience meaningful growth because it makes arrangements that bring borrowers and lenders of financial resource together and more efficiently too than if they had to relate directly with one another (Adam, 1998; Ojo, 2007). In essence, the banking sector acts as a bridge that connects lenders and investors in the economy. Hence, the need for reforms in the sector initiated by the Federal Government via the instrumentality of the Central Bank of Nigeria-CBN.

The bank reforms (especially the recapitalization that specifies a minimum capital base of 25 billion naira for commercial banks), are pursued with a view to making the sector realize its objectives in advancing the economy (CBN, 2006). It is expected that the impact of these reforms will be enhanced with the use of ICT because it will create some form of competitive advantage and improve banking services through accuracy and efficiency in their transactions. In other words, it will change the nature of banks' services in terms of quality which will culminate in greater service delivery and productivity. This is in tandem with the findings made by Adeoti (2005) that the use of information technology has the ability of improving the competitiveness of Nigerian manufacturing industries.

From the above discourse, this paper seeks to carry out an empirical analysis on the anticipated role of ICT in enhancing the operations of selected Nigerian banks in the light of current reforms in the sector. To achieve this objective, three commercial banks were selected, viz; Union Bank of Nigeria Plc-UBN, United Bank for Africa Plc- UBA and Wema Bank Plc-Wema. The study is structured into sections. Next to this introduction is the literature review, followed by the analytical framework and methodology. Section 4 is analyses of data, summary of findings and recommendations. The last section is the conclusion.

LITERATURE REVIEW

The Concept of ICT and a Perspective of Nigerian Banks

Technology can be referred to as the application of knowledge for the execution of a given task. It entails skills and processes necessary for carrying out activities (works) in a given context. While ICT encompasses computer systems, telecommunication, networks, and multimedia applications (Frenzel, 1996). It came into use in the late 1980's replacing earlier terms like Electronic Data Processing (EDP), Management Information System (MIS), although the latter terms are still in use (Frenzel, 1996).

ICT has transcended the role of support services or only electronic data processing; its fields of applications are somewhat global and unlimited. Its devices especially the Internet through the World Wide Web (www) and modern computer email facilities have further strengthened early innovations like the telephone and fax. Other ICT devices include data recognition equipment, factory automation hardware and services, tele-computing and teleconferences using real time and online system (Adeoti, 2005). It is a concept that is having a remarkable effect on almost entire aspects of the human endavours. This connotes that it involves the application of principles to engage physical component in achieving an intended goal.

The convergence of computer and telecommunication after about four decades of applying computers to routine data processing, mainly in information storage and retrieval, has created a new development where information has become the engine of growth around the world. This development has created catch-up opportunities for developing countries such as Nigeria to attain desired levels of development without necessarily 'reinventing the wheels' of economic growth. This new technology has brought far-reaching revolution in societies, which has tremendously transformed most business (banking) scenes (Ovia, 2005).

With respects to the banks in Nigeria, the first bank was established in 1892 (then African Banking Corporation). However, there was no banking legislation until 1952 when three foreign banks (Bank of British West Africa, Barclays Bank, and British and French Bank) and two indigenous banks (National Bank of Nigeria and African Continental Bank) were established, with a total number of 40 branches (Iganiga, 1998). As at 1988, the Nigerian banking system consisted of the CBN, 42 commercial banks and 24 merchant banks (Iganiga, 1998; Adam, 2005).

From 1970, the banking sector grew significantly in terms of number and coverage as a result of increase in economic activities. However, between 1970 and 1985, the growth of the sector was relatively slow due to predominant government regulations but the period 1986-2000 witnessed a phenomenal growth of the sector as a result of the financial deregulation policy, that is the Structural Adjustment Program-SAP of 1986 (Iganiga, 1998). This brought about the liberalization of bank licence leading to a rapid change in the sector. Some of the banks were characterized by paper oriented methods, rather than technological based systems and this resulted to slow pace of their operations vis-à-vis their employees' productivity cum general performance. The use of computers and other ICT gadgets in their operations were limited.

This was one of the reasons adduced by Ojo (2007) as factors responsible for the Nigerian financial sector malaise.

To mitigate the shocks experienced in the system, the Federal Government of Nigeria came up with the financial sector reforms through the CBN. The bank reforms entail other issues but this paper is dwelling manly on the bank consolidation that was initiated in 2004. The policy thrust on bank reforms encompasses the sum of the variations that occur in the direction of a comprehensive banking system. The bank reforms agenda, among others, specified a minimum capital base of 25 billion naira for the commercial banks that took effect in December, 2005 (Diamond Bank, 2005; CBN, 2006). This has reduced the number of commercial banks in Nigeria from 89 to 25, which was done via the processes of mergers, acquisition and the stock market (CBN, 2006; Ige, 2007). The major aim was to make Nigerian banks vibrant and resilient, clothed with efficiency and financial strength to absorb possible shocks, thereby instilling public confidence as well as global relevance (Soludo, 2004).

ICT and Nigerian Banking Sector

The revolution in ICT has made the banking sector changed from the traditional mode of operations to presumably better ways with technological innovation that improves efficiency. ICT can enhance efficiency via its use and in recent times banks have been encouraged by the rapid decline in the price of ICT gadgets. This has perhaps increased the bank level of ICT usage (Ovia, 2005).The increase might have also be attributable to business environment that became relatively flexible to accommodate new forms of technological change as a result of reforms in the country.

Banking is becoming highly ICT based and because of its inter-sectoral link, it appears to be reaping most of the benefits of revolution in technology, as can be seen by its application to almost all areas of its activities (Akinuli, 1999). It has broadened the scope of banking practices and changed the nature of banking as well as the competitive environment in which they operate. A broad opening has been experienced around the world for banks and they are currently taking due advantage of these innovations to provide improved customer services in the face of competition and faster services that enhance productivity (Akinuli, 1999; Ovia,2005).

Technological advancement facilitates payments and creates convenient alternatives to cash and cheque for making transactions. Such new practices have led to the development of a truly global, seamless and Internet enabled 24-hour business of banking. Technological advance in payments are important due to the fact that it will be feasible to outsource quite a number of the banks' role in the payments system. Also banks' regulation can be more technologically dependent and better focused rather than focusing on conceptual guidelines. ICT revolution both in terms of innovation rate, speedy operation, and cost per unit (portraying reduction in average total and marginal costs) has made a good number of banks embrace the use of ICT infrastructure in their operations (Akinuli, 1999).

The technological innovation that is being witnessed currently in the Nigerian banking sector is possible of impacting on the banks' mode of transactions especially in their payment systems. The payment systems are made feasible by ICT gadgets such as Automated Teller Machine (ATM), Electronic Fund Transfer (EFT), Clearing House Automated Payments (CHAPs), Electronic Purse (E-PURSE), Automated Cheque Sorter (ACS) and Electronic and Transfer at Point of Sale (EFTPOS), which have made transactions easy and convenient. This phenomenon is capable of bringing about speedy operations and enhanced productivity (Adeoti, 2005; Ovia, 2005). Though there may be little interruptions at times due to network failures, which may make customers unable to carry out transactions at that point in time. This little shortcoming is not in any way comparable to the days when banking halls were characterized by long queues mainly as a result of delays in the traditional banking operations.

Now banks can provide comprehensive services to their customers by making them access their accounts via online services. These instruments have an edge over the traditional payment instruments because it is safer, more efficient, convenient and cost effective. Before the introduction of these ICT services in the banking industry, manual processing of documents were in use. The bankers were made to cope with this onerous task, and the process made business transactions minimal. Besides several hectic procedures, people had to contend with, banks' customers were inevitably made to spend several hours in the congested banking halls in carrying out their transactions (Ovia, 2005).

The ICT culture in Nigerian economy can be said to be on the increase. Nigeria is the largest Internet subscriber in Africa with about 100,000 Internet users as at 2000, which was estimated to have grossly increased (Balancing Act, 2007). It has also been observed that Nigeria's teledensity had remarkably increased by more than 2,550% from 0.35% in 1992 to 9.3% in 2004, thereby greatly exceeding the International Telephone Union's (ITU) benchmark of 1% (Ndukwe, 2005). This phenomenon has helped banks keep substantial information on-line which reduces the cost of marketing their products. Being a competitive tool, it enhances the creation of customized services, reduces the cost of operation, and improves productivity as well as profitability.

More interestingly, almost all the banks in Nigeria have internet and on-line real time banking facilities which has improved the scope of Nigerian banking[1]. It has aided transfer of funds from one location to another without any involvement of facial transactions thereby reducing the incidence of loss of funds to stealing and the likes. Another recent one is the telephone banking technology that allows customers to have transactions on their accounts by calling a particular telephone number, through voice activation, and using a tone pad. All of these improve the comfort of banking transactions.

ANALYTICAL FRAMEWORK AND METHODOLOGY

Analytical Framework and Models Formulation

The study employs the concept of technical progress as framework in underpinning the anticipated impacts ICT has in the selected Nigerian banks. Technical progress involves discovering new methods of production, developing new products and introducing new techniques. It also implies the process by which firms in a given economy change over time, in terms of their products and production processes. It refers to an idea or a model for a new improved device, while innovation connotes its commercialization (Frenzel, 1996). Thus any change made in the method of firm's operations is expected to precipitate progress in that organization

In this formulation, when there is technical progress in a particular sector of the economy (banking for instance), it leads to increase in the productivity of labour as well as other factor inputs. The involvement of technical change will therefore enhance increased efficiency and effectiveness in the sector. Technological diffusion (i.e. increasing use of technology-ICT) is essential in realizing large scale economy benefits rooted in productivity gains. The productivity gains from the adoption of new technologies could be one of the major factors behind rising wages, while the introduction of new products could also be a factor accounting for the creation new jobs in the sector.

The evolutionary perspective of technical progress connotes the ability for firms in a given sector of the economy to have sustainable improvement which depends on their ability to generate technological change. This means that one of the major ways Nigerian banks can achieve their anticipated development is to embrace significant investment in ICT. This will be enhanced by improving the interaction with one another in knowledge creation and use that is capable of improving output via faster mode of operations as well as service delivery.

The paper formulated two models that would be fitted into the data. The first explores the possible factors that could determine the rate at which banks use ICT (i.e. the intensity of ICT use) while the second elucidates the anticipated impacts of ICT on the operations of the banks.
The model on intensity of ICT Usage in the Banks relates the use of ICT (ICTUSE) to possible factors that could explain the rate at which it is used in the banks. The explanatory variables included were: Age, Sex, educational qualification (Edu), computer literacy (Clit) and the type of ICT gadgets used by the banks (Type). This is represented in a functional form below:

$$ICTUSE= f\,(Age, Sex, Edu, Clit, Type, \mu) \tag{1}$$

The above equation can be written explicitly as:

$$ICTUSE= B_0+ B_1Age + B_2Sex + B_3Edu + B_4Clit +B_5Type +\mu \tag{2}$$

Where;

ICTUSE : intensity of ICT used in the banks
Age : age of the bankers
Sex : gender of the bankers
Edu : educational qualification of the bankers
Clit : their level of computer literacy
Type : type of ICT gadgets used in the banks.
μ :error term capturing other explanatory variables not explicitly included.

The 'B_i's (i= 1,….5) are the coefficients to be estimated which show the nature of relationship between dependent and explanatory variables while B_0 is the intercept of the regression line. The aprori is such that B_i (i= 0, ….,5) > 0. This means positive relationship between dependent and explanatory variables.

In the above model, the extent at which the features of the bankers and type of gadgets used could influence the intensity of ICT usage in the banks is being investigated. This is essential given the fact that it is the bankers that make use of the installed ICT gadgets and for it to have the anticipated impacts in the operations of the banks it must have to be used efficiently.

The second model is on the impacts of ICT on the operations of the banks. It relates the usage of ICT (ICTUSE) to some of the variables believed to measure the performance of the banks such as enhancement in speed of banking operations and efficient service delivery (Spid), improvement of workers productivity (Wopd) and inducement in bank's profit level (Pfit). This model seeks to capture the anticipated impacts that ICTUSE will have in the banks. It is being represented thus;

$$(Xi) = f\,(ICTUSE, \mu) \tag{3}$$

This can further be expressed as:

$$(Xi)= \lambda_0+ \lambda_k\ ICTUSE + \mu$$

Where;

Xi : vector of the dependent variables (viz: enhanced speed of banking operations-Spid; improved workers' productivity-Wopd; and induced bank's profit-Pfit). λ_0 is the constant while λ_k (k =1,2,3) shows the variations in dependent variables with respect to independent variable. The aprori is given as $\lambda_k > 0$. Others are as earlier defined.

Research Design and Sources of Data

Primary data was used with the aid of structured questionnaire in analyses. The population of the study consists of the 25 consolidated Nigerian Banks while the sample is made up of three banks, namely: UBN, UBA and Wema representing about 12%. This is quite adequate as a sample of 0.05 proportion of the population is believed to be satisfactory in making inferences (Amadi, 2005).These selected banks have elements of the old and new generations, as some of them acquired/merged with other banks during the consolidation process of 2005. They operated paper based systems at inception and later adjusted at the dawn of ICT revolution.

With regards to branch networks, the selected banks have national coverage. UBA which was founded in 1946 merged with Standard Trust Bank Plc in August 2005 and later acquired Continental Trust Bank Plc and Trade Bank Plc in December 2005 and December 2006 respectively, has about 500 branches in different parts Nigeria. This made it to be the bank with the highest number of branch networks and first to reach one trillion naira in balance sheet (UBA, 2007).UBN was established 1917 and acquired Universal Trust Bank Plc, Broad Bank Ltd and Union Merchant Bank Ltd in 2005, has 379 branches. While Wema was incorporated in 1945 and merged with National Bank has 110 branch networks[2]. The target respondents were the bankers (cahiers and managers). This is because they make use of ICT gadgets in the banks; hence, they have adequate information of their operations.

The location used was Victoria Island, Lagos (a commercial hub of Nigeria) where most banks have their head offices from where decisions about the use of any ICT gadget are usually initiated and first implemented. Therefore, it is believed that the type of ICT gadgets used in this location would be the same across their branches. This corroborates the fact that the banks have the same mode of operations in all their branches as they are normally networked where one can access his/her account from any of them.

The Structured questionnaire drew responses on the following; age, sex, highest educational qualification, marital status, working experience, type of ICT gadgets they use and how significant is its use in carrying out their jobs, among others. 180 questionnaires were distributed to the respondents (60 for each bank) using a purposive sampling technique. This is because the author was interested in eliciting responses from individuals that have a relatively good knowledge of the concepts.

DATA PRESENTATION AND RESULTS INTERPRETATION

Presentation of Data

The methods used in analyzing the data were cross-tabulations and regression technique with the aid of Statistical Package for Social Sciences (SPSS) software due to its suitability in primary studies. The data collected are reported and analyzed in this section. Reliability test was first carried out to illustrate whether the chosen research method of analysis measured what was intended. From the test, the reliability coefficient was about 0.8 which was corroborated by significant F-value of 104.6 at 1%. This connotes that the chosen method of analysis is reliable.

Out of the 180 questionnaires distributed, 152 of them were retrieved representing about 84.4% response rate. About 36.8 % of the respondents were from UBA while Wema and UBN had 32.2% and 30.9% respectively. In terms of their sex distribution, about of 52.0% were females while the remaining 48.0% were males. The percentages (%) were approximated to one decimal place (see Table 1 below).

Table 1: Percentage Distribution of Sex across the Banks

Bank	Sex Male (%)	Female (%)	Total (%)
UBA	15.8	12.1	36.8
Wema	15.1	17.1	32.2
UBN	17.1	13.8	30.9
Total	48.0	52.0	100.0

Source: Author's Field Survey, 2007.

From Table 2, it can be observed that the highest proportion of the respondents i.e. about 67.8% was in 26-32years age bracket followed by 33-39years age group with about 15.8% across the banks. While the least was in 40-46years age group with about 7.9% of the distribution.

Table 2: Percentage Distribution of Age across the Banks

Bank	Age (years) 19-25 %	26-32 %	33-39 %	40-46 %	Total %
UBA	4.6	28.9	3.3	0.0	36.8
Wema	2.6	23.7	5.9	0.0	32.9
UBN	1.3	15.1	6.6	7.9	30.9
Total	8.6	67.8	15.8	7.9	100.0

Source: Author's Field Survey, 2007.

With respect to their educational qualification, Table 3 shows that most of them have first degree (Higher National Diploma-HND and B.Sc) which represents about 62.5%, while 21.7% have Master degree and other professional qualifications. The least qualified among them had Ordinary National Diploma-OND.

Table 3: Percentage Distribution of Educational Qualification across the Banks

Bank	Highest Educational Qualification OND %	First Degree (HND/B.Sc) %	Masters & Others %	Total %
UBA	5.9	23.7	7.2	36.8
Wema	7.9	19.0	5.3	32.9
UBN	2.0	19.7	9.3	30.9
Total	15.8	62.5	21.7	100.0

Source: Author's Field Survey, 2007.

From Tables 2 and 3, it could be deduced that the banks usually engage degree holders that are between 26-32years old. The aim could be to have a crop of workers (i.e. bankers) that can easily adapt to the changing technological ambience and also have considerable years of service for the banks to recoup their investment in terms of training. Nearly all the respondents (more than 98%) are computer literate and are quite conversant with the type of ICT gadgets used in their banks for their operations, as well as the essence of its adoption. As a result, presenting the data on them was not considered worthwhile.

Regression Results, Interpretation and Summary of Findings

The regression results presented in Table 4 shows that the chosen explanatory variables met their aprori signs and are statistically significant with the exception of sex .Clit was at 10%, others were at 1% as revealed by their T-values and P-values. This means that the sex of the bankers does not explain their aptness in ICTUSE. This is not too surprising as the banks do not usually discriminate against candidates on gender grounds. From the above, it can be said that the main variables that influence the intensity of ICTUSE in the banks are; the bankers' age, educational qualification, computer literacy and the type of ICT gadgets used. The F-value which is significant at 1% connotes that the model does not suffer specification bias while the coefficient of determination (R^2) indicates that about 19.1 % variation in ICTUSE was jointly explained by the explanatory variables. The value appears small yet significant. In studies such as this (primary and multiple regression) emphasis is usually on the significance of individual explanatory variables (Gujirati, 1995).

Table 4: Regression Results for Model 1

Dependent variable ICTUSE	Independent variables					
	Constant	Age	Sex	Edu	Clit	Type
Coefficients	0.842	1.090	0.719	0.858	0.477	0.326
T-values	6.481	2.466	1.102	2.840	1.881	4.674
P-values	0.000	0.006 *	0.458	0.004*	0.064**	0.000*
R = 0.437; R^2 = 0. 191; F value= 4.798 (0.000), Observations =152						

*Note: * and ** denotes significant at 1 and 10 % respectively.*

Table 5 below, shows the results from the estimation of the dependent variables (Spid, Wopd and Pfit) that were related to ICTUSE. The coefficients were rightly signed and statistically significant at 5% level. This depicts that the intensity of ICT used in the banks (ICTUSE) has positive impact on speed of banking operations and efficient service delivery (Spid), workers productivity (Wopd) and bank's profit level (Pfit). In terms of contribution, ICTUSE accounts for about 34.5%, 46.9% and 30.9% variations in Spid, Wopd and Pfit, respectively as shown by the R^2 values. (F-value was not reported since the equations were simple regressions).

Table 5: Regression Results for Model 2

Dependent variable	constant	ICTUSE	R	R^2	Observations
Spid	3.814	0.607	0.587	0.345	152
T-value	11.377	1.984			
P-value	0.000	0.049*			
Wopd	2.448	1.892	0.685	0.469	152
T-value	3.87	2.002			
P-value	0.001	0.032*			
Pfit	0.906	0.197	0.556	0.309	152
T-value	7.893	1.895			
P-value	0.000	0.050*			

*Note: * denotes Significant at 5%.*

The major findings of the study as revealed by the results presented in Tables 4 and 5 as discussed above can be summarized as follows: 1) The banks usually engage young degree holders. 2) Gender of the bankers does not affect their efficiency in the use of ICT in the banks. 3) Factors that influence the banks' intensity of ICT usage include the bankers' age, educational qualification, computer literacy and type of ICT gadgets used. 4) ICT usage has positive and significant impacts on the speed of operations and service delivery, productivity and profit level of the banks.

The implication of the findings are that emphasis should not be placed on gender of banks' prospective candidates during recruitment instead attention should be focused on their educational qualification, age, and ability to operate ICT gadgets. And the banks should procure and install the type of ICT gadgets that will induce efficiency. This is because engaging educated young minds will help the banks to integrate them easily into the rapidly changing technological world and give the bankers sufficient time to contribute satisfactorily to the growth of their banks.

In addition, regular training should be given to the bankers from time to time to keep them abreast of the current innovations in the use of ICT. This will enhance their efficiency and quality of service delivery that will ensure customers retention and productivity, which will translate to the banks' profitability, *ceteris paribus*. This stance is essential especially in this era of reforms in the nation's financial sector where attention is no longer on the banks that have the required capital. This is because 25 banks in Nigeria have more than the stipulated 25 billion naira capital base. The key issue at moment is the ability of banks to retain their current customers as well as attract potential customers. This is mainly feasible in their efficient service delivery, which depend largely, on the premium placed on the use of ICT.

CONCLUSIONS

The increasing use of ICT has caused the integration of various economic units in a way that has made banking operations to be highly ICT inclined and to benefit immensely from the gains in technological revolution. An empirical analysis was carried out to find out the roles ICT plays in enhancing the mode of operations of some selected banks in Nigeria employing primary data. The data were analyzed with cross-tabulations and regression technique. The study established the following: the gender of the bankers does not affect efficiency in ICT use; bankers' age, educational qualification, computer literacy and type of ICT gadgets, were significant in influencing banks' intensity of ICT usage. Also ICT was found to impact positively the speed of banking service delivery, as well as productivity and profitability. It was then recommended that the banks should train their workers from time to time to keep them abreast of the innovations in the use of ICT.

In addition, the need for the banks to procure quality ICT gadgets that will enhance efficiency and customers' retention, among others, was pointed out. This will ensure quality service delivery and productivity which is essential most especially in the country's banks post-consolidated era. This is because attention is now on the ability of banks to retain their existing customers and attract prospective ones, which is mainly a function of their efficient service delivery that depends on the use of ICT. Finally, the study recommends further empirical research to expound more on the roles of ICT and other forms of technological innovations to other sectors of the nation's economy such education, agriculture, health among others. This will help to further appreciate the germane roles modern technologies play in socio-economic advancement.

NOTES

[1] All the Nigerian banks host their own website, which can be accessed.
[2] Details about the banks are available in their websites, viz: UBA (http://www.ubagroups.net/about.asp), UBN (http://www.unionbankng.com/history.htm) and Wema (http://www.wemabank.com/network.htm)

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THE APPLICABILITY OF BENFORD'S LAW TO THE BUYING BEHAVIOR OF FOREIGN MILITARY SALES CUSTOMERS

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ABSTRACT

The forces of natural law selection prompt animal species to make preference decisions to maximize their survival utility. Those species making decisions in this way survive, and those which do not tend towards extinction. This process appears to follow a decreasing marginal utility trend with a logarithmic probability distribution, which is identical to Benford's Law. This suggests that Benford's Law is a descriptive statistic of this natural selection process. Additionally, the customers of the Defense Security Cooperation Agency's foreign military sales program presumably also attempt to optimize their survival utility, and exhibit purchasing patterns correlating strongly with Benford's Law. The purpose of this paper is to examine how a mathematical phenomenon, Benford's Law, may prove to be a useful means of understanding the buying behavior of DSCA's foreign customers. This paper also suggests an informal proof of Benford's Law.

JEL: C44, M31

INTRODUCTION

The need to consume is largely driven by the desire to satisfy needs that have been programmed in our minds either by the genes we inherit or the memes we learn from the culture in which we live. To understand why people make preference decisions, examining a taxonomy developed by Abraham Maslow would be a good starting point. Csikszentmihalyi (2007) suggested that according to Maslow's theory, the most basic needs that motivate a person are physiological survival needs: to eat, to drink, to have sex, to breathe, to sleep, to be warm, and to eliminate. When these needs are not met, the person will turn all of his or her psychic energy to the task of satisfying them.

The author said that if the physiological needs are relatively well gratified, there then emerges a new set of needs, which are categorized as safety needs, love and belonging needs, and esteem and self-actualization needs. This paper focuses on making preference decisions to maximize an individual's survival utility. Survival utility is seen as an active and dominant mobilizer of an individual's resources in times of war, disease, natural catastrophes, crime waves, and societal disorganization.

Therefore, the purpose of this paper is to examine how a mathematical phenomenon, Benford's Law, might prove to be a useful means of understanding the buying behavior of consumers. We apply this in particular to the Defense Security Cooperation Agency (DSCA) -- which is an organization within the US Department of Defense that facilitates sales of certain weapons, military equipment, and military training to customer countries allied with the US. We will first review the literature to introduce Benford's Law, and relate why Benford's Law initially appears to be enigmatic. Then, we will discuss research regarding several concepts of stimulus and response, and how they are mathematically modeled. We believe that these research findings show the cause of the underlying Benford's Law distribution. Since rational customers buy according to stimulus and response effects, we test the prediction that DSCA customers will buy according to the Benford's Law distribution. Finally, we show the statistical significance of our research.

LITERATURE REVIEW

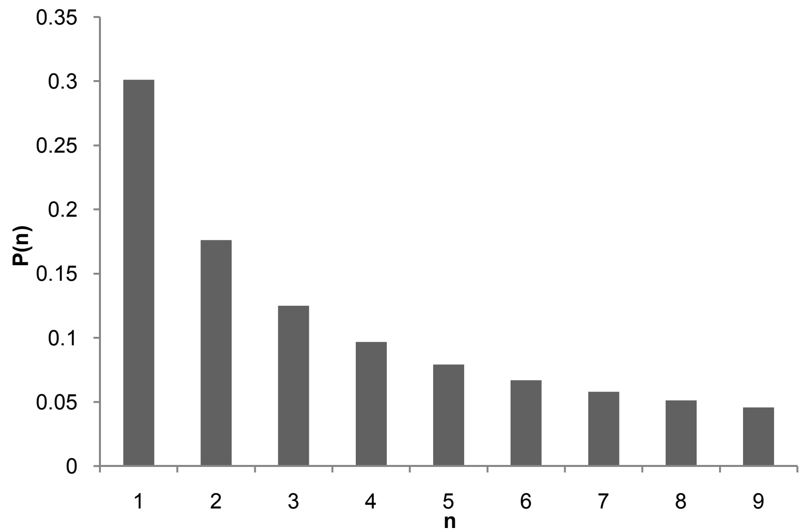
Benford's Law, also called the first-digit law, states that in lists of numbers from many real-life sources of data, the leading digit 1 occurs more often than the others, namely about 30% of the time. A lively account is from a blog entitled Fabulous Adventures in Coding.

> *While I was poking through my old numeric analysis textbooks to refresh my memory for this series on floating point arithmetic, I came across one of my favorite weird facts about math. A nonzero base-ten integer starts with some digit other than zero. You might naively expect that given a bunch of "random" numbers, you'd see every digit from 1 to 9 about equally often. You'd see as many 2's as 9's. You'd see each digit as the leading digit about 11% of the time. For example, consider a random integer between 100000 and 999999. One ninth begin with 1, one ninth begin with 2, etc. But in real-life datasets, that's not the case at all. If you just start grabbing thousands or millions of "random" numbers from newspapers and magazines and books, you soon see that about 30% of the numbers begin with 1, and it falls off rapidly from there. About 18% begin with 2, all the way down to less than 5% for 9. This oddity was discovered by Newcomb in 1881, and then rediscovered by Frank Benford, a physicist, in 1937. As often is the case, the fact became associated with the second discoverer and is now known as Benford's Law. Benford's Law has lots of practical applications. For instance, people who just make up numbers wholesale on their tax returns tend to pick "average seeming" numbers, and to humans, "average seeming" means "starts with a five." People think, I want something between $1000 and $10000, let's say, $5624. The IRS routinely scans tax returns to find unusually high percentages of leading 5's and examines those more carefully. Benford's result was carefully studied by many statisticians and other mathematicians, and we now have a multi-base form of the law. Given a bunch of numbers in base B, we'd expect to see leading digit n approximately in (1 + 1/n) / in B of the time. But what could possibly explain Benford's Law? (Lippert 2005)*

Browne (1998) said that Benford's Law is named for the late Dr. Frank Benford, a physicist at the General Electric Company. The author indicated that in 1938 Dr. Benford noticed that pages of logarithms corresponding to numbers starting with the numeral 1 were much dirtier and more worn than other pages. Browne (1998) defined a logarithm as an exponent. He said that any number can be expressed as the fractional exponent, the logarithm, of some base number, such as 10. Published tables permit users to look up logarithms corresponding to numbers, or numbers corresponding to logarithms. Logarithms tables, and the slide rules derived from them, are not much used for routine calculating anymore, electronic calculators and computers are simpler and faster. But logarithms remain important in many scientific and technical applications, and they were a key element in Dr. Benford's discovery.

More formal treatment of Benford's Law appears in the literature. A typical treatment is from Kollath-Romano (2004). The presentation includes a histogram showing the distribution of the leading digits copied below in Figure 1. The literature has identified many possible practical applications for Benford's Law. Nigrini (1999) reported the following listing of applications: accounts payable data; estimations in the general ledger; the relative size of inventory unit prices among locations; duplicate payments; computer system conversion (for example, old to new system; accounts receivable files); processing inefficiencies due to high quantity/low dollar transactions, new combination of selling prices; and customer refunds. The author went on to say that Benford's Law provides a unique method of data analysis that could help alert Certified Public Accountants to spot irregularities indicating possible error, fraud, manipulative bias or processing inefficiency. Nigrini appears to be the first researcher to apply Benford's Law extensively to accounting numbers with the goal to detect fraud (Durtschi, Hillison and Pacini, 2004).

Figure 1: Graph from Kollath-Romano



This figure shows the distribution of leading digits n as forecast by Benford's Law.

Durtschi, Hillison and Pacini (2004) said that Benford's Law has been promoted as providing the auditor with a tool that is simple and effective for the detection of fraud. Moreover, Benford's Law as applied to auditing is simply a more complex form of digital analysis. It looks at an entire account to determine if the numbers fall into the expected distribution. The authors concluded that Benford's Law is a useful tool for identifying suspect accounts for further analysis Skousen, Guan and Wetzel (2004) reported that in using Benford's Law their research provided evidence that managers of Japanese firms tend to engage in earnings manipulative activities of rounding earnings numbers to achieve key reference points. The authors suggested that the first digit of earnings numbers was often emphasized by the management.

Two researchers reported that Benford's Law is seeing increasing use as a diagnostic tool for isolating pockets of large datasets with irregularities that deserve closer inspection (Tam Cho and Gaines, 2007). Varian (1972), an economist, reported that Benford's Law can be used as a test of the honesty or validity of purportedly random scientific data in a social science context. Although the literature reveals numerous studies describing Benford's Law and characterizations of its mathematical patterns, no study was found either examining the applicability of Benford's Law to customer buying behavior or giving causes for its occurrence.

THEORY AND METHODOLOGY

This section of the paper discusses two underlying research studies that provide some of the rationale behind Benford's Law. These studies include Weber's Study of the Perception of Human Stimuli and The Decreasing Utility Function of Natural Law.

Weber's Study of the Perception of Human Stimuli

This study of the underlying causes of Benford's Law begins with the work of Ernst Heinrich Weber. Weber (2005) found a form of the law of diminishing returns relationship in humans between stimulus and response: as stimulus increased, response also increased but at a decreasing rate that can be modeled logarithmically. The resulting Weber-Fechner Law indicates that this response utility increases logarithmically.

In one of his classic experiments, Weber gradually increased the weight that a blindfolded man was holding and asked him to respond when he first felt the increase. Weber found that the response was proportional to a relative increase in the weight. That is to say, if the weight is 1 kg, an increase of a few grams will not be noticed. Rather, when the mass is increased by a certain factor, an increase in weight is perceived. If the mass is doubled, the threshold is also doubles. This kind of relationship can be described by a differential equation as:

$$dp = k\frac{dS}{S} \tag{1}$$

Where dp is the differential change in perception, dS is the differential increase in the stimulus and S is the stimulus at the instant. It is instructive to look at this equation. Dividing both sides by dS yields the following:

$$\frac{dp}{dS} = k * \frac{1}{S} \tag{2}$$

This is the form for the equation for the natural logarithm ("log"), where the slope of the line equals 1/x. In this case, the "x" axis is the change in stimulus S, and the "y" axis is the change in response (perception p). The equation could also be written in the following form:

Response Level = k * ln Stimulus Level + C

where k is a constant and C the constant of integration. Natural logs can be converted into base 10 logs which may be more familiar. Table 1 shows this conversion. Table 1 shows that when the Stimulus Level doubles (i.e., it increases from 1 to 2 – see column 1), the Response Level increases by a factor of the log of 2 (i.e., .3010, or 30.10% --see column 3). Changing the Stimulus Level from 2 to 3 yields in incremental response increase of .1761 (i.e., .4771 - .3010), or 17.61%. One way to picture this is to recall the slide rule. Slide rules have several scales, for example, K, A, B, S, T, CI, C, D, and L. The L scale is the log scale. It starts with 0, and increases to the right in major increments of .1 until it reaches the right edge at 1. The integers on the D scale above it can be thought.

Table 1: Weber-Fechner Law of Stimulus and Response

Stimulus Level	Response Level Natural Log	Response Level Log (Base 10)	Incremental Increase	% Incremental Increase
1	0.0000	0.0000	0.3010	30.10%
2	0.6931	0.3010	0.1761	17.61%
3	1.0986	0.4771	0.1249	12.49%
4	1.3863	0.6021	0.0969	9.69%
5	1.6094	0.6990	0.0792	7.92%
6	1.7918	0.7782	0.0669	6.69%
7	1.9459	0.8451	0.0580	5.80%
8	2.0794	0.9031	0.0512	5.12%
9	2.1972	0.9542	0.0458	4.58%
10	2.303	1.000	--	--

This table shows the logarithmic, not linear, relationship between stimulus and response.

of as corresponding to the Stimulus Levels of Table 1. Their logs are directly below them on the L scale, and these can be thought of as the Response Levels of Table 1, especially column 3. For example, the log of 1 (on the D scale) is 0 (on the L scale). This means that if the Stimulus Level stays constant, then the

Response Level does not change. The log of 2 (on the D scale) is close to .3010 (on the L scale). So, increasing the Stimulus Level by a factor of 2 increases the Response Level by a factor of .3010, or 30.10%. This is also the incremental increase in the fourth column of Table 1 from 1 to 2. Moreover, the distance from 1 to 2 on the D scale is 30.10% of the D scale's length.

Table 1 shows that increasing the Stimulus Level by a factor of 3 increases the Response Level by a factor of .4771 (or, 47.71%); .4771 on the L scale is directly below 3 on the D scale. Also, increasing the Stimulus Level from 2 to 3 corresponds to the difference between log 3 and log 2, or, .4771 - .3010, which is .1761 or 17.61%. Put another way, the distance from 2 to 3 on the D scale is 17.61% of the D scale's length. Further continuing, each additional integral increment on the D scale, such as from 3 to 4, will correspond to a percentage of the length of the D scale which can be matched to the corresponding incremental distance on the L scale. These all are the remaining numbers in column 4 of Table 1, respectively.

Those familiar with slide rule use know that although the D scale's integers run from 1 through 10, they can also be thought of as running from 10 to 100, 100 to 1,000, 1,000 to 10,000, or across any factor of 10. For example, the log of 2 is .3010, the log of 20 is 1.3010, the log of 200 is 2.3010, etc. The ".3010" factor (the mantissa) stays the same. If one wants a more complete understanding of Weber-Fechner Law of stimulus and response, then, one needs to recognize that increasing the stimulus from 10 to 20, or from 100 to 200, or from 1,000 to 2,000, etc. always increases the response by the mantissa .3010.

Suppose one runs a thought experiment with a statistically large number of trials of randomly distributed stimuli ranging over many powers of 10, and suppose that the corresponding Response Level results match those predicted by Weber-Fechner Law. Then, one counts the number of times the Response Level increased by the factor of .3010. That would be the number of times the Stimulus Level increased from 1 to 2, plus the number of times it increased from 10 to 20, plus the number of times it increased from 100 to 200, etc. Since the Response Level increases by .3010 in all cases, it does not matter if a particular trial was a 1 to 2, or a 10 to 20, or a 100 to 200 -- in this sense: in each trial, the leading digit of the beginning degree of stimulus would be a 1 (1, 10, 100, etc.). Therefore, during a large number of trials, the leading digit of 1 should have appeared about 30.10% of the time. Since increasing the Stimulus Level from 2 to 3 incurs a Response Level increase of 17.61%, the number of times the number 2 appears as the leading digit of randomized beginning degree of stimuli should be about 17.61% of the time. In like manner, 3 should appear 12.29% of the time, 4 should appear 9.69% of the time, and so on until 9 should appear 4.58% of the time. These are the same values as in Table 1, Column 4.

The Decreasing Utility Function of Natural Law

Hans-Werner Sinn (2002) extends the Weber-Fechner Law to all surviving species, as his overviews in the abstract of his paper, "Weber's Law and the Biological Evolution of Risk Preference." The paper offers proof that the expected utility maximization with logarithmic utility is a dominant preference in the biological selection process in the sense that a population following any other preference for decision-making under risk, with a probability that approaches certainty, disappear relative to the population following this preference as time goes to infinity. This result is contrasted with Weber's and Fechner's Psychophysical Law which implies sensation functions for objective stimuli (Sinn 2002).

Basically, Sinn argues that the forces of *natural selection* prompt animal species to make preference decisions to maximize their survival utility. Those species making decisions in this way survive, and those which do not tend towards extinction. This process follows a decreasing marginal utility trend with a logarithmic probability distribution. This is the same as Weber-Fechner's utility function described by Table 1. In other words, doubling the work effort results in an increase of survivability of .3010, or log 2, or, doubling the Stimulus Level results in a Response Level increase of .3010. These are the same numbers as in Table 1, especially column 4.

Benford's Law

Benford's Law, also called the first-digit law, states that in lists of numbers from many real-life sources of data, the leading digit 1 occurs more often than the others, namely about 30% of the time. The exact frequency of the leading digits is in Table 2.

Table 2: Benford's Law Prediction of Frequency of Occurrence of Leading Digit

Leading (First) Digit	Probability of Occurrence
1	0.3010
2	0.1761
3	0.1249
4	0.0969
5	0.0792
6	0.0669
7	0.0580
8	0.0512
9	0.0458

This table shows that the frequency of leading digits predicted by Benford's Law is identical to the stimulus and response level leading digits of the Weber-Fechner Law in Table 1.

Table 2 is of interest because the "Probability of Occurrence" of leading digits, as predicted by Benford's Law, is identical to the probability of leading digits as derived from the Weber-Fechner Law in column 4 of Table 1. This prompts the notion that Benford's Law appears to be a descriptive statistic of the characteristics of human behavior and natural selection as described, respectively, by the research of Weber and the research of Sinn. Benford's Law appears to be based, at least, upon the forces of natural selection which prompt animal and human species to make preference decisions to maximize their survival utility. Sinn argues that those species making decisions in this way survive, and those which do not tend towards extinction.

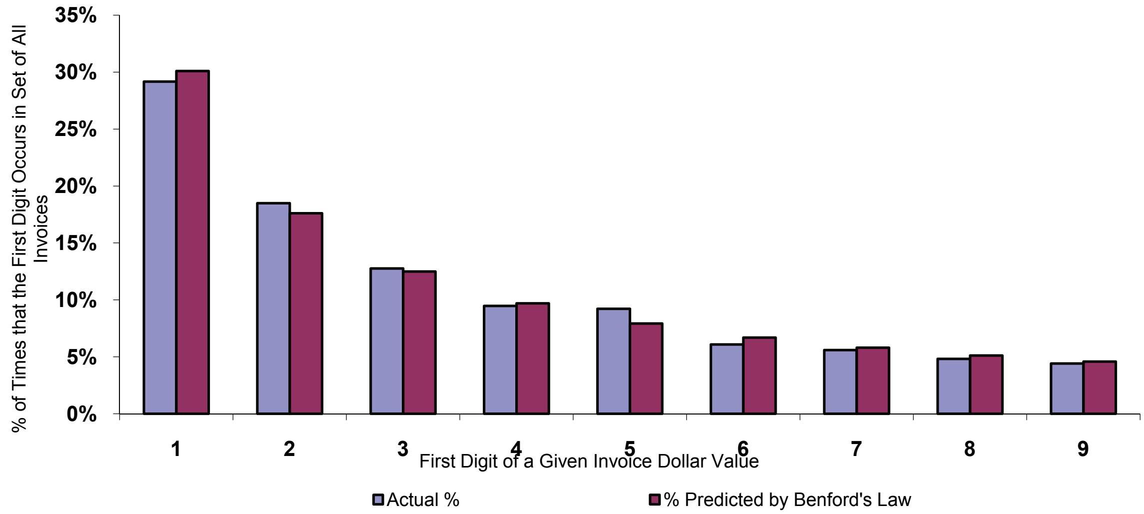
It is assumed by the researchers that when DSCA customers purchase goods, they receive a degree of utility in return for their money. This can be thought of as their perception of increased security utility. Increase the dollar value of the customer's order, and the customer receives increased security utility. However, customer security utility improvement does not increase in a linear fashion. Because military expenditures occur to improve a country's perception of increased security, it follows the forces of natural selection described by Sinn. For example, suppose that a customer country doubles its expenditure for military equipment. Their perception of increased security should increase by .3010, as predicted by both Weber-Fechner's Law and Benford's Law.

Testing this assumption requires at least two steps. First, we determine if there is a strong enough correlation between the actual distribution of leading digits on DSCA sales invoices and the distribution as predicted by Weber-Fechner Law and Benford's Law. Secondly, if there is such a strong enough correlation, then contact customer countries to determine if their actual perceptions closely match those determined statistically through the first step's correlation. This research is limited to Step 1.

DATA

The researchers downloaded a census of all of the DSCA invoices over a five year period, and the number of invoices was statistically large. Although the values of individual invoices are proprietary, Figure 2 shows the distribution of those invoices' first digits.

Figure 2: Actual Distribution of a Large Number of Invoice First Digits



Visual inspection of Figure 2 makes it very tempting to argue that the invoice first digit distribution approaches the above logarithmic distribution in Table 1, column 4, as a mathematical limit. The distribution of DSCA's invoice first digit percentages with those percentages predicted by the Weber-Fechner Law and Benford's Law is almost identical. The distribution of actual percentages with those percentages predicted by the Weber-Fechner Law and Benford's Law is almost identical. To measure the statistical significance of this comparison, one can use the chi-square test. The results of this test of comparison of actuals to predicted are shown in Table 3.

Table 3: Chi-Square Test for Actual Frequency of Sales Invoice First Digits

First Digit	Actual %	Predicted %	Difference	Squared Difference	Squared Difference / Predicted
1	0.292	0.301	-0.009	$8.15*10^{-5}$	$2.71*10^{-4}$
2	0.185	0.176	0.009	$7.94*10^{-5}$	$4.51*10^{-4}$
3	0.128	0.125	0.003	$9.37*10^{-6}$	$7.50*10^{-5}$
4	0.095	0.097	-0.002	$3.65*10^{-6}$	$3.76*10^{-5}$
5	0.092	0.079	0.013	$1.64*10^{-4}$	$2.08*10^{-3}$
6	0.061	0.067	-0.006	$3.54*10^{-5}$	$5.28*10^{-4}$
7	0.056	0.058	-0.002	$3.97*10^{-6}$	$6.84*10^{-5}$
8	0.048	0.051	-0.003	$9.94*10^{-6}$	$1.94*10^{-4}$
9	0.044	0.046	-0.002	$3.09*10^{-6}$	$6.75*10^{-5}$
Total					$\mathbf{3.77*10^{-3}}$

This table shows that the agreement between the actual leading digit frequencies of DSCA invoices and that forecast by Benford's Law is statistically significant.

The bottom line of this test is that the total deviation between actuals and predicted as measured by chi-square is very small – $3.77*10^{-3}$. This total is better (smaller) than the critical value of 1.344 for 99.5% confidence, which is the highest level of confidence in a university statistics book (Weiss 1999), so we at least initially perceive that we are more than 99.5% confident that Benford's Law correctly describes the frequency of our first invoice digits in this census. Therefore, it seems that DSCA sales patterns strongly enough correlate with Benford's Law.

RESULTS AND CONCLUDING COMMENTS

According to the Weber-Fechner study, humans respond to stimuli in a logarithmic manner. For example, when the stimulus is doubled, the response increases by about 30.10%, which corresponds to the logarithm of 2; if the stimulus increases from 2 to 3, then the additional response increases by about 17.71%; their sum of about 47.71% corresponds to the logarithm of 3. Sinn believes that this is in accordance with natural law, and that species that follow this law for survival remain, and those that do not follow this law become extinct.

What follows is that if stimuli levels are uniformly randomly distributed between 0 and 1, then the corresponding responses are logarithmically distributed. This means that about 30.10 % of the responses will have a leading digit between 1 and 2, about 17.71% of the responses will have a leading digit between 2 and 3, etc. This can be pictured using a slide rule. The same applies to stimuli uniformly randomly distributed between 1 and 10, 10 and 100, etc. because the mantissa of those logarithms are identical to those between 0 and 1. We believe that there is a descriptive statistic that portrays this logarithmic distribution, and that is Benford's Law.

We found that DSCA customers seem also to respond in this way. The set of their invoice values are randomly distributed in this way, and this pattern follows the descriptive statistic of Benford's Law. We believe that at least one main reason for this is their desire to improve their perceptions national security as a response to their purchases. We believe that DSCA can use this information to help facilitate security cooperation in the international allied community.

We expect Benford's Law to be a statistic that describes a variety of situations similar to that experienced in DSCA. These are consumer buying behaviors where the customers' perception of satisfaction is a main effect of the purchase stimulus, there are a large number of customer orders, there is a wide variety of pricing levels, and customer order sizes cover several orders of magnitude in dollar size. Examples of these might be the size distribution of a statistically large number of software applications in a company's software portfolio as measured in function points; the distribution of perhaps a month of sales orders from a department store; or the quarterly sales orders at a gasoline service station to include parts, repair work, food, and gasoline pump sales. We also suggest that other organizations examine their sales invoice distributions for Benford's Law, and if they find it then they can examine whether their customers are also motivated to buy based on the Weber-Fechner and Sinn studies.

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INTEGRATING SIX-SIGMA AND HEALTHCARE QUALITY IMPROVEMENT CIRCLES IN REDUCING THE NEEDLE STICKING

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ABSTRACT

Six-Sigma (SS) is a managerial philosophy used in detecting the error rate of a particular (set) of activities. This research applies six sigma concepts in dealing with troublesome needle-stick events that occurred in a Taiwan hospital. This research integrates several advanced managerial instruments into one framework, grounded in Continuous Quality Improvement and Total Quality Management. This framework combines Six-Sigma and Health Quality Improvement circle practices. The project suggests preparing a needle-recapping stand and appropriate training on its use. When the stand was implemented in a Taiwan hospital the accident rate decrease significantly.

JEL: I12, I18

INTRODUCTION

Hospitals in Taiwan operate in an extremely challenging and competitive environment. Various hospitals along with other healthcare providers compete for the limited and ever decreasing reimbursements from the National Health Insurance Bureau (NHIB). Remaining profitable and competitive in the market becomes a vital issue for Taiwan hospitals (Schneider, White, & Paul, 1998). Healthcare service is distinctive from other services in the sense that its services are human health related and sensitive. Quality and safety of the service itself as well as the process of providing relevant treatments and supportive services are essential for hospital survival (Kohn, Corrigan, & Donaldson, 1999; Leape, 2002; Robert, 1990).

The advancement of available medical treatments, has resulted in an increasing number of human injections. This has resulted in the nursing staff being exposed to a riskier working environment where needle stick is a major threat (Andrews, Stocking, Krizek, Gottlieb, Krizek, Vargish, & Siegler, 1997). As a major vocational hazard among healthcare professionals, needle sticking has received comprehensive attention. Needle sticks cause infections, which are costly to both healthcare professionals and the hospital. Moreover, they represent a significant corporate risk to the hospital. A government survey reports that 74.8% of hospital employees had experienced various kinds of sticking injuries in their career. By classification, the nurse group has a 98% chance of sticking, followed by physicians at 85.5%, general labor workers at 70.2%, and medical technicians at 64.4% (Institute of Occupation Safety & Health, 2007).

Since many healthcare services require a near-zero tolerance for mistakes or adverse events while simultaneously demanding high service quality and reduced costs, it is essential for hospitals to include six sigma in their improvement approach (Revere and Black, 2004). This research reports a recent application of six-sigma concepts into the activities of healthcare quality improvement circle (HQIC) to reduce the needle-sticking cases among nursing staff. The hospital examined in this research aims to be a reliable provider of efficient, quality, and low cost health services to the hundreds of thousand residents within the service district. Like other rivals, the hospital under consideration has adopted Total Quality Management (TQM) to cope with ever-growing challenges (Modern Healthcare, 1990; Jessee, 2006).

The remainder of the paper is organized as follows. In the following section, we review the literature on service quality, Six-sigma, and Needle Sticks. Next, we discuss the six-sigma and HQIC integrated approach used by one hospital to reduce needle sticking. A section discussing the results of this approach follows. The paper closes with some concluding comments.

LITERATURE REVIEW

In this section, we address some important constructs that are relevant to this study. We first discuss the literature related to service quality. Next we discuss several quality approaches including continuous quality improvement (CIQ), total quality management (TQM), Deming's cycle and healthcare quality improvement circle (HQIC), and six-sigma.

Needle Sticking

Infection within healthcare facilities, particularly in Taiwan hospitals, has become a major disease control problem. Infections may be transferred through various vehicles. For diseases caused by blood-borne viruses, the common risks for the medical profession are needle stick injuries (Levine and Goody, 1992; Goldman and Lewis, 2003). Although needle free I. V. systems and many other substitutes may provide certain kinds of prevention from infection (Wolfrum, 1994), needles remain the major instrument for many injection associated treatments. Regulatory forces including the 2001 Needlestick Safety and Prevention Act (NPA) and associated agency of Occupational Safety and Health Administration (OSHA) in USA (Ramsay, 2004; Rosenthal, 2006), or the similar in Taiwan as Institute of Occupation Safety & Health (IOSH) dictate some practices regarding the use of needles.

The risk of injury and exposure to bloodborne pathogens from needles and other sharps are mostly found in the Ward area of the hospital due to frequent use of needles for various treatments. The Ward area is a designated room where patients are admitted for close monitoring and easy access to treatment and medications. Other areas such as operating rooms, intensive care units (ICU), physician's offices and emergency rooms are also high-risk areas due to frequent use of injections (Brennan, Localio, Leape, Laird, Peterson, Hiatt, & Barnes, 1990). Needle capping is the primary activity associated with needle stick accidents accounting for 31% to 53% of needle stick injuries respectively. Evidence shows that a heightened awareness and culture of safety is helpful for the reduction of sharps injuries and subsequent exposures to bloodborne pathogens (Swallow, 2006). This implies that a nursing team could be effectively motivated through a well-designed approach toward a safer work environment.

Service Quality

Quality has long been regarded as the main and essential mission of healthcare services. Quality service implies that the hospital assures service is provided through a quality process. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) defines quality as including all products and services delivered by the provider that satisfy the patients' real demands (JCAHO, 1991). Following the framework suggested by Fitzsimmons & Fitzsimmons (1998), quality can be evaluated by assessing five distinctive yet related dimensions. Content of the service is provided in accordance with the procedures of the hospital. Procedure of the treatment refers to the events and activities involved in the interactions between service providers and receivers. Organization structure refers to the physical facilities and service staffing that is consistent with the service offered and declared. Outcomes and associated impacts are the last two dimensions of service quality. The former records the direct outcomes of the treatment on particular patients, and the latter is used to assess the appropriateness, accessibility, usability, and associated impacts to the targeted community. Table 1 shows these five dimensions along with associated description and possible assessing criteria for healthcare services.

CQI and TQM

As requested by JCAHO, hospitals and healthcare facilities shall commit to continuingly improving service quality for the benefit of the patients and service receivers. As a result, Continuous Quality Improvement (CQI) as well as Total Quality Management (TQM) have become two major improvement approaches for most hospitals in Taiwan. The hospital discussed in this paper follows these approaches. A trend is to incorporate both concepts simultaneously to be effective and efficient in reaching hospital strategic goals. This so-called CQI / TQM approach can be achieved through four associated activities. 1. Building the continuous improvement concept and implement it through process reengineering within the organization, 2. Employing structural and systematic problem-solving models followed by statistical methods to track the progress of improvement, 3. Delegating authority to employees across departments and teams to investigate problems and associated quality-improvements and 4. Balancing organizational focus between external and internal customers (Shortell, 1995).

Table 1: Service Quality And Assessment For Healthcare Service Facility

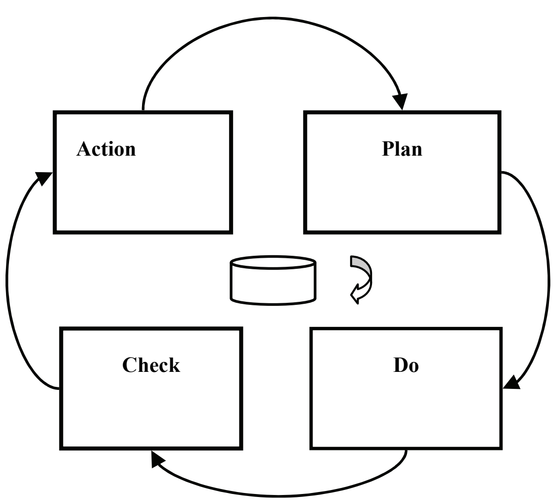
Dimensions	Description	Potential Assessing Criteria
Content	Medical behavior that adheres to national standard	Patient records checking
Procedure	Events involved in the interactions of givers and receivers	Inquire dismissing patients with checking list
Structure	Physical facilities, equipment, professional personnel staffing and qualification	Waiting time, nurses per physician, usage rate of equipment
Outcome	Health status after treatment	Mortality rate, complaints
Impact	Appropriateness, usability, accessibility, and impacts on community	Number of refusals, statistics on patient distribution and distance to the hospital

Deming's Cycle and HQIC

Managerial cycle refers to general managerial activities, involving a Plan-Do-Check-Action (PDCA) recycle process, shown as Figure 1. Applying Deming's concept to quality concern activities, managers plan and set quality standards, produce (do) products that conform to the standard, check the quality of outcomes and associated processes, and modify (action) procedures based on checking results.

Healthcare quality improvement circle (HQIC), as part of the TQM of a hospital, can be effectively conducted using PDCA cycle. Cases from various healthcare facilities provide additional evidence for the usefulness of Deming. By using this logic in HQIC, many rival hospitals have experienced positive outcomes. For example, the National Yuin-Lin Hospital reduced equipment-repair time from 39.8 hours to 20.76 hours using this approach. Lee Hospital in Ta-Jia significantly shortened customer waiting time in pharmacy services. National Taiwan Hospital Medical Center experienced a 43% improvement in its medical inspection department. The Wan-Fang Municipal Hospital sharply shortened radiograph delivery time associated with efficient scheduling as well as resoruce allocation in X-ray department

Figure 1: Deming's Cycle



Six-Sigma

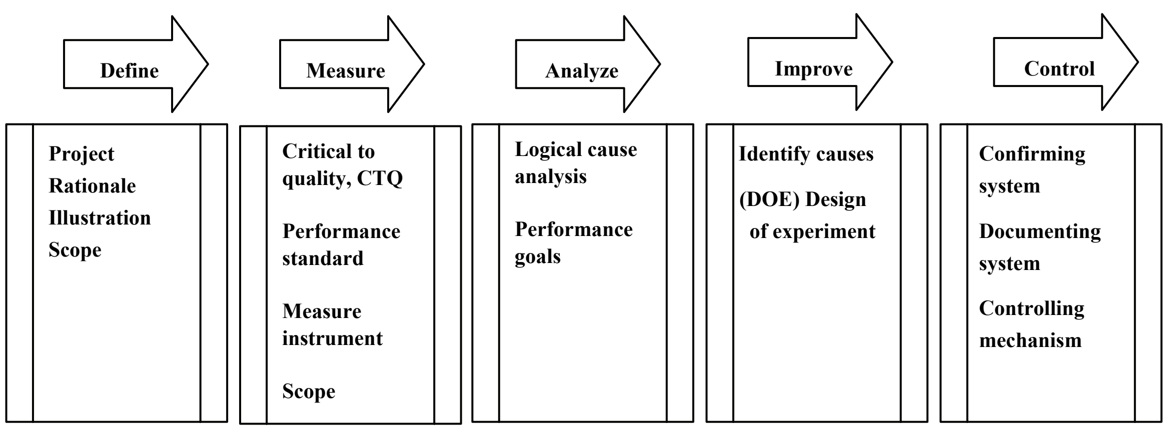
Motorola launched six-sigma in the 1980s as an in-house quality improvement approach. They experienced remarkable results from the approach (Hany & Schroeder, 2004). Six-sigma was adopted and extended in many world-class companies, including General Electric in the 1990s. Six sigma involves several steps to minimize or eliminate waste or errors while attempting to improve customer satisfaction and financial stability (Pande, Newman, and Cavanagh, 2000, and Thompson & Lewis, 2002). Sigma refers to an error rate of particular set of activities. The notion of six-sigma is to produce quality results with a standard that accepts 3.4 errors out of 1 million attributes or products out of specification (Voelkel, 2004) as shown in Table 2. In today's business environment, the issue is not weather six sigma should be adopted, but rather how to master a business using six-sigma approaches (Thawani, 2004). This is particularly important in most medical industries (Revere and Black, 2004; Jessee, 2006).

Six-sigma can be viewed as an extension of the Failure Mode and Effects Analysis (FMEA) required by JCAHO (Joint Commission on Accreditation of Healthcare Organization) and can be easily integrated into a current quality control system. Many healthcare facilities implemented six-sigma projects, thereby achieving outstanding performance in the form of reduced medical errors, reduced costs, shorter hospital stays, as well as improved financial outcomes (Lazarus & Butler, 2001; Ettinger, 2001; Jones, 2004). Fundamentally, an organization must recognize that six sigma is not a novel tool as many authors suggest but rather an operation strategy or a structural methodology in problem solving (Lanham & Maxson-Cooper, 2003). Applying six-sigma in administrating organizational routines inolves, five distintive yet related steps, each essential for effective adoption as shown in Figure 2.

Table 2: Quality Levels in Each Sigma Standard

Sigma Values	PPM (error/ million)	Improvement
1	691,500	
2	308,537	1.2 times
3	66,807	3.6 times
4	6,210	9.8 times
5	233	25.7 times
6	3.4	67.5 times

Figure 2: Six-Sigma Model



INTERGATING 6σ AND HQIC

Although the six-sigma concept has been demonstrated to be an effective and powerful managerial tool in many cases, a plethora of projects in the healthcare industry have experienced unsatisfactory results. These unsatisfactory results generally occur because of improper data collection for the system. Healthcare quality improvement circle (HQIC) has long been used in the healthcare industry because of its simple and user-friendly characteristics. We propose that techniques used in HQIC are able to provide accurate information for each step of six-sigma in a timely manner, allowing for the effective deployment of a six-sigma system. We illustrate how the HQIC techniques could be integrated into the six-sigma system and help the system work in each individual step of, measurement, analysis, implementation, and control in the following sections. Table 3 shows the steps of six-sigma and corresponding actions where HQIC may help.

Table 3: Six Sigma And Corresponding HQIC Activities

Step	Six Sigma	HQIC
Define	1. Identify and confirm the customer related issues	1. Creating QCC
	2. Define projects' goals and scope	2. Identify problems, finalize project
	3. Identify actionable subjects	
Measure	Gather information regarding current capabilities in possession	3. Analyzing current context
	Distinguishing problem scope	
Analyze	Identify the root causes of problem and associated instrument for problem solving	4. Alternatives generating
Improve	Implement the alternative, modify the business process	5. Optimal alternative decision
		6. Implementing
Control	1. Maintain the production process in the ways of continuous improvement	7. Outcomes approve
	2. Standardized the production process	8. SOP
	3. Integrate all improvements as daily routine	9. Report
		10. Presentation and sharing

<u>Define</u>

The first step in DMAIC is defining the direction, setting the goals, scope, time frame, members, and financial objectives of the project and documenting the project as an official guideline. To identify the key issues involved in the activity flows, a SIPOC (supplier, input, process, output, and customer) chart is established through a project meeting. In the case of the hospital discussed here the objective is "Reducing needle stick events among nursing staff," This step is followed by identifying the problem and opportunities may emerge from this activity.

By employing direct observation and content analysis on each accident report and follow up interview, sharp articles resulted in 51 injuries in the period of January through December of 2004. Nurses represent the major victims of such injuries at 74.5% (38 of 51) of the total reported injuries. Needle sticking happens 1.4 times per hundred nurses per month, which is higher than the national average. We further define the goal as reducing nurses' needle sticking to a level with an increased sigma value.

Causes of needle sticking were categorized by three different criteria. The first classification is by instrument being used. Hypodermic needles represent the major culprit with 81.6 % of cases, followed by I.V. catheter with 10.5% of all cases, and other objects such as surgical instruments, knife needles etc. with 9% of all cases. Next, the injuries were classified by medical action. The results indicate that 34.2% of cases happened in blood extraction procedures, 18.4 % occurred when conducting A-line, IV, CVP etc., 13.2% happened while preparing an injection, and other activities associated with injection accounted for 7.9% of all sticks. Finally, we classify the accidents by activity. We found that 39.47% of total needle sticks happened when recapping the hypodermic needle after injection, 21.0% due to patient motions, loosing needle cap account for 7.9%, and other non-systemic incidents such as unexpected touch by colleague, account for the remaining 8 %. The data indicate that employees with insufficient experience may assume higher needle stick risk, particularly for those recruited within one year. However, no significant difference is found for the groups with one year and more of experience. Nearly seventy-seven percent of responding nurses reported recapping needle by both hands, of which was popularly recognized an acceptable and safer behavior.

Measure

There are four major works to be performed in this stage. The first and primary work is to design and decide appropriate methods and instruments for the project goals. Associated works included are process capabilities analysis, simulation and system analysis, and incentive programs. In this stage, several charts are designed and produced based on data collected from observations and interviews. Techniques used include cause and effect diagrams, Pareto diagrams, and other QC tools to help identify quality problems. All HQIC teams then agreed on an initial performance standard across every nursing department, as shown in table 4.

Table 4: Needle Stick Rate, Monthly

Year	Events	Number of nurses	Rate（%）	Errors per million	Sigma
2004	38	226	1.4	14,012	3.6972

Analyze

Proactive analysis includes distinctive yet related works of design and analysis. The former shortened the list of alternative to a manageable number (e.g. less than 10), the latter involves finalizing optimal alternative through multiple experiments or surveys. In this stage, we finalize four major causes of needle stick events. Recapping the used hypodermic needle after injection is the first and most frequent cause for needle stick events, ranging from 31% to 53%. The second cause is the lacking of patient cooperation prior to or during injection. Being pricked by needle in other non-medical behaviors such as in preparing dosages is the third major cause. The last major cause is associated with inappropriate positioning of the needle cap.

In this stage, members of each team discuss and identify factors that result in an above average needle-stick rate. A formula is established to compute the rate of needle stick. The current rate is identified as 1.4 times per hundred nurses per month. The project team then set a goal of 0.6 times per month. Thus the goal is a challenging fifty percent improvement.

Improve

Based on the analysis in the previous section, we stepped into the measure stage by selecting and implementing the improvement actions. Consensus emerge regarding five actions to be taken in the project meeting. Criteria employed for action assessment were coordination, accessibility, economics, and implementing capability. The agreed upon actions were on-the-job training focusing on needle stick prevention, establishing a standardized needle and sharp item handling procedure, including the procedures in the on-job training materials, establishing an official nursing guideline, procure a sufficient number of I.V. locks, design and manufacture an effective needle-holder, and finally making the needle holders accessible in every nursing area. The needle holder is a device made of a soft material (plastic and rubber combined). Nurses place the used syringes into the stands. The needles are then removed from the syringe and left within the stand. The used needle stands are then disposed of appropriately as medical waste.

Control

Controlling assures the project is properly implemented to achieve the expected outcomes. Activities included in this stage are all about controlling mechanisms, such as confirming execution capabilities, measurement system analysis, FMEA, flow charts for master projects and sub-units, and coping plans to foster the consistency and continuance.

IMPROVEMENTS

Improvement in needle stick events via the six-sigma project was satisfactory. Needle-sticking injuries declined from 1.4 times to 0.6 times per 100 nurses, or from 3.96 sigma to 4 sigma. These results are shown in Table 5. Thus, the goals of achieving a 0.6 stick ratio were achieved.

Table 5: Needle Stick Events Before And After Improvement

Year	Number of events	Number of nurses	Rate（%）	Errors per million	Sigma
2004	38	226	1.40	14.0118	3.6972
2005	18	249	0.60	6.0241	4.0120

CONCLUSION

Needle-stick is the most important occupational accident among healthcare professionals and employees. Nurses are the biggest group of professionals exposed to this type of accident. On average, nurses are the most frequent victims of needle sticks. Areas that account for such events within the hospital in descending order are wards for internal diseases, external injuries, and surgery rooms. Needle recapping after injection is found to be the riskiest behavior.

This paper examines needle sticking instances within a Taiwan hospital and discusses how advanced management practices can reduce needle sticking incidents. Finally, the paper discusses a device for capping needles that helped the hospital reduce needle sticking dramatically. The project involved six-sigma and other quality management tools and identifies the recapping activities as the major cause of the above-average accident rate of hospital examined here. Grounded on the CQI/TQM framework, this project integrates concepts of six-sigma and HQIC as the project base. Under the needle stick reduction project, HQIC teams of the nursing departments helped gather correct information for the use of DAMIC of six-sigma which avoids defective data and resulting irrelevant actions. This project provided satisfactory outcomes by exceeding the goals set for the project. In addition it acculturated a hospital employee organizational learning mechanism through individual self-motivating and training.

Healthcare service's aim of providing error free services suggests the era of applying six-sigma has arrived. Although huge amount of resources are required to adopt six-sigma systems, adopting six-sigma concepts and techniques into total quality management can be an effective catalyst for organization change.

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IS COMMUNITY JUSTICE A VIABLE ALTERNATIVE TO CRIMINAL JUSTICE AND DOES IT CONTRIBUTE TO THE LOCAL BUSINESS ECONOMY?

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ABSTRACT

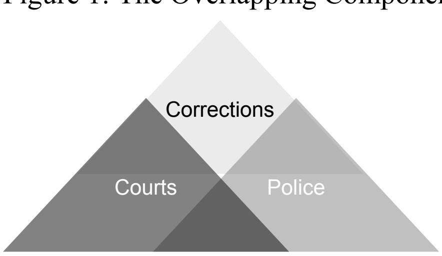
Local communities are suffering extreme financial and economic hardships due to falling revenues and increased expenditures and therefore must seek alternate means to balance their budgets. A very large expenditure that must be borne by every community is the administration of the Criminal Justice System. As a result, many communities are trying to develop a more proactive approach to fighting crime by undertaking new and innovative approaches to solving their worsening crime problems and at the same time, substantially lower their costs. This new approach is called Community Justice. Criminal Justice is traditionally defined as "The apprehension, conviction and punishment of offenders." Community Justice goes beyond these three tasks and uses three innovative approaches as a way to prevent crime before the Criminal Justice system comes into play with all of its associated costs, thereby saving valuable funds that can be used elsewhere. These three innovative approaches are Community Policing, Environmental Crime Prevention and Restorative Justice. In addition, Community Justice is based on a problem solving method utilizing neighborhood-based approaches for reducing crime and increasing public safety rather than the adversarial or retributive strategies used in the Criminal Justice system At the same time, Community Justice seeks to reduce the burden that the Criminal Justice System places on local areas through taxes. This paper will explore and review the differences between the two systems, the relevant research on both systems and the cost savings to be gained.

JEL: H83, K14, K42

INTRODUCTION

Every year, local, state, and federal governments spend over $185 billion on the criminal and civil justice systems in the United States. (Bureau of Justice Statistics 2006) The cost of justice is rising and it places a monumental burden on local taxes. It reduces the ability to properly fund schools, offer decent child health care for its citizens or even to maintain basic services. The criminal justice system is made up of three distinct components. (See figure 1) They are the Police who apprehend the wrongdoers who commit crimes. The Courts who decide whether those who are apprehended are legally guilty of the crimes they are charged with committing, and if found guilty, to then determine the appropriate sentence to be served by the wrongdoer. Finally, the Corrections department who is responsible for carrying out the sentence imposed by the court.

Figure 1: The Overlapping Components of the Criminal Justice System



Source: Adapted from Neubauer (2008)

At first glance, the criminal justice system appears to be a well run, well-coordinated and cooperative effort between the above three components. In actuality, although the three components overlap within the criminal justice system and must interact with one another, there is not a centralized system, in fact, each component tends to work independently of the other (Walker, 1992). The Police component consists of more than 17,000 law enforcement agencies that make more than 13.5 million arrests each year. These arrests clog the Court system incurring substantial costs (Neubauer, 2008; Hakim, Rengert, and Shachmurove, 1996). There are roughly 13,500 Lower Courthouses in the United State staffed by more than 18,000 Judicial Officers who handle more than 61 Million matters a year. There are also 2000 Superior Courthouses staffed by more than 11,000 additional Judicial Officers. Each day Correctional personnel supervise over 7 million people in 1,300 state and federal correctional facilities. This figure does not even include the thousands of local jails (Neubauer, 2008).

Tensions and conflicts occur amongst the Police, Courts and Corrections components since their goals are markedly different from each other and because others evaluate all three components. Police make arrests, yet the decision of whether or not to charge a wrongdoer is made by a Prosecutor. The Courts determine whether a prosecutor's efforts were well founded (Wright, 1981). Corrections is constantly under fire due to overcrowded prisons. On the other hand, no community wants to spend the money to build a new prison and no community ever wants to build a new prison in their own backyard. Cost is among the reasons. The cost of building new prisons runs over $100,000 per cell, and as much as $30,000 per year in direct and indirect costs to process an offender through the Corrections system, and as much as $35,000 per year to maintain a prisoner (Clear, Cole, Resig, 2006). Table 1 provides constructions costs for a 1,600 bed prison.

Table 1: Hard Costs Attributed to Correctional Facilities

Example of Construction Cost Summary for Construction of 1600 Bed Prison Built In Connecticut	
Current bed need	1,600
Estimated construction cost per bed	$125,000
Estimated construction cost for 1,600 bed prison	$200,000,000
Average daily incarceration cost per inmate	$96
Annual operating cost for new 1,600 bed prison	$56,064,000
Operating costs projected over 30 years (absent inflation)	$1,681,920,000
Total construction and operating costs (absent inflation)	$1,881,920,000

Source: Connecticut, General Assembly, Legislative Program Review and Investigations Committee

Since 1973, the imprisonment rate in the United States has jumped from 100 people per 100,000 population to over 500 people per 100,000 population in 2003. (Clear, et. al 2006) For these reasons, the Community Justice system appears to be the practical alternative to the Criminal Justice system on just a cost savings basis alone.

COMMUNITY JUSTICE

Therefore, what is Community Justice and how does Community Justice differ from Criminal Justice? For one thing, Community Justice is based on a problem solving method rather than adversarial or retributive strategies. (Clear, et. al 2006) Additionally, Community Justice uses three innovative approaches as a way of preventing crime before the criminal justice system comes into play with all of its associated costs, thereby saving valuable funds that can be used elsewhere in the community. These three innovative approaches are Community Policing, Environmental Crime Prevention and Restorative Justice. (Clear, et. al 2006) (Matthews, Pitts, 2001) The authors of Understanding Crime write "restorative justice – a reconciliatory response to handling criminal cases that addresses the needs of victims, communities and offender." (Guarino-Ghezzi, Trevino, 2005, pp. 229) Table 2 describes the main differences between Criminal Justice and Community Justice Initiatives, which are further described in this article.

Table 2: How Does Community Justice Differ From Criminal Justice?

Community Justice	**Criminal Justice**
Community based	State or local government jurisdiction based
Focused on preventing future criminal activity	Focused on processing cases
Work in partnership with local community and citizens	Law enforcement professionals who work independent of local community and citizens groups
Goal is reduction of future criminal activity in the community and lowered costs	Goal is apprehension, conviction and punishment of offenders

Source: Adapted Clear (2006)

COMMUNITY POLICING

Nearly all police activity is reactive in nature, responding to a report of a crime. Alternatively, Community Policing involves the police utilizing a more "proactive" approach by becoming more visible in the community especially in high crime areas. As such, it also encompasses problem-solving strategies in partnership with members of the community. Identifying ways to inhibit crimes by addressing root causes rather then relying solely on arrests is a way to respond to criminal events (See Table 3).

According to Paul Chevigny the author of Edge of the Knife, Community Policing "emphasizes the establishment of working partnerships between police and communities to reduce crime and enhance security."(Chevigny, 1995) Others have also defined community policing as having personalized partnerships and problem-solving ingredients. (Allender, 2004) According to Schafer, Community Policing is a "reform innovation" which is a paradigm shift from being viewed as a program and instead crosses over to the sphere of police organizational philosophy. (Schafer, 2001) The authors of *Community Policing in a Community Era* operationally define Community Policing as:

> *"..The guiding philosophy for the delivery of police services that rely upon positive interaction among police, other public servants, and community representatives to serve local needs regarding crime control, crime prevention, and crime related quality-of-life-issues..(Thurman, Zhao, Giacomazzi, 2001)*

Furthermore, Community Policing attempts to identify crime "hot spots" and change the dynamics of those places that invite crime. Community Policing seeks to form partnerships with residents and citizens groups in the pursuit of safer communities. In order for Community Policing to be effective, there must be time allotted for community members to build up rapport with the police; as in the past most communities have had a poor relationship with the police. In addition, there may also be other "survival" issues that members of the community face, i.e. focusing on immediate family needs, childcare and employment, which may in turn keep them from having an interest in working with other residents or the police to solve community problems, which are not automatically individual problems. In essence, there needs to be a fundamental shift away from the "us versus them" mentality that has customarily characterized the relationship between the police and the community. (White 2007; Wilson 2006) In spite of the many challenges in implementing an effective Community Policing program, by the end of the 1990's over 80%

of police departments credited the Community Policing approach as being partly responsible for the dramatic drop in crime rates. (Clear, et. al, 2006)

Table 3: Comparison of Traditional Policing and Community Policing

Traditional Policing	**Community Policing**
Enforcing the law is the main objective of officers and agencies	Enforcing the law is one means to an end
Reactive	Proactive
Short response time is essential	Short response time is less vital
Officers spend as little time as possible handling assigned calls for service	Officers invest as much time as is reasonably necessary to handle a call for service by "getting at" the root problem
Line officers must be controlled and directed	Line officers must be given freedom and discretion
Supervisors promote obedience and conformity	Supervisors encourage resourcefulness and innovation
No capacity to allow failure	Capacity to tolerate failures made in good faith
Evaluations quantitatively driven (arrests, citations, calls handled)	Evaluations qualitatively driven (citizen satisfaction, problems addressed)
Supervisors are there to command and rule line officers	Supervisors are there to sustain efforts of line officers
Police restrict information given to the public	Police share information with the public
Police distrust the public	Police seek to work readily with the public
Police view themselves as experts on crime in the community	Police officers view themselves as community organizers, community activists, and providers of crucial community services
Police agencies are closed systems	Police agencies are open systems

Source: Adapted from Schafer (2001)

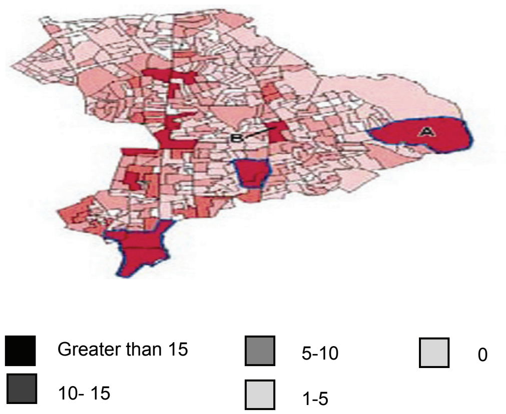
ENVIRONMENTAL CRIME PREVENTION

In most cities, 70% of crimes occur in only 20% of the communities located in those cities, which are called hot spots. (Clear, et. al, 2006) In order to solve this phenomenon, one has to analyze why crime tends to concentrate in certain locations and not in others before attempting to fix these hot spots. A hot spot is an area that has a greater then average number of criminal events or an area where people suffer a higher then average rate of victimization. These crimes can be mapped out using a variety of Geographical Information Systems (GIS). (See figure 2 below)

According to the Tech Encyclopedia GIS is *"an information system that deals with spatial information. Often called "mapping software, it links attributes and characteristics of an area to its geographic location."* This theory together with the concept of GIS technology has helped many communities in pinpointing "hot spots" for crime and therefore enabling more resources and better policing in those areas. (Dye, MacManus, 2007) Vehicle crimes as shown in the darkened areas of this map display the multiple crime occurrence rates in a particular neighborhood.

The US Office of Community Oriented Policing Services (COPS) released a publication featuring Crime Prevention through Environmental Design (CPTED). In this publication, the premise is that through proper design and effective use of the built physical environment a community may benefit from a decrease in the fear of crime and the incidence of crime, which may ultimately lead to improved quality of life for a particular neighborhood. Accordingly, this is also a useful way to fight existing crime, deter new crime and support business.

Figure 2: Mapping



Adapted from the U.S. Department of Justice Special Report on Mapping Crime: Understanding Hot Spots

No one wants to conduct business in a community where they are at a high risk of being burglarized or having their property vandalized and destroyed. CPTED describes three elements that need particular focus: 1) Control access; 2) Provide opportunities to see and be seen; and 3) Encourage the repair and maintenance of buildings, both public and private. (Anonymous, Oct 2007)

Access Control *:* Buildings that are built in accordance with the principles of CPTED may initially resemble any other building. However, upon closer examination, one may find that there is a textured walkway, properly located entrances and exits, gates, fences, fewer points of entry, all well lit areas.

See and Be Seen *:* Criminals do not want to be seen. To defend property, one must be able to see any illegal acts taking place, i.e. improved lighting, placement of restrooms in high traffic areas, strategically positioned landscaping, signage, parking, and outdoor amenities such as benches, or tables. (Parnaby, 2006)

The placement of each of these components has been well thought out. The rationale by CPTED is that through proper design and use of the built environment, it may be possible to both decrease the actual rate of crime and to mitigate fear amongst those who live and work in close proximity to such buildings. (Parnaby, 2006)

Repair and Maintenance: Repair broken windows, maintain yards, paint buildings, clean up graffiti and remove abandoned vehicles. At the end of the day, it is possible to foster a positive social interface amongst the users of a space.

Brownfields: A brownfield is vacant land that is abandoned, idle, or an underused industrial or commercial property. (Greenberg et. al, 2000) These deserted brownfields tend to serve as breeding grounds for criminal activity. Greenberg and colleagues suggest that there are also "spillover" effects of such neglected spaces, in particular property values may decrease, neighborhoods are in part abandoned, and typically, those left behind tend to be the poorest residents and the most vulnerable. (Greenberg et. al, 2000) If nothing is done, business will suffer, and there will be a decrease in the number of tourists and retail sales, since no one wants to vacation or live in a perceived high crime community. (Welsh et. al, 2001) Advocates for clean up of brownfields think that it can generate new employment opportunities, revitalize neighborhoods and appeal to new business owners. (Greenberg et. al 2000) When community members become involved in cleaning up and developing brownfields, creating mini parks where children can play in safety, it can eliminate previously high crime areas. Defenders of such urban renewal programs point out that new commercial development provides jobs for the poor in such communities. (O'Sullivan, 2007) The idea is to turn "crime ridden" neighborhoods back into communities. (Anonymous, 2006)

Broken Windows: In 1982, Wilson and Kelling published an article making a crucial link connecting disorder and crime and explained how this link impacts the social fabric of a neighborhood. (Wilson, Kelling, 1982) Their argument revolves around the proverbial "Broken Windows" syndrome, which if left unrepaired, may send a message to others that no one cares about the community. (Wilson, Kelling, 1982) Metaphorically speaking, it is a symbol for disorder and may indicate that there is a breakdown of the formal social controls that act as a guide for a specific community. (Wilson, Kelling, 1982) If such broken windows are left unrepaired it may promote other signs of disorder such as unkempt yards, unpainted buildings, untended lawns and landscaping, graffiti and abandoned vehicles. Criminals look for an opportunity to commit crimes and opportunity may be perceived from such run down neighborhoods. (Stevens, 2001) Potentially, families will move away from such communities, business will not flourish and may seek to relocate. New business will be discouraged to set up shop, and residents will spend less time outside and fear is created or amplified to the extent that there is a lack of appeal to participate in community activities. (Wilson & Kelling 1982)

This phenomenon is also referred to as the butterfly effect. The *butterfly effect*, first described by Lorenz at the December 1972 meeting of the American Association for the Advancement of Science in Washington, D.C., vividly illustrates the essential idea of the chaos theory.(Lorenz, 1963) The phrase refers to the idea that a butterfly's wings might create tiny changes in the atmosphere that ultimately cause a tornado to appear (or prevent a tornado from appearing). The flapping wing represents a small change in the initial condition of the system, which causes a chain of events leading to large-scale phenomena. Had the butterfly not flapped its wings, the trajectory of the system might have been vastly different. Abandoned buildings as evidenced by the 'broken window syndrome' attracts criminal activity and is like the butterfly setting in motion a series of negative events. Participation by the community in either demolishing these buildings or repairing abandoned buildings and creating local community centers, eliminates gathering places for criminals.

Restorative Justice

Seeks to restore the victim, offender, and the community to a level of functioning prior to the incidence of the crime. It calls for offenders to acknowledge what they have done and implements steps for them to make restitution. The concept relies on healing the victim, by using the offender as a vehicle when it is feasible. (Steele, date unknown) Restorative Justice has also been referred to as the "victims' movement." (Bazemore et. al) During the 2004 Restorative Justice Consortium, it was stated that the primary focal point of Restorative Justice is to repair harm and encourage dialogue between the offender and the victim. (Aertsen, et. al. 2006) The authors of Fundamental Concepts of Restorative Justice write, "Crime is a violation of people and their relationships." (Zehr, 1990) Violations in turn create a set of obligations and liabilities, and the goals of Restorative Justice aim to heal the wrongs. (Zehr, 1990) Likewise, Restorative Justice encompasses victim offender mediation, and indirect communication through a third party. Other Restorative Justice strategies are community reparative boards, family group conferencing and circle sentencing. (Lilles, 1995) Circle sentencing is based on an ancient Native American tradition, which involved the victim, the offender, and an elder who would serve as a mentor and facilitator. (Stuart, 1995, Melton, 1995) Within all of the above strategies victims and offenders are brought together to discover steps that offenders may take to help the victim recuperate from the crime. Alternatively, the offender becomes involved in programs designed to lessen the chances of recidivism. Compared with the traditional Criminal Justice programs, Restorative Justice Programs result in greater satisfaction for both the victim and the offender (see Table 4).

Table 4: Elimination of Costs incurred by the Criminal Justice System

Elimination of the Following Costs of Crime Contribute to the Local Business Economy
Governmental costs for the operation of police, prosecution, courts, and corrections personnel by implementation of Community Justice principles
Healthcare costs associated with injuries sustained by individuals arising from criminal acts
Losses attributed to stolen or damaged property resulting from crime
Society sustains deficiency of productivity from individuals because of death, physical and mental disabilities connected with criminal acts
Victims and their families loss of work time because of criminal acts
Helps declining property values in neighborhoods with soaring crime rates
Helps alleviate pain and suffering of crime victims, their families, friends and the communities laden with crime

Source: adapted from the Legislative Analyst's Office, "Crime in California," January 1994, page 42

CONCLUSION

Community Justice is a relatively new idea and although many of the Authors cited above sing its praises, the research is limited and only time and further research will tell whether Community Justice is here to stay or just a brief aspect of today's politics. The authors of this paper suggest that a long term research project be implemented to measure the success of the three innovative approaches used by Community Justice in each of the areas discussed as to whether there is not only a cost savings to the community but also an actual reduction in local criminal activity. This can be done with close monitoring of the annually published FBI Uniformed Crime Reports. However, at this point in time, it can be justifiably said that prior to the implementation of Community Justice Principles, the economic outlook for those communities suffering from high crime rates with its associated costs, was devastating. By implementing Community Justice Principles based on problem solving methods rather than the old adversarial or retributive methods of the Criminal Justice system, previously blighted areas have become more attractive to both business and families. Instead of families escaping to safer suburbs and businesses seeking a safer environment to conduct their business as well as a safer work place for their employees, both now have the opportunity to live and work in their own communities which in turn strengthens the local economies. Therefore, pending further research suggested by the authors, it can be argued that the implementation of Community Justice Strategies is a viable alternative to the Criminal Justice System as it drastically reduces costs and makes a positive contribution to the local business economy.

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TEACHING CAPITALISM IN THE COUNTRY THAT REINSTATED SOCIALISM

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ABSTRACT

The purpose of this exploratory study is two-fold. The first objective is to analyze the environment and opportunities for capitalist-oriented business education in Belarus, the former Soviet country that has chosen the reestablishment of state control and political dictatorship as a viable platform for its transition economy (Aslund, 2002). The second objective is to examine successful business instruction in a unique setting such as Belarus to help educators world-wide understand techniques available for tailoring business education to each programs' individual needs. These unique needs can be determined by a variety of factors including location, population, economic orientation, and local belief systems. The paper presents a case study of the Institute for Privatization and Management (IPM), an institution that has successfully provided capitalist-oriented business education in Belarus for 15 years. Process tracing and controllable comparison are the methods of inquiry. The paper presents a historical overview of IPM development, its curriculum, teaching methodology, and implications of the IPM experience for any educational program that is addressing the needs of the non-traditional businessman.

JEL: A1, A22, A23 P1

INTRODUCTION

The purpose of this exploratory study is two-fold. The first, and most obvious objective is to analyze the environment and opportunities for capitalist-oriented business education in Belarus, the former Soviet country that has chosen the reestablishment of state control and political dictatorship as a viable platform for its transition economy (Aslund, 2002). The study's second objective, however, is equally constructive: Successful business instruction in a unique setting helps educators world-wide understand the importance of tailoring business education to each programs' individual needs. These unique needs can be determined by a variety of factors including location, population, economic orientation, and local belief systems. The educational practices discussed in this study can be universally applied to business education programs world-wide to help instructors successfully address the specific, unique needs of each program. The application of these instructional techniques provides business students with an education that is more relevant and productive than the typical textbook education utilized in many business programs.

The first important step toward developing a non-traditional business curriculum is complete understanding of the unique characteristics of the program's target population. In Belarus, the relevant consideration is the country's state controlled economy and to what extent capitalistic assumptions in business education are even allowed and welcomed. On one hand, the very ideas of free competition, strategic management, and transition leadership contradict the nature of a state-controlled economy. On the other hand, if private businesses do exist, then their managers need education. If one assumes that capitalist-oriented business education is welcome, then the second question is who can provide this education. When one continues this line of questioning, the next obvious considerations are: who can own this type of school in a state-controlled economy, who this school will target for its programs, how this school will be structured, how it will position itself within this specific business environment, and whether it will change its positioning, target groups and programs following changes in state policies. The final questions relate to the management programs' design and curriculum: what programs, what combination of courses, what textbooks, business experience, and case studies should be offered.

This paper contains three parts. The first part presents analyses of the environment for business education in Belarus. The second part is the case-study of a business school which manages to provide capitalist-oriented business education in the state-controlled economy of Belarus. This school achieves significant success as indicated by the volume of the educational programs' market, the support of its clients, and the respect of its partners in the distinguished business schools of USA, Canada, and EU. The last part of the paper discusses the lessons that can be learned from business education in an atypical business environment such as a state-controlled economy, as well as the practical and theoretical implications of tailoring business education programs to the specifics of a business environment.

LITERATURE REVIEW

An Environment for Business Education in Belarus

Business education in Belarus has gone through three stages of development: the economic and management education of the Soviet era; Perestroika and the turbulent years of a "wild" free market; and the return of the state-controlled economy and political dictatorship in conjunction with private businesses.

Belarus, a "show case" of the Soviet Union (Karbalevich, 2002), inherited one of the highest standards of education in Eastern Europe (Economic Overview, 2003). According to the specialization of the Soviet republics, Belarus was supposed to be, and was in reality, the intellectual center and assembly shop of the Soviet Union. The most advanced enterprises were established here; the most modern, imported equipment was sent here first (Karbalevich, 2002). Math, electronics, physics, chemistry, engineering, technology, and construction were all priorities of the Belarusian soviet economy and educational system. Aslund (2002) claims that "comprehensive education was the pride of communism, which could boast of real achievements" (323).

At the same time, economic and social studies were highly dependant on Marxism-Leninism and were not able to provide a base for the transitional economy. The main idea of the Soviet economic education was to "prove … Marx's major conclusions about the failures of capitalism and its inherent exploitation of labor" (Kovsik and Watts 2001, 85). The main goal of these programs was to prove the benefits of political uniformity and a centrally planned economy; because of the influence of Marxist ideology, market economics was typically excluded. Analyzing economics education in the Soviet Russia, Ukraine, and Belarus, Kovsik and Watts (2001) claim that there were two distinct groups of soviet professors of economics: the first group truly believed that Marx's *Das Kapital* was "a kind of religious text" (85), the second group told different things inside and outside the classroom and were more pragmatic. Inside the classroom students were only able to study the political economy of socialism, the economics of a self-managed economy, and the economics of social planning (Plescovic et. al 2000). Any discussion of capitalism was followed by heavy criticism and denunciations. This system reflected "the way Soviet leaders viewed education: as an investment in the human resources the country required in order to construct socialist society" (Gerber 2003, 246).

Four main institutions were devoted to teaching economics and management: state universities, national universities of economics, polytechnic institutes, and national academics of management (Plescovic et. al 2000). Almost the same four institutions existed in every Soviet republic, including Belarus. Extension courses for practicing managers and nomenclatura were also the source of economics education. Still, all these institutions provided the same general approaches to teaching soviet economics. Plescovic and colleagues (2000) note that economic higher education offered a mixture of quantitative and non-analytical courses; no distinction was made between economics and business education. The higher education was overly specialized and extremely rigid.

Together with Perestroika, post-Soviet republics started development of the market-oriented economy. Aslund shows that at the beginning of this transition, it seemed that education was no longer important, since only the ability to trade was valued. However, soon people of the post-Soviet region realized the need to study economics, business administration, law, and languages. The number of students rose significantly, doubling from 1989 to 1999 (Aslund, 2002: 325). In the second part of the 1990s, most post-Soviet countries undertook a major reform of higher education to support a more Western system of educational acceptance (Pleskovic et. al, 2000). They faced the necessity of developing the theoretical background for a capitalist-oriented economy and deciding what in the previous system of economic education should be saved, and what should be eliminated as obsolete. They also had to realize how much the economic and business education had to be based on the domestic environment and experience, and to what extent this education should accept Western experiences and approaches.

Belarus, like the other post-Soviet republics, started the development of a new system of education: private universities were allowed, the Belarusian language started replacing Russian as the primary language of schools and universities, soviet textbooks were criticized, and new textbooks were implemented. However, after 1995 Belarus changed the country's developmental trend and started repressing private initiatives in higher education. All assistance to Belarus financed by George Soros was halted following a $3-million fine by the government (Bollag, 1997). Plescovic et. al (2000) shows that in Belarus "Government control and animosity have left economic education in a precarious state. The old Soviet system of centralized state control and Soviet degrees has survived, but public funding has fallen and a large number of professors have left their underpaid jobs… Since the Soros Foundation was forced to leave Belarus, foreign assistance to the education system has diminished. Following a rapid expansion of private institutions of higher education in the early 1990s, a state accreditation committee forced most of them to close in 1997 on quality grounds" (93).

Currently in Belarus, state institutions dominate undergraduate education. Such education is provided by the Belarusian State Economic University, by management/economic departments in various state universities and institutes, and by state-run continuing education agencies. They offer programs in marketing, management, accounting, finance, and even MBAs. Unfortunately, it seems that "the faculty of scientific communism is now called politology. Same people, old ideas…" (Kaminski, 1994); "faculty continue to believe deeply that it is more important for students to know why the economy has exactly a particular structure than to know how the economy works" (Kovsik & Watts, 2001: 60). Existing under the constant shadow of the politically mandated "market socialism," state institutions are expected to promote the current economic system in Belarus as the most appropriate for the country. The target group for these institutions is traditional business students with no actual "hands-on" business experience who are willing to get their state-approved diplomas or state managers who have little need to master competitive business fundamentals. There are also several non-state universities in Belarus; all the institutions offer entrepreneur-related courses. The courses of management or entrepreneurship are taught by faculty from the state universities; this means that the management and entrepreneurship courses have the same limitations as the state institutions.

Practicing business managers, however, are aware of the discrepancies between these programs and business realities. A series of focus groups conducted with top managers and business owners in Belarus, reveals that first, they need to analyze their own Belarusian experience in the light of universally recognized business theory. They realize the uniqueness of the Belarusian business environment, but they want to know which behaviors and decisions are consistent with the best business practices. They are concerned about the criteria used to determine quality. They are especially concerned about making this determination on the basis of systematic knowledge and global experience. Regarding international business, they want to be sure that they have been taught in the "right" way. Second, they want to learn from instructors familiar with the real business environment. They are not interested in education that would simply reiterate translated or obsolete textbooks. They are also interested in solving existing company problems such as consulting projects, cases, and discussions based on Belarusian specifics. A basic and important concern is the quality of instructors. These instructors must have real consulting or business experience. Third, they expect to get additional opportunities to join business people with similar business views, experiences, and values (Ivanova & Mitchell, 2004).

Background on Post-Soviet Belarus

A World Bank study of twenty-two Eastern European and post-Soviet countries (Aslund, 2002) shows that a transition economy has several variations of development; different approaches to transition determine different business environments for business education. Implementing transition reforms, these countries follow one of three courses of transformation. The first course is radical market-oriented reforms; countries such as Hungary, Poland (Fogel & Zapalska, 2001), Estonia (Liuhto, 1996), Czech Republic, Slovakia, Lithuania, and Latvia (A Europe of 25, 2004) have preferred this method and achieved significant results.

As the second alternative, Aslund identifies a rent-seeking transition economy that has neither a competitive market orientation nor a state-controlled economy. The dominant interest here is state redistribution "of available resources through its budget and regulation to enrich a few privileged" (Aslund, 2002: 3). The most outstanding examples of rent-seeking states are oligarchic regimes in Ukraine, Russia, Moldova, Romania, and Bulgaria.

The third course of development is a state-controlled economy. This course of a transition economy is the least oriented toward the market economy and actually contains few reforms. Starting some market-oriented reforms in early 1990s, such countries as Belarus and Turkmenistan have chosen the reestablishment of total state control of economic development (Aslund, 2002). Iwasaki (2004) describes Belarus and Turkmenistan as order states, where government-business relations are prescribed by the centralization strategy, and political power is virtually equivalent to that of the Soviet era. By a state-controlled economy, Viner (1944) means "one of which the major decisions of what to be produced, exported, imported, lent abroad, etc., are exercised by the state (or agencies thereof), as distinguished from a "free enterprise" economy, where the decisions are predominantly in private hands and are made on the basis primarily of calculations of private profit. State control may take the form of merely bureaucratic control, or of direct operation of business activities, or of intermediate types of government intervention" (315). Vinor also specifies that it is essential that "state-controlled economy" refers to one in which the extent of state control goes much further that it did, say, in the United States, England, France, Sweden, or Canada, in the twenties or even the thirties.

In Belarus, the choice of a state-controlled economy was titled as a movement toward "market socialism" (CIAbook, 2004). In fact, this was a route back to a command economy (Nuti, 2000), back to the former Soviet Union (Ivanova & Mitchell, 2004) with its state's right of intervention in any organization or enterprise (CIAbook, 2004). The press has become controlled (Nuti, 2000), the election results are falsified (Burger, 2003), and both of these are expected to create a picture of nation-wide support for the existing power.

Since the return to a state-controlled economy has become official, Belarusian private businesses also have become targets of state suppression. A summary of different forums in Belarus - including government, business associations, and academic conferences - conclude that "…civil servants frequently apply collective punishment tactics in response to the misdeeds of individual firms. One method of accomplishing this was by halting registration or re-registration of all new or existing businesses" (Istomina, 2005: 47). In spite of the public, official position of small business support (President, n.d.), representatives of private companies sense a hostile atmosphere that includes purposeful allegations based on shaky facts and statements which are intended to discredit private business (Manaev, 2002), a taxation system that is increasingly more unbearable and unjustified (Balikin, 2003), and random harassments such as audits, secondary registrations, and exclusion from profitable, low-priced offices and trade facilities (Denisenko, 2003). In summary, "war [has] been declared on the private sector" (Karbalevich, 2002: 19).

At the same time, as Ivanova's (2004) study demonstrates, entrepreneurs continue to build their businesses using the very possibility of private initiative. In long-term business development, Belarusian businessmen are oriented toward building their businesses in accordance with the world standards of strategic management. However, in everyday business activities, they are forced to waste their time fulfilling capricious government requirements and inventing techniques to avoid pressure and administrative measures from the state.

These anomalous, time-consuming and senseless activities necessarily become one of the businessmen's priorities. All activities are top management initiated for a number of reasons: first, many issues are semi-legal and confidential, and, second, the environment is unpredictable and a majority of managerial decisions are non-programmed. Belarusian businessmen turn to the experience of businesses in other transition economies to learn how to avoid mistakes, develop their businesses, and become ready for the next stage of their country's transition.

METHODOLOGY

Study Design

A dependent variable of this study is the ability of a business school to provide capitalistic-oriented business education in a state-controlled economy. This ability is measured with a market share of business education programs for practicing business managers in Belarus, the programs' image among practicing managers and independent experts, clients' evaluation of the programs and their rate of return. Income variables include IPM curricular and program design and marketing, pedagogy of teaching, faculty profile, as well as school relationships with its key stakeholders – state agencies and private businesses.

In the framework of an exploratory study, we are attempting to reveal values of the independent variables that lead to the defined dependant variable, and describe a casual phenomenon present in the case. The main method of the study is process tracing, which "explore[s] the chain of events by which initial case conditions translate into case outcomes" (Van Evera, 1997). The tradition of "causal process observation" (Brady and Collier, 2004, 227-8) is defined as "[a]n insight or piece of data that provides information about context, process or mechanism, and that contributes distinctive leverage in causal inference." Unlike the variable-oriented, "data set observation" (Beck, 2006), these case-oriented "causal process observations" target a whole case as a set of numerous mutually interdependent variables that together determine a dependent variable.

Originally, the process tracing has become popular as a psychological means of analyzing a person's cognitive activities during complex work tasks, where tasks may be real or simulated (Partick and James, 2004). The researchers measure and follow the traces "accompanying" the hidden process in real time, inferring the essence of the process of task accomplishment. Data collection usually occurs within behavioral records, introspection and verbal protocol, and computer simulation. However, in the last few decades process tracing became one of the most applied methods in case-study research, achieving increasing recognition and widespread use for the historical explanation of political and social events (George & Bennett, 2005) and providing theoretical prepositions on "relevant, verifiable causal stories resting in different chains of cause-effect relations whose efficacy can be demonstrated independently of those stories" (Tilly, 1997: 48).

Case Selection

The case selection for this study is based on contrasting, dependent variables, following the Mill's joint method of agreement and difference (Copi & Cohen, 2001). George and Bennett (2005) provide detailed description of Mill's methods of agreement and difference. The method of agreement attempts to identify a similarity in the independent variable associated with a common outcome of two or more cases. The method of difference attempts to identify independent variables associated with different outcomes. According to the joint method of agreement and difference, the pivotal case in the study is supposed to be similar in many aspects to the known cases (i.e., well studied institutions in a state-controlled economy or well-known business education practices in capitalism-oriented traditions), but at the same time, be different in outcome -- a successful capitalist-oriented business education for practicing managers.

The Institute for Privatization and Management has been chosen as a case for this study. As literature reviews indicate, there are studies that describe state-controlled and state-owned institutions that attempts to provide economic education in Belarus (for review, Peskovic et al, 2000; Kovsik and Watts, 2001). There is also a significant number of studies of a successful capitalist-oriented business-education for practicing business managers (for review, Mintzberg, 2005; Goslin & Mintzberg, 2004).

The case of the Institute for Privatization and Management differ from both the cases of state-controlled institutions in Belarus and the cases of traditional business education in capitalistic countries. Unlike the state-owned and state-controlled economic universities of Belarus, the Institute for Privatization and Management (IPM) is a non-state, independent business school that has successfully operated in Belarus for more than fifteen years. The Institute for Privatization and Management is recognized by private businesses as a leading provider of market-oriented business education, and as a source of valuable information regarding market economy operations in Belarus.

Practicing managers believe that IPM is a leader in the market of business education in Belarus: This is the only school that has a license of the Ministry of Education and an acceptance rate 2:1 for the Executive MBA program (Kouzmenkova, 2008); 80% of new Executive MBA students choose this programs because of references from other practicing managers; course evaluations prove that IPM's long-term and short-term local programs satisfy clients' expectation at 80-90% (Kouzmenkova, 2007); IPM's market share of business education programs in Belarus is two times higher than other providers (Golenchenko, 2008).

International partners choose IPM for their practitioners-oriented program (IPM website, n.d.), and independent experts in Belarus accept IPM as the place where practicing business managers can get an international level education that implacable locally (Nezhdansky, 2005, Belarusskaya Gazeta, 2006). Unlike the providers of business education in capitalistic countries, IPM has to adapt its programs to the specifics of a state-controlled economy. At the same time, there are many similarities in these institutions. While IPM's curriculum is similar to the state institution's programs and to the traditional business education programs in capitalistic countries, its educational outcomes are strikingly different.

Data Sources

Evaluation of the IPM activities are based on interviews, document analysis, direct questioning, participant observation, and professional communications with IPM staff, clients, and faculty. Ten years' worth of curricula, course syllabi, student projects, and student evaluations have been analyzed. Table 1 lists the sources of data used for the current study.

Table 1: Data Sources

***Data* Source**	**Period**
Interviews	
with IPM clients	1999-2007
with IPM faculty and administration	1999-2007
with IPM competitors	2005, 2007
with independent experts (media, business associations)	2002, 2005, 2007
Participation observations	
Studying at the IPM program	1999-2001
Teaching at the IPM business programs	1999-2003, 2005, 2007
IPM Business School faculty meetings	1999-2003
The review of documents	
Media publications, IPM website, internal documents	1993-2007
Curriculum, syllabus, assignments, students projects	1999-2007
Student evaluation	2002-2007

This table presents the groups of interviewed respondents for this study, sources of participation observation, and sources of the review of documents with their time frames.

Interviews. Interviews and direct questioning included IPM clients, faculty members, administration, competitors, and independent experts. Over the seven year period, more than 100 informal interviews with IPM clients (practicing business managers) have been conducted. The following questions frame the interviews: “What do you expect from business education programs?” “What choices do you have to satisfy your expectations?” “Why have you chosen IPM?” “If you have participated in other business programs, then how does IPM differ from them?” “What does IPM do successfully and unsuccessfully to satisfy your expectations as a Belarusian practicing business manager?” We used “purposeful sampling,” approaching representatives from different business education programs (strategic management, marketing, management, finance, operation management) and different levels of management (top managers, middle managers, and fire-line employees).

All the full-time faculty members, administrative managers, and the majority of part-time instructors participated in interviews. While interviews were informal, they covered the following issues: specifics of Belarusian business managers’ requests for the business education programs; their activities/ questions/ rejections during the class time; course design and class materials that “work” and “don’t work” in IPM classrooms; and instructor competencies that Belarusian business managers appreciate and the competencies that they reject.

In the informal interviews with the IPM competitors (small training companies providing courses in separate business areas, or state-controlled institutions attempting to enter the market) and independent experts (representatives of media and business associations), a set of discussed issues included their perception of IPM key competencies, as well as competitive advantages and disadvantages compared to other providers.

Participant Observation. The trustful relationships between the IPM instructors and administration provided total immersion and first-hand experience for the researcher. Experience teaching business in capitalistic countries and in countries other than IPM Belarusian schools, provided the researcher with comparative analyses opportunities that revealed the specifics of the IPM experience. In total, the experience of studying with other IPM students at the Open University Business School (UK) program, 84 hours of teaching at the Executive MBA program, more than 300 hours of teaching at the Chartered Institute of Marketing (UK) program, and teaching multiple short-term and long-term courses (more than 500 hours) for Belarusian managers have grounded the data set for this research. Participation in the IPM marketing projects and in the meetings on IPM strategic development over four years (1999-2003), and frequent e-mail communication during the other four years (2004-2008), has provided a grasp of IPM's development and its relationships with major stakeholders.

The Review of Documents. The analyses of the curriculum and course syllabus for the 1999 to 2007 time period have provided the understanding of IPM's evolution in the portfolio of the programs, curriculum, and practicing managers it considers as target groups. Examples of 27 assignments from the courses that have earned the highest student evaluation as well as 19 students' projects established an understanding of the topics that the IPM students need and appreciate for their everyday business activities. Analyses of student evaluations for five years provided students with feedback regarding successful and unsuccessful IPM endeavors for practicing Belarusian managers. The statistics of student evaluation, curriculum, and course syllabus have been provided by the IPM Marketing Department.

RESULTS

The following lessons can be gleaned from the experiences of the Institute for Privatization and Management. These lessons clearly demonstrate how a business education program can be tailored to succeed, even in an environment where open competition, democracy, and mutual trust between business and state are lacking.

Clear Positioning of a Business School toward the State Policy

In spite of the changes in the official state policy, IPM initially adhered to the concept of workforce development in a free market. When the state originally supported the idea of free competition and an open market, the school was a part of this movement. Later, when the state shifted its policy toward a state-controlled economy, the school adhered to its fundamental ideas, while its targeted groups and portfolio of programs changed.

IPM was established within the framework of George Soros's initiatives in the 1993 post-Soviet era. In the beginning, the mission of the IPM was to provide educational support to the Belarusian officials and managers of state enterprises and their transition reform efforts. Because of the slowing down and then halting of reforms in Belarus, the IPM was forced to change the focus of its educational support. The target group for IPM's more recent activity is the new private sector (Daneyko, 2004). In its evolution, IPM went through the following stages:

1993 to 1997 - The main priorities were programs devoted to privatization and the stock market, as well as introductory courses in marketing and finance. The school operated in close cooperation with the Ministry of Privatization of the Republic of Belarus. The target groups were (a) managers of Belarusian state enterprises intending to privatize and develop market-oriented enterprises; (b) Belarusian officials who were supposed to support the market-oriented reforms; and (c) individuals who were about to obtain new professions (generally in the stock market). The curriculum included short-term courses and conferences devoted to successful post-Soviet transitions in Central and Eastern European countries. IPM operations were funded by international organizations (i.e. TACIS) and the Belarusian government (Ministry of Privatization).

1997 to 1999 - Following the President of Belarus' decrees, state enterprises were faced with the need to contribute to market socialism while still operating like free enterprises. The state enterprises were told to avoid middleman companies, build their own marketing departments, and compete at the international level. Price regulations and constant state intervention made this competition even more challenging. Managers lacked relevant education but were expected to run marketing and finance departments. At this point IPM tailored their curriculum by creating multi-module, long-term programs such as: Marketing Director, Finance Director, and Client-Oriented Management for Sales Directors, etc. Short-term programs also existed; they were aimed at promoting long-term programs and answering "hot" issues in the Belarusian market. These short-term programs would explain the President's most recent directive and clarify the requisite steps each enterprise would have to take to fulfill these mandates. State and privatized enterprises were still the important target groups; however, private businesses started to participated in these courses as well. In 1998 the Institute for Privatization and Management became an independent and financially self-supporting organization.

1999 to 2002 - IPM shifted its target group primarily toward private businesses. In 1999, 60% of IPM's students were affiliated with private businesses; by 2002 this same group made up 80% of IPM's student body. The primary focus became the adaptation of generally accepted business practices to the realities of the Belarusian business environment. International diplomas up to the level of executive manager were introduced.

2002 to present - IPM has changed its focus from a business school for the individual to a business school for the entire firm. The school has positioned itself as a provider of interrelated business programs for the different needs of private business in Belarus.

In a country where a state-controlled economy has replaced the initial market-oriented reforms, a business school should clearly adhere to one of three roles: a financially independent and neutral policy; a state dependent and state-supportive policy; or a third party (church, political parties, or funding organizations) dependent and third party supportive policy. After its initial phase, IPM deliberately distinguished itself from, on the one hand, the state economic institutions with their lack of freedom in teaching real world business practices, and, on the other hand, partisan institutions (which have since closed in Belarus). This independent position limits the IPM's opportunities for funding and protection, but secures its autonomy as it earns trust from the business community and tolerance from the state.

<u>A Circle of Trust within a Cohort</u>

IPM is aware of a specific, low level of resilient trust that exists in Belarus between the business community and the state. Business executives and business owners need to reflect their experiences and ask for advice. However, they are not ready to collaborate (participate in discussions, or complete group projects based on their own companies) with classmates if the classmates are not involved in the same level of risks and decision making as they are. They want to extend their networks, but they are only willing to network with equals.

When recruiting the participants for business programs in a country with a state-controlled economy, it's necessary to be selective, follow distinctive target groups, and help students to establish a network of entrepreneurs that Fukuyama (2001) calls a "circle of trust." Several months of studying in the same carefully selected cohort creates a network of market-oriented managers who can continue interacting outside the school and after course completion.

<u>Program Portfolio Covers Business Education Needs of an Entire Company</u>

A program's portfolio should include a broad spectrum of products: from elite executive education programs to skills-based negotiation training, and from two-year Executive MBAs to three-day, open-enrollment courses. Entrepreneurs in a state-controlled economy are excessively cautious regarding the source of information. Usually the entrepreneurs reject the very possibility of learning from anybody or trusting anybody. When they choose the trusted source of information (a business school or a particular instructor), they want every member of their team, from the board of directors to the sales representatives, to use this source. That is why effective curriculum management programs must offer education for every level of the organization.

Currently, IPM provides four types of programs that cover the entire gamut from the purely "Western" to the purely "Belarusian" style of business and from executive to entry level employee business education. These include (1) international programs for business owners and executive managers, (2) long-term programs which form a bridge between international benchmarks and local specifics for top and middle managers, (3) multi-level, short-term courses designed to answer the "hot" issues of the local market; and (4) customized programs tightly connected with the specifics of particular Belarusian firms and focused on development marketing or management skills.

The *international programs* (professional certification and diploma programs, and the Executive MBA) are developed in collaboration with the UK, US, Poland, and Sweden. Despite differences in curricula, these programs have the same goal – the preparation of Belarusian executives for success in the global market. The case studies and discussions are based on successful businesses world-wide. These programs employ the cohort system.

The *long-term, open-enrollment* and locally-based programs are primarily geared toward adapting internationally accepted business practices to Belarusian reality. Each program exists as a cohort system, lasts from two to five months, and includes several modules (three days each). Case studies and discussions are based on the specifics of the business environment in Belarus and in Russia (a traditional trade partner for Belarusian businesses).

The *short-term courses* correspond to the most current topics of Belarusian reality. The topics vary from "Logistics of a Warehouse" for supervisors to "Social Capital" and "Problems of Fast-Growing Companies" for executives. These programs also help to promote long-term and graduate programs. Around 80% of IPM students choose to attend the graduate programs after participation in the short-term courses.

Customized programs are usually prepared for entire firms in which top managers, veterans of the graduate or long-term programs, want their employees to adopt the same business approaches that they have learned.

Unlike traditional business schools that provide business education based on fundamental knowledge in economics, management, marketing, and finance, IPM significantly adapts its products to its client groups' geographical area of interest. Executive manager programs are based on the decision making experiences of global companies and companies with market-oriented transition economies. Middle manager programs focus on local specifics and the experiences of neighboring countries (mostly, Russia). Supervisory programs focus on the local market.

Instructors with an Understanding of Internationally Accepted Business Concepts, Local Specifics, and Trends of Transition Economy Development

Environmental disadvantages stimulate a proactive position for business people. They are extremely active (even aggressive) in managing their lives, and they transfer this style of acting and communicating to their education. They constantly question an instructors' understanding of local specifics and are not patient in general discussions. Their main question is "Why should I learn this if it doesn't work in real life?" When recruiting the faculty for this type of educational climate, it is important to emphasize the need for authentic business or consulting experience within actual transition economies. Faculty members with experience in successful transition economies (i.e., Poland or the Baltic countries), or with experience in large market operations (i.e., Russia) are in special demand, because they can provide realistic insight into the next stage of development for Belarusian businesses. Instructors with pure "western" experience, instructors with pure local experience, or instructors with pure academic backgrounds are not able to satisfy the Belarusian businessmen's expectations.

Pedagogy Based on Students' Experience

IPM students become co-authors of the courses and bring real-life situations into the classroom. This practice reinforces Strauss and Corbin's theory that data gathered within a classroom and used in the same classroom as a case study or a theme for a discussion, "can be used to explore substantive areas about which little is known or about which much is known to gain novel understanding" (Strauss & Corbin, 1998: 11).

Qualitative methods such as process tracing, historical contexting, and within-case analyses (George & Bennett, 2005) are vital for productive idea exchanges in courses composed of experienced businesspeople. Strauss and Corbin write that "[qualitative] research itself is a process about which our ex-students are likely to be self-reflective…. Yes, they are skeptical of established theories, however enticing they might seem, unless these eventually are grounded through active interplay with the data" (1998: 6). Students can investigate the causal paths of the current phenomena and together with their instructors conduct a procedure of controlled comparison. During the author's experience teaching executive and continuing business management courses in Belarus, several owners and top-managers offered material from their own companies for analyses within the course framework and appreciated a chance to share their experiences in a secure environment. These are examples of constructive case-studies that were discussed in the classroom:

Ethics in an Unethical Environment or Absence of Ethics? The pivotal actor of this case is a financial company, "Destinator," that provided technically illegal international financial transactions for Belarusian private firms from 1993-1997. On the one hand, "Destinator" supported the black market and helped Belarusian businesses hide a taxable income. On the other hand, companies like "Destinator" behaved much more fairly than the official financial institutions and the Belarusian government. They were actually the only real force that helped entrepreneurs survive and develop their businesses. The legality of "Destinator" operations was a gray area because of the flawed legal environment in 1993-1997 Belarus. The owners of the company had disagreements about the future of their business: should they close this business; or should they continue current and highly profitable operations as long as possible, which would help Belarusian entrepreneurs survive (Ivanova, 2007)?

Production of pollution-safe fuel in a small Belarusian city. This business was three years old. It had started with significant investments and rapidly gathered momentum. The primary customers of this company were enterprises in EU countries; the price was significantly lower than competitors' prices, and the quality was up to EU standards. Therefore, the business seemed to be on its way to growth and success. However, if it continued growing, it would become more visible to local and central authorities. The local authorities would consider the business as a "milk cow" for their local needs and would only give their permission for operation in exchange for endless compensations. By growing rapidly, the business would become visible to the central authorities and might be perceived as a threat to the existing power. The owner had to find an appropriate strategy for the business' growth.

A middleman firm as an intermediate party between a state-owned enterprise and Russian customers. This firm had served as an outsource sales department for a large, state-owned production enterprise in Belarus since 1993. Both the state-owned enterprise and the Russian customers benefited from this cooperation; the sales volume of the state enterprise doubled. After 1995, President Lukashenka decided that businesses like this were not fair: they usurped society's money because they bought low, sold high, and did nothing for the country's enrichment. The middleman firm became a target of a powerful State Control Committee investigation; its connections within the state enterprises became suspicious. The owner of the middleman company faced the ethical dilemma of losing his business or putting his friends and partners from the state enterprise at risk for prosecution (Ivanova, n.d.).

It is not surprising that Belarusian businessmen are extremely careful in sharing information about their operations and striving to avoid state attention. That is why there are only a few companies willing to be the object of case studies and non-anonymous research, in spite of the public relations (PR) benefits for their marketing. In an unfriendly business environment, any PR measure has a double-edged result: the positive marketing benefits are counterbalanced by the negative "no-status-quo-shift-behavior" of the authorities (Ivanova, 2004).

Following the requirements of the Institutional Research Board, the author asked the participants for their permission to publish the course-generated case-studies and invited the students to be co-authors. The students refused point-blank to include their names as authors and agreed to allow their data to be published only with the guarantee of company and participant anonymity. At the same time, they supported the concept of using their findings as teaching material for future students within the same business community. In combination with western textbooks, these "born in the classroom" case-studies, decision-making exercises, and topics for discussion provide teaching material that is credible as well as valuable for local specifics.

<u>Must Have its own Trustful Sources of Data</u>

As in any totalitarian state, the Belarusian government has complete control (media and statistic data included) (Nuti, 2001; Rich, 1996). To provide up-to-date business education, a business school must have its own access to valuable data (a) regarding business development in a free market, (b) regarding transitions from a state-controlled economy to a free market economy, and (c) regarding business trends in a state-controlled economy. There are many sources of information about doing business in free market economies. There are some sources of information about doing business in transition economies, but there is a definite lack of relevant information about the state-controlled economy of Belarus.

IPM has three departments: a Business School, a Research Center, and a Consulting Center. The Business School implements all short-term, long-term, and international programs. The Consulting Center focuses on development projects for Belarusian businesses. The Research Center conducts studies on the problems of private business development in Belarus, analysis of the Belarusian economy on macro and micro levels, forecasting, and elaboration of recommendations for the implementation of economic reforms in Belarus. The Research Center also publishes a bulletin *Belarusian Economy: Trends, Analysis, Forecasts*, the only Belarusian independent economic journal *ECOWEST*, statistical information (over 100 indicators), and monographs and policy papers devoted to Belarusian market development.

The IPM Research Center and IPM Consulting Center provide faculty and local businesses with reliable, first-hand information regarding the statistics, trends, analyses, and forecasts of the economic situation in Belarus and neighboring counties. This information contributes significantly to IPM's creditability among businessmen.

<u>Short-term, Open-enrolment Courses as a Primary Promotion Tool</u>

Participation in short-term, open-enrollment and non-credit courses is important for both the students and the faculty. The participants of the short-term courses can evaluate the level and relevance of business education programs as well as the efficacy of the business network. They can establish trust with a particular school, with particular instructors, and with particular students. The instructors (even from graduate programs) should offer short-term courses to learn about the participants and their needs, adjust textbook materials to the realities of the existing economy, and gather relevant data for their case-studies.

CONCLUDING COMMENTS

Implementation of capitalist-oriented business education programs that address local issues (even in an environment of recovering socialism) plays several roles: It establishes a foundation for future democratic development and gives the local businessmen a sense of belonging to a worldwide business community. It provides solutions for specific local business management situations that are not covered within the business mainstream, and establishes circles of trust for local entrepreneurs. Finally, it contributes to the internationally accepted approach to business education by benchmarking examples of entrepreneurial proactivity, strength, flexibility, and intuition.

Belarus and its local business school, the Institute for Privatization and Management, provide unique opportunities to demonstrate how capitalist-oriented business education is able to exist and succeed in the state-controlled economy of a totalitarian government. While maximizing leverage and cross-case analysis are important components of good research (King et. al, 1994), the within-case analysis provided by IPM allows researchers to evaluate causal relationships, cover atypical cases, and avoid overgeneralization (Brady & Collier, 2004).

Most importantly, the application of IPM's flexible educational techniques will benefit any education program that is addressing the needs of the non-traditional businessman:

1. A lack of relevant curriculum is not exclusive to state-controlled economies; all non-traditional business settings experience this same deficiency which leaves educational business programs grasping for relevant instructional materials.
2. Many non-traditional businessmen have strong pride in their locale and their heritage; they are not interested in studying from a book that discusses business in London or New York City when they are located in Belarus, Alaska, or a remote Caribbean island.
3. Non-traditional businessmen have gone through numerous, inconceivable business complications and have managed to survive on their own inherent intelligence, creativity and logic. They take considerable pride in their business acumen and want the study to refer to this experience.

This study of Belarusian business education provides insight and solutions for the shortcomings existent in many business education programs. It clarifies the need to incorporate local specifics into business programs and to address student biases and local attitudes as well as other area-specific concerns. A close look at IPM's educational practices provides significant insight into how any business program can tailor its curriculum to better serve its non-traditional business students.

A comparative study of business education in several countries with transition economies is a subject for future research. A World Bank study of twenty-two Eastern European and post-Soviet countries (Aslund, 2002) demonstrates that a transition economy has many stratifications of development; different approaches to transition determine different business environments which, in turn, result in an assortment of approaches to business education. Comparing business education in market-oriented transition economies, rent-seeking states, and state-controlled economies will provide meaningful protocol for tailoring generally accepted practices and insuring that these practices address local specifics.

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BIOGRAPHY

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FRENCH LEGISLATION AND THE DEVELOPMENT OF CREDIT AVAILABILITY FOR MICROENTERPRISE

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ABSTRACT

The failures of the socialist model, evidenced by high unemployment, have led France to reorient itself towards more enterprise creation. These entrepreneurial ventures require financing. However, bankers do not want to assume the high risk of newly created enterprises. Moreover, small entrepreneurs who do manage to get financing may find themselves rationed at the margin if the rate of credit is capped by the legislature. Concurrently, the growth of microfinance in the world has shown that innovative techniques can increase credit availability, without unduly high risk. However, such increased credit availability may not materialize if credit rates are capped by usury laws, as it was in France. This paper traces out a number of legislative changes that took place in France in the last five years, focusing especially on usury laws and other barriers to credit. It places these legislative changes in a perspective of Western Europe's socialist model, comparing legislation on credit and usury in a number of developed countries. It also examines if these legislative changes have been accompanied by the desired impact. Finally, it examines alternative future legislative evolution possibilities.

JEL: D45, D53, E22, E4, G18, I38, K20, K29, N10, N20

INTRODUCTION

The Western European socialist model has led to certain failures, including notably the high unemployment rate in many countries. The high cost of unemployment benefits and associated inactivity traps has led to thinking that the EU should move from a model of "handouts" to that of "hand-ups". Although the average EU unemployment rate has gone down from 10% in 1995 to 7.7% in 2006, the rate in France hovers around 9.5% (Eurostat). This necessitates high transfer payments to unemployed workers. Partly, the higher than average unemployment in France is due to the fact that France has much less entrepreneurs than other Western European countries. For example, for a similar population level, France has 2.4 million enterprises compared to 3.4 million in the UK. Moreover, the number of new enterprises created in France had fallen from 200,000 per year in the 1980s to 175,000 per year in the 1990s. Since economic development and the need to reduce unemployment required more businesses to be created, France examined the obstacles to new enterprise creation. One of these obstacles was funding. It is impossible to use only self-financing to create new enterprises and the entrepreneur must therefore resort to credit. There is, however, an impediment to financing in that bankers do not want to assume the high risk of financing many newly created enterprises.

Nevertheless, the growth of microfinance institutions all over the world has alleviated this problem in many poor countries. However, microfinance cannot grow if there are interest rate caps on usury legislation. The next section conducts a brief literature review on microfinance and on usury legislation and explains how they are related.

LITERATURE REVIEW

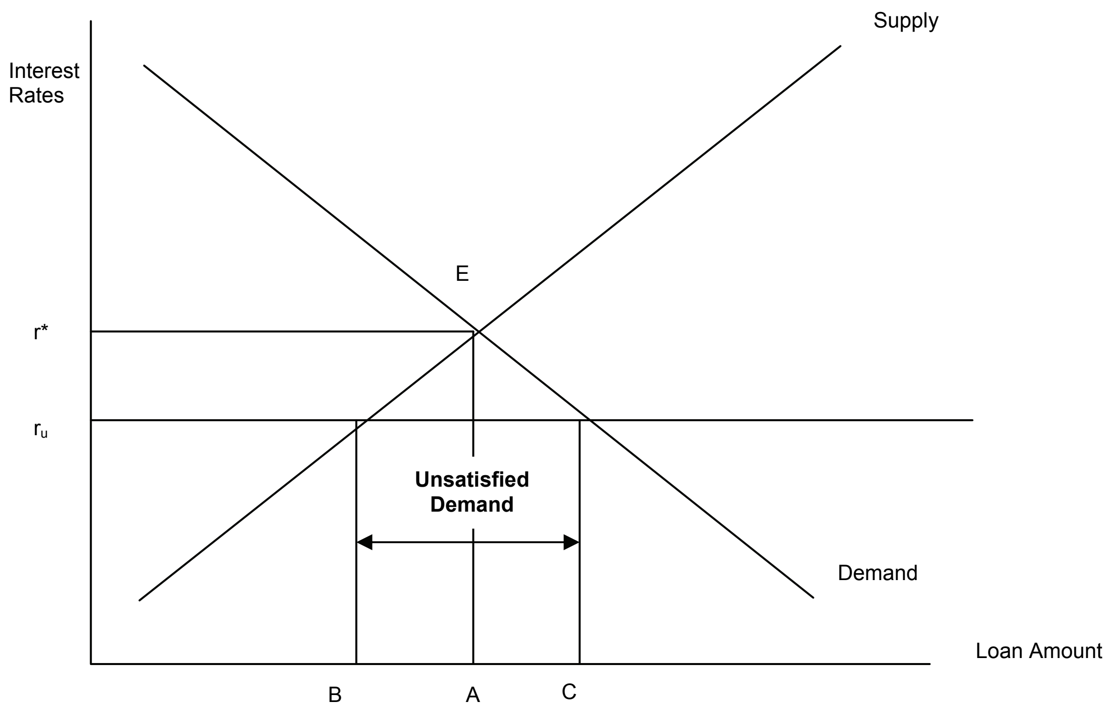
A thorough review of microfinance theory has been made recently by Armendariz de Aghion & Morduch (2005), including review on topics such as comparison with other similar credit institutions, group lending, other incentives to repay, microsavings, microinsurance, sociological aspects such as gender, difficulties in measuring social impacts, subsidies, sustainablility and management issues in microfinance. Zeller and Meyer (2002) contains a compilation of papers focusing on what they termed the triangle of Microfinance: Outreach, Impact and Sustainability. Much theoretical research continues in these areas. For example, Egli (2004) researches progressive lending as an incentive to repay and shows that there is a strong tendency to split up projects into subprojects, and that it might be necessary to perform less productive projects first in order to keep pressure on the borrower to repay. Similarly, Sriram (2005) studies how social collateral contributes to trust in lending with asymmetric information. McIntosh et al (2005) confirm that increased competition between Microfinance Institutions (MFIs) lead to a drop in repayment rates. Chowdhury et al (2005) study the social impact of microlending in Bangladesh and distinguish between objective and subjective poverty (subjective poverty is if the respondent feels he is poor) and find that there is some improvement for six years and then there is a leveling off. Daru et al. (2005) show that Microfinance by itself is not a panacea, but needs to be combined with education, skills, hygiene, health, social awareness, collective bargaining and legal property framework to reduce the impact on poverty and debt-bondage. This is in line with Ledgerwood and White's (2006) recommendation that MFIs should provide full financial services to the poor (including not only microcredit, but also savings, insurance, remittances, etc.) and, more particularly, with Bedson's (2007) recommendation that industry should start forming partnerships with Microfinance Institutions to provide other non-financial services too. At the same time, with financial sustainability, more and more private investments are coming into the field (Matthäus-Maier and Von Pischke, 2006). Thus, Microfinance seems to be a very interesting subject in terms of poverty alleviation as well as a business model in its own right.

Micro lending is different from commercial banking (Armendariz de Aghion & Morduch, 2005; Evers & Jung, 2007) in terms of small loan sizes, quick and easy access, non-traditional credit worthiness evaluation, and alternative collateral requirements. Microfinance targets some non-profit maximizing goals such as social inclusion, job creation, micro enterprise development and development of regions. In most countries where microfinance has taken off, the institutions offering credit to the poor are charging interest rates varying from 40% to 100% on average (Honohan, 2004). These rates are higher than conventional banking rates because of high overheads for evaluation and recovery for the small size loans, high risk of lending to start ups, inflation fears, lack of court enforcement and lack of sufficient competition between financial intermediaries (Armendariz de Aghion & Morduch, 2005; Honohan, 2004). However, the rates charged by MFIs are lower than those charged by moneylenders owing to their access to cheaper sources of finance (Ashta, 2007).

Although MFIs are not profitable without scale, it still makes economic sense for welfare states to support such institutions as a means of paying less dole. Microfinance helps create microenterprises, which create jobs and self-employment. In France and other Western European countries, however, microfinance has not really taken off whether it is in terms of outreach, impact or sustainability (Evers & Jung, 2007). European MFIs have very low outreach: about 100 loans per year per institution on average, perhaps because most institutions are new (most were created after 2000), but also because family and friends pitch in, banks cream off the good risks, and credit card debt and consumer loans are available. Even the French Microfinance institution, ADIE, founded in 1989, has only about 6000 clients per year, compared to 6 million clients for each of the big three institutions in Bangladesh (Grameen, ASA and BRAC). European MFIs also have had very low impact: MFI financed entrepreneurs are doing only as well as other entrepreneurs. Finally, European MFIs do not have the pressure of aiming for institutional financial sustainability because a lot of social money is available on a regular basis, donor organizations are looking for social results and NGO MFIs have other objectives.

Thus, Europe needs to develop microenterprise, but owing to a lack of credit supply, this is not developing as fast as required. Evers and Jung (2007) estimate that 20% of West European SMEs are facing financing constraints. They need high interest spreads to cover risks of start-ups. However, Western Europe legal and public morals do not allow high interest rates as evidenced by usury laws. Therefore, even the creators of SMEs and micro-enterprises who have access to credit may find themselves rationed at the margin, if the rate of credit is capped by usury laws. The rationing of credit by usury legislation is depicted in the accompanying graph. Without usury ceilings, the equilibrium between the downward sloping demand curve and the upward sloping supply curve of micro-loans would be at E, with total loans of amount A at an interest rate of r*. However, a usury ceiling of r_u blocks this equilibrium from taking place. At this interest rate, the maximum supply for credit is limited to B while the demand rises to C. The difference between C and B is unsatisfied demand. The suppliers of credit can decide to ration their supply to potential borrowers either by excluding some borrowers, or by providing lower amounts to all borrowers, or some combination of the two.

Figure 1: The Market for Micro-loans



This figure shows the rationing of credit by usury legislation.

A more comprehensive graphical representation of the general economic analysis can be found in Goudzwaard (1968) who also presents the case for monopolistic suppliers of funds. Other specific problems which have been studied include the particular problems of small loans and their high transactions costs leading to high interest rates and even high usury ceilings to ensure that the market is not left void through extreme credit rationing (Fisher, 1929). Hodgman (1960) considers that credit rationing is a function of risk characteristics of the borrower and the lender's willingness to supply to him. The lower risk customer could eventually find money but at higher interest rates. Blitz and Long (1973) find that it is not possible to state who gains by usury legislation: the borrower or the lender and that it depends on the level of the rate, the elasticities of substitution between different credit products (regulated and non-regulated), and the dispersion of risk among borrowers. They also find that in any case, it is not possible to control the monopolistic lender through such ceilings, nor is it possible to reduce consumption expenditure.

The economic debate on usury legislation is not new. One stream of academic literature traces the history of religious prohibition of usury. Usury legislation dates back to the Old Testament (Moser, 1997; Lister 2006), where three ancient Jewish codes contain a prohibition on interest taking. The Code of Covenant, the Law of Holiness and the Deuteronomic Code differ in their interpretation with respect to whether the prohibition on interest taking was to all Jews and all poor or only to poor Jews. In any reading, it seems interest could be charged to rich non-Jews. Similar prohibitions are contained in Christianity (Frierson, 1969), and Islam (Gambling and Karim, 1986). A review is available in a paper by Visser and MacIntash (1998) for these three religions and for Hinduism and Buddhism.

This history may have had an influence on economics. A stream of academic literature relates to discussing why Adam Smith might have defended usury laws inspite of being in favor of free trade, including Benthem's criticism of Smith's position (Hollander, 1999; Paganelli, 2003). Undoubtedly, Smith must have been influenced by religious and historical precedents.

All this explains why most countries had usury legislation at some time or other. The academic literature discusses the usury legislation in specific periods in history, mostly in the US, but with rather few forays into other countries (e.g. Harrison, 1980 studies Spain). Many studies focus on the effects of usury legislation on markets. Strangways and Yandle (1971) find that the effect of usury legislation on housing was insignificant. However, other studies (Robins 1974; Austin and Lindsley, 1976; Ostas, 1976) conclude that usury legislation restricts homebuilding.

Owing to these distortions created by usury legislation, different escape mechanisms were used by business in the wake of usury legislation. For example, departmental stores selling goods on credit use a service charge for deferred payments (Cole, 1958). Similarly, Peterson (1983) finds that people easily switch from cash credit to consumer credit to escape usury legislation. When the U.S. government clamped down on consumer credit in the 1960s, Hudson (1993) indicates that the rent-to-own industry was born. In addition, if usury legislation only aims at individuals, people use corporations to borrow money (Jensen, 1983; Boyes & Furnish, 1984).

In the wake of academic studies on the adverse impact of usury legislation, today, many countries either do not have usury legislation or have slowly dismantled their usury legislation. In the United States and Canada, there is no usury rate. The American federal laws on usury were abolished from 1978, although from time to time, there are specific regulations in some American states. Americans and Canadians are used to high interest rates, especially for consumer credit. The UK examined the possible introduction of a framework on usury interest rates in an effort to curb abusive lending to the poor, but finally concluded that it should not introduce such a framework after a study on the effect of capping of interest rates in countries where there was such regulation. In Austria, there is no ceiling on interest rates, but there is only a ban on the exploitation of the situation by one of the contract parties or abuse of a dominant position.

In other countries, there is some usury legislation or court-made law. For example, in German, usury is left for the appreciation of the courts: the pressure is generally considered excessive when the interest rate applied is twice the average rate prevailing on the market for that type of credit or where the rate exceeds the rate usually practiced on the market by 12 points. In Spain, the Act of July 23, 1908 provides for the annulation of any contract whose interest rate is significantly higher than the normal rate and patently disproportionate. For the latter, the judge decides the excessive nature. Further, an Act of 1984 on consumers and protection of the user provides a maximum interest rate for advances on current account, equal to 2.5 times the legal interest rate. Italy distinguishes half a dozen different credit types, with special provisions, in each of them, for the case of small loans. In general, everything is considered usurious at rates 50% higher than average interest rates. However, an even lower rate applied to a borrower in serious financial difficulty can be considered usurious. Nevertheless, in many of these countries, discussions are underway to ease regulations on usury for business. Therefore, the general liberalization of the price mechanism and the globalization of financial markets have led to reforming or abolishing the usury regulation in most major developed countries over the past thirty years.

In France, the history of usury legislation shows that it has evolved with economic circumstances and reigning philosophical ideologies. After a period of complete freedom in credit practices during the Revolution, a law passed in 1807 restored legislation in this area by instituting a rate of usury, that is a ceiling for interest rates beyond which a criminal offense is constituted, compared to the statutory rate (5% in civil matters, 6% in commercial matters). A law of 1886 removed this interest rate ceiling for commercial loans in order to liberalize trade. After the First World War, in 1918, another law aligned the civil regime on the commercial one to promote reconstruction. However, ceilings were restored in 1935. The regime, until 2003, was the result of the Acts of December 28, 1966 and December 31, 1989. It was based on protecting borrowers against abusive rent levied by lenders.

The analysis of the French law, which has governed the financing of business enterprise until the early-2000s, viewed in a perspective of quasi-absolute freedom existing in many parts of the world led to major reforms in 2003 and later in 2005. The question for our study is whether the recent change in French usury legislation has had an impact of the development of microenterprise through the development of microfinance, and whether more changes are required. We will therefore outline the recent changes to the French usury legislation (Part I), study the impact (Part II) and look at recommendations in this and related areas for the future development of business and finance (Part III).

PART I: REFORM OF FRENCH USURY LEGISLATION

We will describe briefly the French usury legislation, as it existed before the reform as a background to the discussion on the reform.

The Law Before The Reform

Usury is a criminal offense governed by articles L 313-1 to L 313-6 of the French Code of Consumption. Article L 313-3 of this Consumer Code states that "any conventional loan is usurious if it is contracted at an gross effective rate that exceeds, at the time it was made, by more than a third, the average gross effective rate charged during the previous quarter by credit institutions for transactions of a similar nature involving similar risks."

According to Article L 313-1 of this Code, the gross effective rate is the rate determined by the interest, to which are added "fees, commissions or payments of any kind, whether direct or indirect, including those that are paid or payable to intermediaries who may intervene in any manner whatsoever in granting the loan, even though these fees, commissions or payments correspond to actual expenses."

Punishments are listed in art. L 313-5 of the Code of consumption. They may extend to two years' imprisonment and 45,000 € fine. One can already make two points: first, the reference to the criminal element is an exception in Europe. France's main European neighbors are unaware of this concept. This means that it is more penalizing for French banks to violate usury laws than for banks in other neighboring countries. Thus, it is more difficult for microfinance institutions, wanting to charge higher interest rates for the higher risk, to develop in France.

Secondly, the inclusion of these provisions in the code of consumption, designed to regulate the relationship between professionals and consumers (B to C) raises the question whether the usury legislation hindered the development of credit for micro-businesses, which would be a B to B transaction.

However, through a reference to these provisions in the Monetary and Financial Code, which has a broader vocation, we see that all transactions are covered.

The regulation of usury in France was (and is) not constituted by a single rate above which all loans would be considered usurious. Appendix 1 gives a snapshot of usury rates at one point in time before the reform. It shows that France uses a rather flexible arrangement that demonstrates the willingness of legislators to maintain flexibility in the "price of money", within limits depending on the economic forecasts. The method of calculation used is endogenous, because it is derived from the behavior of lenders. While maintaining a practical view of heterogeneity of the credit market, the French system demonstrated extraordinarily complex rules: the proof of this is the complexity of usury regulation, even today.

This extraordinary complexity led to a multiplication of adverse effects of the usury legislation. Firstly, usurious lending could easily be bypassed as the transaction could be undertaken by other mechanisms such as leasing and factoring. Note the similarity with Cole (1958), Peterson (1983) and Hudson (1993). Secondly, it even leads to a diversion of consumer credit, for which the ceiling rate is above 18%, to business uses, where the average interest rate on a bank loan for the creation of an enterprise is 6.79 % two percentage points below the level of the usury rate ceiling (Hurel, 2003). Thus, if a banker gives a B to B loan at 10%, it is considered usurious, but if the same banker gives the same loan to the entrepreneur as a personal loan, it is considered OK. Since money is fungible, it is not possible for the banker to monitor what is done with the proceeds of his loan and the borrower can use it as he wishes, unless the expense has been incurred for the given purpose before the credit is deblocked. Faced with increasing criticism of this legislation, considered too burdensome for business and constituting a brake on economic initiative, the legislature began a comprehensive reform of credit.

The Reform

At this time, there was an increased awareness that the difficulty of finding funding is the main obstacle to new projects. It was observed that the creators and buyers of small businesses have little access to financial markets. Despite the devices of public guarantees (frowned upon by the EU) and the intermediation of mutual guaranteeing organizations, lending to small business was often rationed. It was felt that the main reasons were the combined effects of the costs of examining the viability of a microenterprise and the international capital standards imposed on credit institutions (Basel 2) in respect to SME lending, and the low interest rate ceilings because of French legislation on "usury" (Senate Report, 2003). Although, as we have seen, usury legislation could easily be circumvented, it still constituted a brake on economic initiative, since the micro-entrepreneur is neither always financially aware nor capable of understanding the ramifications of sophisticated financial products.

Therefore, we can see that several reasons have motivated the development of the French legislation in this field to overcome the problem of bank credit rationing to the detriment of SMEs by allowing them to charger higher interest rates for micro-credit to finance the more risky activities such as the creation of business. It was considered that a high interest rate is not necessarily a social evil when the loan is contracted for a short maturity, and because in some cases, it is vital for business creators to get a minimum long-term capital.

Although, other credit reforms also took place to develop Microenterprise, such as the creation of the government loan scheme called a Loan for the Creation of Enterprise (PCE), we will limit our paper to the evolution of usury legislation. The right wing government came to power in 2002 and decided that freeing initiative was required. In the initial version of the bill for economic initiative and the parliamentary debate, which ensued, we find some alternative proposals to modify the usury legislation.

First, it was proposed to increase the usury rate for corporations to 15 points above the average effective rate. This, it was supposed, would cover the highest possible risk posed by a number of small businesses. This proposal was supported by many structures such as the French Microfinance Institution ADIE (Association for the Development of Economic Initiative), MEDEF (French Enterprise Movement) as helping to increase availability of credit. The Caisse des Depots et Consignations supported the proposal because it included the degree of risk in the price. The French Banking Federation supported it because it permitted to index the remuneration of loans on company performance. On the other hand, the proposal instilled a fear in the minds of businesspersons that higher rates could lead to inflation.

A second proposal was suggested by the president of the CGPME (General Confederation of Employers of Small and Medium Enterprises). Since the processing of small loan applications leads to high management costs and the reluctance of banks, a solution would be to extract from the calculation of Gross Effective rate, the costs for processing applications. However, this proposal was not even discussed and therefore could not be passed by Parliament.

A final proposal from the Commission of the Senate, supported by the ADIE (the French MFI), was to prevent the brakes on the development of microcredit. In this proposal, the idea was to extend the removal of usury ceilings to individual entrepreneurs (and not just corporations). The argument was that they are probably the ones who have the most to gain because, on one hand, they are those whose access to credit is the most rationed, and many of them could benefit from obtaining loans with higher interest rates in exchange for lower guarantees (Senate Report, 2003).

On August 1, 2003, the law on economic initiative was adopted. It provides for the deletion of the provisions relating to usury for corporate entrepreneurs, except for overdrafts. Thus, it was more liberal than the first proposal which was to raise the ceilings, and not as liberal as the third which required extending this to individuals too. However, this lacuna was made up two years later and a law on Small and Medium Enterprises (2005) took off the usury ceilings on individual entrepreneurs too. This meant that it was no longer a crime to lend to individual entrepreneurs at high interest rates.

Civil sanctions still exist for overdrafts accounts (charging excessive interest rates or other fees on the principal of the debt) pursuant to Art. L 313-5-1 of the Monetary and Financial Code. The usury law currently in force in France is now based on the following reading of Article L 313-3, Code of consumption:

> *"A loan is usurious if granted at an interest rate that exceeds, at the time it was made, by more than a third, the average effective rate charged during the previous quarter by credit institutions for transactions of a similar nature involving similar risks, as defined by the administrative authority after consultation with the Advisory Committee on the financial sector. (...) The provisions of this article and articles L. 313-4 to L. 313-6 shall not apply to loans granted to a person acting on his professional needs or a corporation engaged in industrial, commercial, craft, agricultural or non-commercial professional activities."*

Effectively, these laws now concern mainly consumer loans and overdrafts to business. Appendix 2 gives an example of usury rates and effective average rates in 2007.

PART II: THE IMPACT OF THE REFORM

Overall Positive Effect

Although the impact of the removable of usury ceilings has been positive, it seems to be rather limited. A first positive effect is seen in the fairness or equity between different business structures. The new usury legislation now provides the same treatment for all borrowers, whether corporate or individuals, as long as they are borrowing for business purposes.

A second positive effect is that the usury ceiling rate no longer rations credit. As mentioned above, earlier, to mitigate the effect of the low interest ceiling, banks sought risk-reduction by demanding guarantees or collateral. It is difficult for poor people to provide these. The modification of the usury legislation allows banks to charge higher interest rates and, so, it can dispense with some of the guarantees and securities. This means that the economy will grow, since poor people are dotted with an enterprise spirit and often have repayment rates better than those of the rich (Yunus, 2005). A survey confirms this trend: 21% of banks surveyed by the Bank of France said they have restricted their lending due to the constraint of usury legislation (Report Banque de France, 2006).

A third positive effect is that the above benefit is already vindicated by empirical evidence (Report Banque de France, 2006): shortening the time it takes to access credit for new companies less than 3 years old, the increase in the number of risky enterprises funded (over 20%), increasing the amount of funding distributed to the most risky (over 20%). Fourthly, the fear of a very strong inflation in interest rates for small firms has not materialized. The fear was based on American evidence where the deregulation of usury rates on consumer credit has led to an easing of conditions for the granting of credit and an increase in margins (Rougeau, 1996; Ausubel, 1997).

However, no increase in the rate of credit has been witnessed since the change in legislation. This may be because of the increased competition between credit institutions, increased information with borrowers as well as due to the transparency of the conditions for loans. In fact, microcredit loans have never been contracted at rates higher than the earlier usury limits. (Report National Assembly, 2005; Obolensky, 2003).

However, a new fear has emerged, that of over-indebtedness of small entrepreneurs, owing to a proliferation of loans. The fear is based on the American experience. Ellis (1998) has seen a very sharp rise in personal bankruptcies from 1978, the year of entry into force of the deregulation of usury, to 1996. Part of this could be explained by the higher interest rates charged by banks as indebtedness increases, corroborating Rougeau (1996) and Ausubel (1997), mentioned above. However, there is no evidence of this yet in France. There is no increase in the rate of default of the most risky SMEs. Nor has it resulted in a significant impact on financial stability since the high profitability of these credits is sufficient to cover the higher risk taken by banks. Ultimately, the reform has led lenders to better discriminate the risks of borrowers and link the price of credit to the marginal risk borne, without necessarily lead to a rise in general rates for all debtors.

A Rather Limited Impact

This reform, innovative and liberal as it is, has gone relatively unnoticed by firms (Report Banque de France, 2006). In fact, it has been observed that firms were largely ignorant on the existence of usury regulation regime in effect before 2003, as well as of the reforms in 2003 and 2005. The ignorance is a function of the size of the company, it is more pronounced for small businesses.

Secondly, most firms consider that the reform has not had any major impact on their relationship with banks (Report Banque de France, 2006). Ultimately, the regulation of usury and the lifting of ceilings applied to businesses have only affected the attitudes of lenders rather than those of SME borrowers.

PART III: FUTURE EVOLUTION POSSIBLE

The further development of usury legislation is not the only way to develop microfinance and microenterprise. This section reviews suggestions to develop usury legislation further as well as other possible innovations in related fields.

Future of Usury Legislation

Would the usury legislation move forward in the same direction and be scrapped entirely, as in the USA, for consumer loans as well? At first glance, it would not because France, and much of Europe, is very catholic and is attached to the principles leading to the usury legislation argued by Thomas Aquinas in the thirteenth century. This prohibition is also found in the Koran, the second most prevalent religion in France.

It could also be possible to delink the subsidized scheme of loans to create enterprises from traditional banking loans. The latter are subject to usury legislation and therefore are often rationed. This rationing then adversely affects the giving of loans to create enterprises, because these subsidized loans are subject to a precondition that they are accompanied by traditional banking loans. However, Hurel (2003) considers that economic development necessitates increasing the linkages between the entrepreneurs and the banking networks, and thus avoiding the creation of a parallel banking network specializing in the financing of entrepreneurship.

Evolution in Related Fields

Other solutions for the development of microenterprise might lie in the development of loan guarantee schemes at the regional level, development of local investment funds, and development of specialized State banks to finance entrepreneurs. In the latter vein, in 2005 France has merged existing institutions and created OSEO, an organization to encourage and finance small and micro enterprises.

France has also launched a special scheme to help creation and transfers of businesses: assistance for the unemployed creators or buyers of enterprise (ACCRE). This device is designed to facilitate the structuring and development of both projects to create or resume business activities. It consists of an exemption from social security contributions and maintaining, for a fixed period, some minimum social doles.

France has also created a financial assistance under the arrangement EDEN (encouraging the development of new businesses). In this, the entrepreneur is given vouchers allowing him to access a panel of experts. For such consultancy, two-thirds of the cost is borne by the State. More important, in 2005, the law for social cohesion created social cohesion funds whose mission is primarily to guarantee loans to the unemployed who wish to start their own business. The law has set aside 247 million Euros for the year 2009, for example.

With the high interest rates charged by Microfinance institutions, some question how it is different from predatory lending, loan sharks, debt bondage, debt farming, etc. In these situations the lender is exploiting information asymmetries and his superior knowledge of market and laws allowing him to charge high interest rates and non-interest fees, flipping of loans and charging fees each time and lending against collateral without seeing ability to pay, just to get their houses or other collateral cheap (Honohan, 2004). The current subprime loan crisis, founded in over indebtedness resulting from aggressive selling of credit by American banks, may be a manifestation of this. This crisis has also alerted France to the evils of too much consumer credit. Thus, a brake on this credit, operated by usury ceilings, seems likely to be maintained in the near future, although Honohan (2004) maintains that the solution is not usury ceilings but better education of the public, truth in lending requirements, legal protection and increased competition. However, whether MFIs or money lending can survive increased competition is debated by academics (Armendariz de Aghion & Morduch, 2005; McIntosh et al, 2005) because increased competition at the village level permits borrowers to bypass prudential borrowing limits by borrowing from multiple lenders. In fact, the subprime crisis may be a reflection of the inability of credit information to circulate perfectly between lenders.

On the other hand, banks in search of new markets, especially with the subprime crisis in the US, would like to develop European consumer credit and probably have the political clout to orient legislation. In the beginning, the development may be for specific priority sectors such as housing and education. However, instead of raising usury ceilings for these sectors, the banks are first pushing for government guarantees of loans in these sectors. After all, if the risk is removed, interest rates can be accommodatingly low, even zero. Although banks may want to lend directly to micro-borrowers, they may also want to limit competition from Microfinance Institutions. For example, in France MFIs are restricted to loan amounts of 6000 Euros; for first 5 years of newly created enterprises; recipients have to be welfare recipients or unemployed; and before applying to MFIs, the borrower has to prove that banks have refused credit (Evers & Jung, 2007). Thus, the game gets complicated.

It is also possible that European markets may emulate the U.S. Community Reinvestment Act of 1977 calling on banks to lend equally to all communities. This kind of quota system makes the banking sector pubic oriented and would undoubtedly add to the costs and reduce the international competitiveness of European banks. Thus, although the system would fit in well with the European socialist model, it would further burden Europe, which is trying to liberalize and turn towards growth-oriented scheme. A detailed evaluation of whether the growth effect of lending to the poor would offset the costs of inefficiencies is beyond the scope of this paper and is left to future research.

CONCLUSION

The failures of the socialist model, evidenced by high unemployment, have led France to reorient itself towards more enterprise creation. These entrepreneurial ventures require financing. However, bankers do not want to assume the high risk of newly created enterprises. Moreover, small entrepreneurs who do manage to get financing may find themselves rationed at the margin if the rate of credit is capped by the legislature. Concurrently, the growth of microfinance in the world has shown that innovative techniques can increase credit availability, without unduly high risk. However, such increased credit availability may not materialize if credit rates are capped by usury laws, as it was in France.

This paper traced out a number of legislative changes, which took place in France in the last five years, focusing especially on usury laws and other barriers to credit. It placed these legislative changes in a perspective of Western Europe's socialist model, comparing legislation on credit and usury in a number of developed countries. It also examined if these legislative changes have been accompanied by the desired impact. Finally, it examined alternative future legislative evolution possibilities.

One area of future research was outlined at the end of the last section: a detailed evaluation of whether the growth effect of lending to the poor would offset the costs of inefficiencies. Another possible field of research is related to other unemployment reduction policies. Indeed, the paper started with the failure of the Western European socialist model and the need of reducing unemployment. Besides making financing available, there is also a need to reduce unemployment benefits progressively as business takes off, as in Germany and Ireland (Evers & Jung, 2007).

A final interrogation leading to another avenue of research would be to question why the entrepreneurial density in Italy is higher than in France, even though the usury legislation is similar in the two countries.

This comparison leads us to expect that abolishing usury limits is not the only means to economic development, but that other policies have to be used conjointly.

APPENDIXES

Appendix 1: French Threshold of Usury Rate (TU) and Average Effective Rate (TEM) Used by Credit Institutions (%) In 2003

Housing Loans to Individuals

CATEGORIES	1st Trimester 2003 J.O. 22.03.03		2nd Trimester 2003 J.O. 25.06.03		3rd Trimester 2003 J.O. 20.09.03		4th Trimester.2003 J.O. 20.12.03	
	TEM	TU on 1.04.03	TEM	TU on 1.07.03	TEM	TU on 1.10.03	TEM	TU on 1.01.04
Fixed rate loans	5.69	7.59	5.53	7.37	5.16	6.88	5.08	6.77
Variable rate loans	5.28	7.04	5.17	6.89	4.80	6.40	4.58	6.11
Bridge loans	5.82	7.76	5.72	7.63	5.34	7.12	5.28	7.04

Other Loans to Individuals

CATEGORIES	1st Trimester 2003 J.O. du 22.03.03		2nd Trimester 2003 J.O. du 25.06.03		3rd Trimester 2003 J.O. du 20.09.03		4th Trimester 2003 J.O. du 20.12.03	
	TEM	TU au 1.04.03	TEM	TU au 1.07.03	TEM	TU au 1.10.03	TEM	TU au 1.01.04
loans of an amount less than or equal to 1524 € (1) (2)	16.34	21.79	16.22	21.63	15.94	21.25	15.64	20.85
Overdrafts account, permanent loans and financing of hire purchase or sales Amounts greater than 1524 € and hypothecated life annuity (1) (2)	13.14	17.52	12.95	17.27	12.63	16.84	12.39	16.52
Personal loans and other loans in excess of 1524 €	7.97	10.63	7.77	10.36	7.47	9.96	7.20	9.60

Loans to Enterprises

CATEGORIES	1er Trimester 2003 J.O. du 22.03.03		2nd Trimester 2003 J.O. du 25.06.03		3rd Trimester 2003 J.O. du 20.09.03		4th Trimester 2003 J.O. du 20.12.03	
	TEM	TU au 1.04.03	TEM	TU au 1.07.03	TEM	TU au 1.10.03	TEM	TU au 1.01.04
Loans for staggered purchases or sales	6.97	9.29	6.86	9.15	6.54	8.72	6.25	8.33
Loans for a period of more than 2 years at a variable rate	5.40	7.20	5.19	6.92	4.87	6.49	4.75	6.33
Loans for a period more than 2 years, fixed-rate	5.76	7.68	5.54	7.39	5.09	6.79	4.86	6.48
Overdraft account (3)	8.66	11.55	8.60	11.47	8.39	11.19	8.14	10.85
Other loans for a period less than or equal to 2 years	7.02	9.36	6.91	9.21	6.55	8.73	6.50	8.67

(1) For consumer credit, the thresholds of usury are expressed on equivalence method, in accordance with Article 1 of Decree No. 2002-927 of June 10, 2002 concerning the calculation of the rate applicable to the overall credit for consumption and modifying code of consumption (art. R313-1). (2) To assess the usurious nature of the overall effective rate (TEG) of an overdraft account or a permanent loan, the amount to be taken into account is that the credit actually used. (3) These rates do not include any commissions charged on the highest overdraft of the month. The average rate of such commissions on the highest overdraft during the month of January 2003 was 0.06% and 0.05% during the months of April and July 2003.

Appendix 2: French Threshold of Usury Rate (TU) and Average Effective Rate (TEM) Used by Credit Institutions (%) in 2007

CATEGORIES	1st Trimester 2007 J.O. 01.04.07		2nd Trimestrer2007 J.O. 05.07.07		3rd Trimester 2007 J.O. 05.10.07		4th Trimester 2007	
	TEM	TU on 1.04.07	TEM	TU on 1.07.07	TEM	TU on 1.10.07	TEM	TU on 01.01.08
Loans to Individuals Falling within the Scope of Articles L. 312-1 To L. 312-36 of The Code of Consumption (Housing Loans)								
Fixed rate loans	4.70	6.27	4.81	6.41	4.97	6.63	5.34	7.12
Variable rate loans	4.68	6.24	4.90	6.53	5.04	6.72	5.29	7.05
Bridge loans	4.76	6.35	4.86	6.48	4.90	6.53	5.25	7.00
Loans to Individuals Outside the Scope of Articles L. 312-1 to L. 312-36 of The Code of Consumption (Cash Credits)								
loans of an amount less than or equal to 1524 € (1) (2)	15.25	20.33	15.29	20.39	15.37	20.49	15.66	20.88
Overdrafts account, permanent loans and financing of hire purchase or sales Amounts greater than 1524 € and hypothecated life annuity (1) (2)	14.44	19.25	14.89	19.85	14.85	19.80	15.12	20.16
Personal loans and other loans in excess of 1524 €	6.54	8.72	6.70	8.93	6.78	9.04	7.04	9.39
Loans to Legal Persons Not Gainfully Employed in Industrial, Commercial, Craft, Agricultural Or Non-Commercial Profession								
Loans for staggered purchases or sales	8.07	10.76	8.19	10.92	8.62	11.49	8.65	11.53
Loans for a period of more than 2 years at a variable rate (4)	5.05	6.73	5.21	6.95	5.63	7.51	5.73	7.64
Loans for a period more than 2 years, fixed-rate	5.13	6.84	5.32	7.09	5.50	7.33	5.73	7.64
Overdraft account (3)	10.83	14.44	10.86	14.48	10.96	14.61	11.03	14.71
Other loans for a period less than or equal to 2 years	6.84	9.12	7.12	9.49	7.29	9.72	7.25	9.67
Loans to Individuals Acting on Their Professional Needs and Legal Persons Engaged in Industrial, Commercial, Craft, Agricultural Or Non-Commercial Profession								
Overdraft account (3)	10.83	14.44	10.86	14.48	10.96	14.61	11.03	14.71

(1) For consumer credit, the thresholds of usury are expressed on equivalence method, in accordance with Article 1 of Decree No. 2002-927 of June 10, 2002 concerning the calculation of the rate applicable to the overall credit for consumption and modifying code of consumption (art. R313-1). (2) To assess the usurious nature of the overall effective rate (TEG) of an overdraft account or a permanent loan, the amount to be taken into account is that the credit actually used. (3) These rates do not include any commissions charged on the highest overdraft of the month. The average rate of such commissions on the highest overdraft during the month of January 2007 was 0.07% and 0.08% during the months of April and July 2007. (4) Average rate practiced (TMP): The average rate practiced (TMP) is the effective rate of loans to businesses for an initial period of two years, at a variable rate, for an amount less than or equal to 152449 Euros. This rate is used by the tax authorities for the calculation of the maximum deductible interest on current accounts of associates. The average effective rate charged by credit institutions in the third quarter 2007 for this category of loans is 5.63%. Source: website of the Bank of France

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MOTIVATING GENERATION X AND Y ON THE JOB AND PREPARING Z

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ABSTRACT

The intersection of diverse cultural generations in the workplace has significant managing, marketing and particularly motivating implications for business executives. This study examines the factors that motivate Generations X and Y and those factors that will be affecting Generation Z. Moreover, it shows how these factors have changed over time in comparison with the Baby Boomer Generations.

JEL: M12

INTRODUCTION

From 2005 – 2007, the authors surveyed 200 undergraduate business students (Generation Y) from Fordham University's Schools of Business using a copyrighted *Work Motivation Checklist* that had been used to survey previous generations in the past. This same checklist was utilized by the authors to survey 200 business and MBA students from Hofstra University's School of Business in the mid 1990's (Generation X). Moreover, the authors were able to compare these generations with two previous studies of 6,000 managers from the Pre-Baby Boomer Generation and 500 senior level executives from the Baby Boomer generation that were done during the 1970's and 1980's respectively.

The paper is organized into five sections. Section 2 discusses the main contributions in the relevant literature. Section 3 presents the methodology including data. Section 4 summarizes the results. The last section offers a summary of the research and the conclusions.

LITERATURE REVIEW

The unique social characteristics of Generation X, Y and Z are clearly illustrated within the literature. Generation X, per its definition, includes individuals born from 1965 through 1977 with over 57 million represented. (Kotler, 2005). Cynicism, media savvyness, and individualism are common adjectives which describe this group. In addition, a sense of alienation exists within this age bracket as it is the first group that has been hit hard by the divorce of their parents. (Tsui, 2001). It has also been noted that Generation X has also a self satisfied sense of superiority and a strong addiction to caffeine. (Toronto Star, June 20, 2006). The conclusion of the Cold War plus the terrorist's attacks of September 11 has also had an impact on this segment.

Generation Y, on the other hand, is at 60 million strong and has similarities but also many differences when compared to Generation X. Also known as the Echo Boom Generation or the iGeneration, Generation Y includes individuals born from 1978 through 1994 and have been described as edgy, urban focused and idealistic. (Kotler, 2005). This group has also witnessed their parents lose their jobs after years of loyal service and are now, as a result, more potentially apt to leave their organizations after two to three years as compared to three to five years with Generation X. (Canberra Times, March 29, 2006). It is also anticipated that members of Generation Y will undergo career changes at least five times versus three career changes from Generation X counterparts. (Canberra Times, March 29, 2006). Lastly, this group was engaged and certainly affected by the dawn of the 21st century, the war on terror, the rise of the information age and the Middle East conflict.

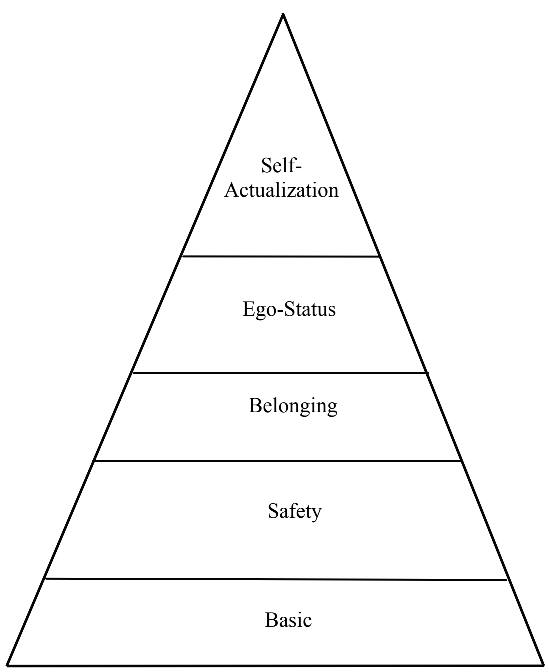
Generation Z, who in most cases are the offspring of Generation X, are born after 1996 and who are also known as the Silent Generation. It is also anticipated that while this group will be the most environmentally friendly as compared with their counterparts, they will also have an extremely high level of distrust with corporations and will be more apt to leave their job and/or career more quickly than Generation Y. (Korean Times, November 13, 2007). In addition, this generation yearns for choice in all processes and/or the perception of choice and desires structure and customization within all they do. (Strauss & Howe, 2000). Therefore, the standard performance evaluation executed once per year will not be adequate among this group as these individuals require frequent input from their supervisors.

A Look at Two Separate Motivational Theories

Before describing the data, methodology, results and conclusions of this study, it would be interesting to note two relevant theories of motivation. Probably the most widely publicized model of motivation comes from the work of the late Abraham H. Maslow. According to Maslow, only unsatisfied needs are prime sources of motivation. This means that only if you're hungry will you buy, grow or –depending on the extent and duration of your hunger- even steal food to satisfy the primitive physiological need to survive. Likewise, only if you have an intense craving to succeed, will you study and learn as much as you can in order to fulfill this ambition.

Maslow suggested that there are five needs systems which account for most of our behavior. He placed these needs in a hierarchy ranging from the most primitive and immature – in terms, that is, of the behavior they promote – to the most civilized and mature. Looking at Figure 1, note that it features Maslow's hierarchy of five needs systems moving from the basic primate needs to safety, belonging, ego-status, and finally self-actualization.

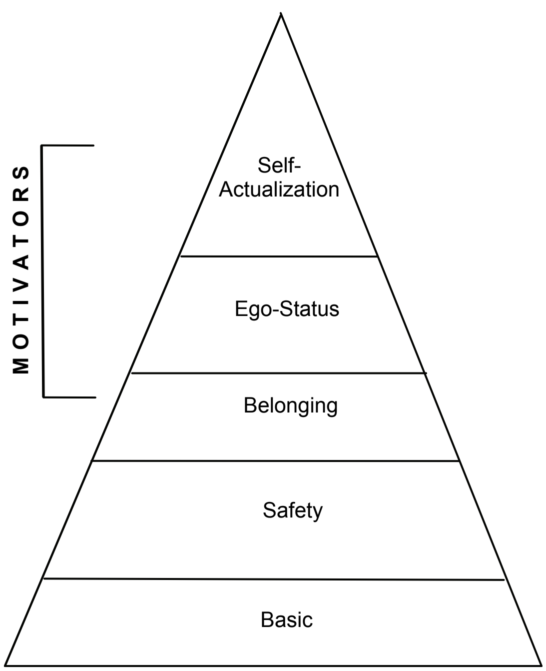
Figure 1: Maslow's Hierarchy of Needs



Again according to Maslow, there is a natural growth trend that allows individuals to experience awareness of, and therefore be motivated by, each of these needs in ascending order. Progress up the Maslow hierarchy may be thought of as roughly equivalent to climbing a ladder one rung at a time; awareness of the next higher rung presupposes successful negotiation of the lower one. The very lowest rung, consisting of the basic needs, reflects the individual concern for survival. Next we move up to the safety rung, which reflects concern for safety and the avoidance of harm. The third rung represents the need of belonging, the normal human desire to be accepted and appreciated by others; the fourth is the level of the ego-status needs, which motivate a person to contribute this or her best to the effects of the group in return for the numerous forms of reward that recognition can assume. And the highest rung on the ladder stands for the self-actualization needs, which are realized when the individual can experience a sense of personal growth and achievement, of satisfaction and self-fulfillment through doing. Maslow didn't mean to imply that any need ever receives complete satisfaction. Rather, he believed that some minimal degree of satisfaction is required before a need ceases to concern the individual to the exclusion of higher needs. Once that point is reached, the person will be free to feel the tensions associated with the next level in the hierarchy and to experiment with a new set of behaviors designed to satisfy the new need.

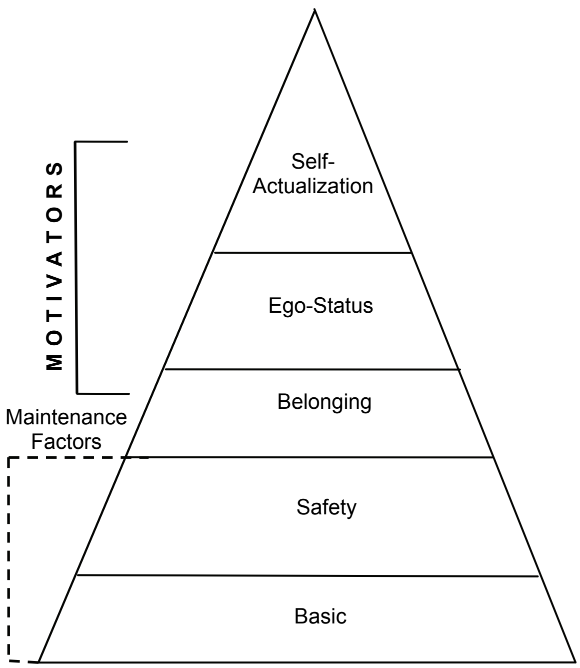
Frederick I. Herzberg took a somewhat different approach to motivation, but his investigations also led him to conclude that needs very similar to those suggested by Maslow were operating in the job context. While Maslow was concerned with the sources of motivation in a general sense, Herzberg focused on those which seemed pertinent to work and work accomplishment. Herzberg concluded that only those needs systems that correspond to Maslow's ego-status and self-actualization levels serve as direct sources of motivation to work effectively. Belongingness concerns, he found, are somewhat linked to work motivation, especially in the area of supervisor-subordinate relationships, and to non-work issues having to do with interpersonal satisfactions. Herzberg called these upper-level needs in Maslow's hierarchy *motivators*. Figure 2 identifies these motivators.

Figure 2 – Maslow's Needs and Herzberg's Motivators



The lower-level needs systems, particularly those concerned with the basic physiological needs and with safety, Herzberg termed potential *dissatisfiers* rather than sources of work motivation. He grouped the belongingness factors, in a sort of overlapping system, with the potential dissatisfiers. All of this is illustrated in Figure 3.

Figure 3 – Maslow's Needs, Herzberg's Motivators and Maintenance Factors



Motivators vs. Maintenance Factors

In his "Two Factor Theory of Motivation," psychologist Frederick I. Herzberg distinguished the factors in the workplace that motivate people (satisfiers) from the maintenance factors, which have the potential to dissatisfy them. (Herzberg, 1968) (see Table 1). According to Herzberg, motivation develops from the challenge of the job itself through responsibility, achievement, recognition, advancement, and growth. Dissatisfaction, if any, results from the maintenance factors, which represent those lower-level needs that employees assume will be adequately met. A good boss and good working conditions are examples of such needs. Few managerial or professional people would say these job factors motivate them most. Yet, the minute a boss or working conditions becomes a principal concern, factors such as interesting job content and opportunity for advancement lose their power to motivate. In short, effective job performance depends on the satisfaction of both motivation and maintenance needs.

An employee's motivation is, of course, affected by his or her age, personal circumstances, external environment, and the current phase of his or her life and career. For instance, "steady employment" and "good pay" often rank higher among all generations during times of economic uncertainty. When the economy is flourishing, employees tend to take these maintenance factors for granted; when unemployment and inflation are high, their principal motivators tend to change.

Table 1: Motivating and Demotivating Factors in the Workplace (According to Herzberg)

Motivators (Satisfiers)	Maintenance factors (Dissatisfiers)
Work itself	Organization policy and administration
Responsibility	Supervision
Achievement	Working conditions
Recognition	Interpersonal relations (with superiors, subordinates, and peers)
Advancement	Salary
Growth	Status
	Job security
	Personal life

DATA AND METHODOLOGY

In collecting data for this study, the authors used the *Work Motivation Checklist* shown in the appendix. Students in various business school classes from Generation X and Y were asked to check the six factors on the list of 25 factors that were most important in motivating them to do their best work on the job. A tally of each of the factors was taken during each class and summarized to show the six most important factors. The results from each class tally was later aggregated to show how the total of 200 students from each Generation ranked the six most important factors. Gordon Lippitt, who developed the checklist and conducted a great deal of research in the field of motivation and personal goal setting, had 6,000 managers complete the exercise during the 1970's and the Director of Executive Programs at Columbia University's Business School had 500 senior level executives complete the same exercise during the 1980's.

RESULTS

Column A in Table 4 indicates the rankings by 6,000 managers who were surveyed during the 1970s. (This & Lippitt, 1970). The managers ranked the following six employment conditions as their principal motivators in the workplace (Table 2). Now compare these results with Column B, the rankings by 500 senior-level executives of different companies and government agencies, who were attending a university executive development program during the 1980's . The factors they considered key motivators are shown in Table 2.

Table 2: Motivators in the Workplace Managers and Senior-level Executives

Managers Response 1970's	**Senior-level Executives Response 1980's**
Respect for me as a person	Respect for me as a person
Good pay	Good pay
Opportunity to do interesting work	Opportunity to do interesting work
Opportunity for self-development and improvement	Feeling my job is important
Large amount of freedom on the job	Opportunity for self-development and improvement
Feeling my job is important	Large amount of freedom on the job

Managers ranking of six employment conditions as their principal motivators in the workplace

It's remarkable how these two groups parallel one another. But, the rankings are not consistent across generational lines as more recent surveys of Generations X and Y reveal. They ranked the following six factors as their principal motivators (See Table 3 and Table 4 Columns C and D).

Table 3: Generation X and Y Principal Motivators

Generation X	Generation Y
Respect for me as a person	Respect for me as a person
Good pay	Good pay
Chance for promotion	Getting along well with others on the job
Opportunity to do interesting work	Chance for promotion
Feeling my job is important	Opportunity to do interesting work
Opportunity for self-development and improvement	Opportunity for self-development and improvement

Although the rankings by Generations X an Y were markedly different from earlier generations, they were close to each other. These young men and women can command relatively good salaries, and they are interested in receiving them. Pay matters to them, not only for economic reasons but also as a symbol of their worth and status. A chance for promotion also is important to them, as is steady employment, a factor very much on their minds, which ranked a close seventh on their list of motivators. The major difference between Generation X and Y is that Getting Along Well with Others on the Job was important to Generation Y as was a chance for Promotion which ranked eighth.

Table 4: Rankings of Workplace Motivators by Generation

	A	B	C	D
1. Steady employment				
2. Respect for me as a person	1	2	3	4
3. Adequate rest periods or coffee breaks				
4. Good pay	1	2	3	4
5. Good physical working conditions				
6. Chance to turn out quality work				
7. Getting along well with others on the job				4
8. Having a local employee paper				
9. Chance for promotion			3	4
10. Opportunity to do interesting work	1	2	3	4
11. Pensions and other security benefits				
12. Not having to work too hard				
13. Knowing what is going on in the organization				
14. Feeling my job is important	1	2	3	
15. Having an employee council				
16. Having a written job description				
17. Being complimented by my boss when I do a good job				
18. Getting a performance rating				
19. Attending staff meetings				
20. Agreement with organizations' objectives				
21. Opportunity for self-development and improvement	1	2	3	4
22. Fair vacation arrangements				
23. Knowing I will be disciplined if I do a bad job				
24. Working under close supervision				
25. Large amount of freedom on the job (chance to work without direct or close supervision)	1	2		
Total Surveys	**6000 Pre-Boomers**	**500 Boomers**	**200 Gen-X**	**200 Gen-Y**

A motivation chart, is a portion of a copyrighted instrument, entitled Work Motivation Checklist, authored by Leslie E. This and Gordon L. Lippitt and used with permission by the authors and the publisher, Development Publication, Washington, DC. (Montana, 1999).

1	*Managers at all levels in 1970's*
2	*Senior-level Executives in 1980's*
3	*College graduates and MBA students 1990's*
4	*Current college students in 2005-2007*

Implications for Management

Business Week on-line, describes Generation Y in this way, "born during a baby bulge that demographers locate between 1979 and 1994, they are as young as (13 and as old as 28) and at 60 million strong, they are the biggest thing to hit the American scene since the 72 million baby boomers. Still too young to have forged a name for themselves, they go by a host of taglines: Generation Y, Echo Boomers, or Millennium Generation. While boomers are still mastering Microsoft Windows, their kids are typing away at computers in nursery school. The Internet is their medium of choice." (Business Week, February 13, 1999).

Carol Hymowitz of the Wall Street Journal reports that "motivating each of these generations to work together requires managers to relinquish a one-style fits-all approach to their subordinates." (Wall Street Journal, July 9, 2007). Understanding the factors that motivate each of these different groups is very important for managers to understand in order to manage effectively. Managers should endeavor to seek opportunities on the job for Generation Y employees to work more with others, whether in teams, on special projects, task forces or committees in order to develop their interpersonal skills, and reward them for effective performance in collaborative efforts. Moreover, more one-on-one coaching and counseling by managers with Generation Y employees may be necessary in selected situations. In this respect, it is interesting to note that among the Personal Competencies for Managerial Success recommended by the AACSB- The Association to Advance Collegiate Schools of Business International are:

Leadership- the ability to influence others to perform tasks
Analytical Thinking- the ability to interpret and explain patterns of information
Behavioral Flexibility- the ability to modify personal behavior to reach a goal
Oral Communications-the ability to express ideas clearly in oral presentations
Written Communications- ability to express one's ideas clearly in writing
Personal Impact- the ability to create a good impression and instill confidence (Montana, 2008). Surely, these personal competencies all involve being able to get along well with others on the job.

Preparing Generation Z- the Next Generation

In a recent survey of Chief Information Officers (CIOs) of more than two hundred corporations, the question asked was: What are the top skills colleges and universities need to be teaching their students that they aren't now? (Computerworld, August 25, 2003). The responses were communication/ people skills, business skills, real world/ hands-on-experience, troubleshooting, project management, analytical skills and integration.

In a survey released at the end of January, 2008 by the Association of American Colleges and Universities, 57% of the business leaders surveyed said that half or fewer of today's college graduates have the full set of skills and knowledge necessary to advance in today's workplace and 40% said a faculty supervisor's assessment of a student's internship in a real-world setting would be "very useful." (USA Today, January 23, 2008). Thus, internships should be developed on a more extensive basis now, and to prepare Generation Z to get real world hands-on-experience, and to get along well with others on the job.

The American Management Association has defined management as working with and through other people in order to accomplish the objectives of the organization and its members. (Montana, 2008). Taking an active role in its employees' career development is an effective way for an organization to meet these mutual expectations. If employees feel that an organization's investment in them is significant and continuous, they will enjoy a greater sense of job security, confident that the organization will be more likely to retain a resource in which it has a major investment. An organization will benefit greatly, not only by satisfying these motivators, but also by gaining a more committed and skilled work force. Increased employee competencies will also help the organization to maintain alignment with its mission.

Management professionals need only look at the effects of simultaneously downsizing and hiring, a practice many organizations have embraced despite its potentially adverse impact on the performance and productivity of organizations as a whole. Career planning and development, through effective management, can ensure that desired competencies will exist in the current and future work force and enable employers to reassign rather than replace talent. The savings realized in the process can, in turn, fund the organization's career planning and development initiatives.

What kind of work environments attract, retain and motivate millennial co-workers? Here are the Six Most Frequent Requests:

You be the leader: This generation has grown up with structure and supervision, with parents who were role models. Millennials are looking for leaders with honesty and integrity. It's not that they don't want to be leaders themselves, they'd just like some great role models first.

Change me: Millennials want learning opportunities. They want to be assigned to projects they can learn from. A recent Randstad employee survey found that "trying new things" was the most popular item. They're looking for growth, development, a career path.

Let me work with friends: Millennials say they want to work with people they click with. They like being friends with co-workers. Employers who provide for the social aspects of work will find those efforts well rewarded by this newest cohort. Some companies are even interviewing and hiring groups of friends.

Let's have fun: A little humor, a bit of silliness, even a little irreverence will make your work environment more attractive.

Respect me: "Treat our ideas respectfully," they ask, "even though we haven't been around a long time."

Be flexible: The busiest generation ever isn't going to give up its activities just because of jobs. A rigid schedule is a surefire way to lose your millennial employees. (Baldwin, Boomer and Ruben, 2008) Finally, in our opinion, these skills apply equally to Preparing Generation Z – The Next Generation.

CONCLUSIONS

In the authors' survey of Generations X and Y, "getting along well with others on the job" (factor 7) surfaced as the leading motivator of Generation Y respondents. It ranked higher than traditional motivators associated with these age groups such as "respect for me as a person," and "feeling my job is important," though these factors ranked in the top six. Getting along well with others on the job could be listed as a hybrid factor, since it has aspects of motivation and maintenance. If you cannot get along well with your boss, you will not be too motivated or satisfied, and if you cannot get along well with your subordinates or peers you will be dissatisfied on the job. Wouldn't it make sense, then, for employers to create an environment in which the factors that motivate employees to achieve will outweigh the maintenance factors, the potential dissatisfiers, although both factors are conditions for motivation.

APPENDIX

Determine What Motivates You: Please indicate the six factors below which you believe are the most important in motivating you to do your best work.

1.	______________________	Steady employment
2.	______________________	Respect for me as a person
3.	______________________	Adequate rest periods or coffee breaks
4.	______________________	Good pay
5.	______________________	Good physical working conditions
6.	______________________	Chance to turn out quality work
7.	______________________	Getting along well with others on the job
8.	______________________	Having a local employee paper
9.	______________________	Chance for promotion
10.	______________________	Opportunity to do interesting work
11.	______________________	Pensions and other security benefits
12.	______________________	Not having to work too hard
13.	______________________	Knowing what is going on in the organization
14.	______________________	Feeling my job is important
15.	______________________	Having an employee council
16.	______________________	Having a written job description
17.	______________________	Being complimented by my boss when I do a good job
18.	______________________	Getting a performance rating
19.	______________________	Attending staff meetings
20.	______________________	Agreement with the organization’s objectives
21.	______________________	Opportunity for self-development and improvement
22.	______________________	Fair vacation arrangements
23.	______________________	Knowing I will be disciplined if I do a bad job
24.	______________________	Working under close supervision
25.	______________________	Large amount of freedom on the job (chance to work without direct or close supervision).

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