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THE EFFICIENCY OF EMERGING STOCK MARKETS: EVIDENCE FROM ASIA AND AFRICA

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ABSTRACT

This paper examines the efficiency in pricing securities as well as the relation between exchange rate and dynamics of equity returns in a number of emerging stock markets from Africa and Asia,. This study utilizes methodologies based on Single variance ratio test of Lo and Mackinlay (1988), multiple variance tests of Chow and Denning (1993), individual variance test based on ranks and signs of Wright (2000), Wild bootstrap test of Chow and Denning introduced by Kim (2006), and joint version of sign test of Wright by Kim and Shamsuddin (2008). Results shows that Egyptian, Moroccan and Indian exchanges are not in conformity with the Random Walk Hypothesis (RWH) from the perspective of both local and international investors. Whereas the first two markets are considered inefficient in pricing equities, from the perspective of both local and international investors, when monthly returns are employed. The Indian market supports that testing for RWH is sensitive to the frequency of data used. It is worth mentioning that empirical results demonstrate also insensitivity of testing of RWH to exchange rate changes. The main significance of our study is the use of the latest test methodologies in analyzing an investment area that is growing in the emerging stock markets.

JEL: G12, G13, G14, G15

KEYWORDS: Emerging Markets, Variance Ratio Test, Wild Bootstrap, Conditional Heteroskedasticity.

INTRODUCTION

Efficiency of stock markets plays important role for the investors to make their investment decision, in fact, it is known that the hypothesis of market efficiency has a strong influence on fund manager international asset allocation. In this light, more and more attention is given to the concept of globalization and movement of investments across countries, and so to emerging markets and their efficiency. Therefore these emerging stock markets become viable alternative for investors seeking international diversifications. According to Random Walk Hypothesis, in efficient market, the asset prices reflect markets' best estimate for the assets' risk and expected return, while in the case of emerging markets are often characterized by a lower volume and frequency of trading and easiness of manipulation by a few larger traders. If correct information fails to be quickly and fully reflected in the stock prices then stock markets are said to be inefficient, who has private information can benefit by anticipating the course of such prices, Borges (2007). Increasing the importance of stock markets in developing countries-emerging markets –is one of the most striking features of the international financial development over the past two decades. This growth is an instrument of increasing the wheel of development in those countries, so for many reasons, the ability to attract inward portfolio investment, improve the pricing and availability of capital for domestic investment, and boost domestic savings. However the ability of emerging stock markets to play that role depends on their efficiency. If they are to help improve the operation of the capital market, then the role of stock markets in the allocation and pricing of capital, and the pricing of risk, is crucial.

The importance of the efficiency of stock markets comes also from the way in which they make evaluation of market firm. The discount rate that represents shareholder's required rate of return is established as a result of benchmark rates in the stock markets such as the Risk-Free Rate (RF) and the

market risk premium. If stock prices accurately reflect future firm performance, then this creates the premises for efficient resource allocation. On the other hand, if stock prices are formed inefficiently, that creates the potential for inappropriate investments in the economy and firms that should face high costs of raising capital are actually able to raise it cheaper, hence the result can be severe social costs.
This evolution in African and Asia stock markets has been based on a number of factors. Where many African and Asian countries have implemented economic reform programs and that in the process of transformation, through privatization programs to maximize the role of the private sector in the national economy. As a result of this transformation markets obtained the power to rule in prices determining and allocate the financial resources. Furthermore, this economic reform has implication on financial sector which lead to establish many of the new stock markets, and improve the existing stock markets through providing a supply of new shares and a further boost to stock market development, that is by involving the listing of shares in formerly nationalized companies.

In order to assess the efficiency of the financial market, many methodologies can be considered, starting from variance ratio tests, introduced by Lo and Mackinlay (1988), by applying single variance ratio test, its direct evolution multiple variance test of Chow and Denning (1993), to variance ratio (VR) based on ranks and signs of Wright (2000), till more recent approaches as Whang–Kim sub-sampling tests of Whang and Kim (2003), and the wild bootstrapping of Chow and Denning test introduced by Kim (2006).

The purpose of this paper is to contribute to the debate by examining some issues concerning the efficiency of market and the relation between exchange rate and equity returns. These issues have not been examined so far for both Asian and African stock markets together, so this paper attempts to fill that gap by addressing the following objectives, which are (1) to examine the Random Walk Hypothesis (RWH) for stock prices in Asian and African emerging Markets. This theory affirms that stock price changes have the same distribution and are independent of each other, so the past movement or trend of a stock price or market cannot be used to predict its future movement. (2) to determine whether exchange rates affect tests of equity returns in emerging markets. (3) to investigate whether large capitalization stocks follow a random walk. The main significance of our study of these objectives is the use of the latest test methodologies in analyzing an investment area that is growing in the emerging stock markets. The rest of this paper is organized as follows: Section 2 describes a survey of the previous works in this area. Section 3 presents methodology used to analyze the role of the financial analysts' information to feed the bubble, while Section 4 discusses the data and next one empirical results. Section 6 provides some concluding remarks.

LITERATURE REVIEW

This paper is concerned with testing for the consistency with the random walk hypothesis (RWH) in some selected stock exchanges in Africa and Asia. Very huge evolution in testing for the RWH took place during the past decades. Literature includes many direct tests aims at investigating whether stock prices are predictable based upon past prices as technical analysis in Elaine (2007). It is well known that unit root tests (e.g. Augmented Dickey-Fuller test) lack power and, therefore, they are unable to reject the RWH against the stationarity alternative when the null hypothesis is, in fact, false, though improvement are achived by and unit root tests of Marashdeh and Shrestha (2008).

Since the seminal paper of Lo and Mackinlay (1988) in which they introduced their VR test, many empirical studies applied the test or more sophisticated versions of VR as introduced by Chow and Denning (1993).

Lo and Mackinlay (1988) introduced their single variance ratio (VR) tests by utilizing the property of random walk that if the natural logarithms of asset prices follow a random walk, then the variance q-difference of asset prices should be q times of its first difference. In other words, VR (q) of (1/q) th of the

variance of q-holding -period return to that of one-holding-period return has to be unity for all q. They derived two test statistics, under the assumptions of homoscedasticity and heteroskedasticity, which are asymptotically normally distributed. Since then, the methodology of VR has been received a lot of attention and developments. Chow and Denning (1993) criticized the aforementioned VR tests where the null hypothesis is tested for an individual value of holding period, q. They argued that question as whether or not stock prices obey the RWH requires that the null hypothesis hold true for all holding periods of q. Accordingly, this necessitates conducting a joint test where a multiple comparison of VRs over a set of different time horizons is made. So, the weakness of approach of Lo–MacKinlay is that it ignores the joint nature of testing for the RWH and, thus, it may involve much larger Type I error than the nominal level of significance. To avoid this problem, Chow–Denning (1993) invented a joint test with controlled size. They treated the test statistics of Lo and Mackinlay (1988) as Studentized Maximum Modulus (SMM) variates.

Both Lo–MacKinlay and Chow–Denning tests are asymptotic tests, whose sampling distributions are approximated based on their limiting distributions, which may have deficiencies especially when the sample size is not large enough to justify asymptotic approximations. To overcome this problem, literature proceeded into two directions. First, Wright (2000) introduced new VR tests based on ranks and signs which are exact tests. Wright's (2000) tests have two advantages over Lo–MacKinlay and Chow–Denning tests when sample size is relatively small: (1) the sign and rank tests have exact sampling distribution and, hence, there is no need to resort to asymptotic approximation and (2) sign and rank tests are more powerful than the conventional VR tests when the data are highly non-normal. Second, Kim (2006) established the wild bootstrap of the test statistic robust for heteroskedasticity of Chow and Denning (1993). By employing bootstrap, a re-sampling method which approximates the sampling distribution of a statistic, Kim (2006) tackled the problem of small samples. Taking into account that the test introduced by Kim (2006) does not ignore the joint nature of the VRs in testing for the RWH and it is applicable to data with unknown forms of conditional and unconditional heteroskedasticity, it is considered to be one of the most important tests employed for the RWH. Kim and Shamsuddin (2008) reported that Monte Carlo simulations test of non-parametric tests show superior small sample properties to those of the conventional Chow–Denning test.

Smith et al (2002) applied the methodology of multiple variance ratios of Chow and Denning (1993) to test for RWH in a number of African markets. They divided the studied markets into four groups: big-sized market [e.g. South Africa], medium-sized markets (e.g. Egypt), small new markets, including exchanges experienced rapid growth, (e.g. Botswana and Ghana), and small new markets (e.g. Zambia and Malawi) which have yet to take off. Using weekly data, their results showed that the RWH null hypothesis is rejected for all stock markets, with the exception of South Africa which is found to be consistent with the RWH. The South African exchange obeying the RWH can be attributed to the fact that its financial sector is relatively sophisticated which facilitates information flows, in a manner that one would expect of a developed stock market, to all market participants. The authors reported number of reasons for efficiency of the South African stock market such as; size, as the value of capitalization and turnover on South Africa stock market is ten times of the next largest market, liquidity that because of the low level of turnover for some stocks which are not traded from one period to the next, and the fact that Africa stock market is more `institutionally mature' than other African markets.

Employing joint variance ratio tests based on ranks and signs and wild bootstrapping Chow and Denning (1993) test, Smith and Rogers (2006) used data of four stock index futures and 36 single stock futures to investigate the weak-form efficiency. They confirmed the evidence of efficiency for South Africa stock market Smith et al (2002), with exception of 11 of the single stock futures rejected RWH. This rejection caused by the noise effect which is common especially in individual stock prices and single stock futures causing detection of predictable components difficult.

For examining the presence of random walk in Istanbul Stock Exchange (ISE), Buguk and Brorsen (2003) followed four different tests the Augmented Dickey–Fuller test, GPH fractional integration test of Cheung and Lai(1993) , single variance ratio test of Lo and Mackinlay (1988) and finally single VR based on ranks and signs of Wright (2000). Using weekly data for the time period 1992 to 1999. All the tests employed confirmed the presence of random walk except the rank- and sign-based variance ratio test shows inconsistency with RMH. This rejection is caused by the weakness of the tests used and the advantage of Wright's test (2000) over the others tests, as the sign and rank tests have exact sampling distribution and, hence, there is no need to resort to asymptotic approximation ,and they are more powerful than the conventional VR tests when the data are highly non-normal.

To investigate whether the stock price index in Emirates securities markets meets the criterion of weak form market efficiency, Marashdeh, and Shrestha (2008) applied Perron (1997) models to test for a unit root in the presence of one endogenously determined structural break. Using daily stock market index data over the period 31 August 2003 to 13 April 2008, the test demonstrated that the Emirates securities market data contains unit root and follow a random walk, which approved that the market meets the criterion of weak form market efficiency. The results are contradict with the one which Squalli (2006) obtained. As he employed the VR of LO and Mackinlay (1988) and the non-parametric runs tests to investigate whether the Dubai Financial Market (DFM) and the Abu Dhabi Securities Market (ADSM) are in conformity with the RWH. Employing daily data of sector indexes for the period 2000-2005, he found that, except for the banking sector in the DFM, VRs are significantly less than unity. This implies the presence of negative serial correlation in employed return series which can be seen as an indicator for the presence of bubble in an emerging market. Interestingly, the contradiction of the results is illustrated by the difference of methodologies.

Using VR of Lo and Mackinlay (1988) solved the shortcomings of unit root test as they are lack power and, therefore, they are unable to reject the RWH against the stationarity alternative when the null hypothesis is, in fact, false. Hoque et al (2007) examined eight emerging equity markets in Asia (Hong Kong, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand). He employed four tests to test whether returns of these markets obey the martingale difference sequence, namely single VR test of Lo and Mackinlay (1988), multiple MVR test of Chow and Denning (1993), single VRs based on ranks and signs of Wright (2000), and sub-sampling tests of Whang and Kim (2003). Using weekly price data for time period 1990 to 2004, the author found evidence of an inefficient for all eight emerging equity markets with exception for Taiwan and Korea which obey RMH.

To test for the RWH in a number of Asian markets, Kim and Shamusuddin (2008) employed three versions of multiple variance ratio; namely Chow and Denning (1993) test, the wild bootstrapping of Chow and Denning test introduced by Kim (2006), and joint signs of Wright (2000). Using daily and weekly data from 1990 to 2005, their empirical results showed consistency of Hong Kong, Japanese, Korean and Taiwanese markets with RWH. On the other hand, Indonesia, Malaysia and Philippines are found to be inconsistent with RWH. Empirical results demonstrated also changes in some stock markets behavior after the Asian crisis. For example, Singaporean and Thai markets have obeyed the RWH after the Asian crisis in 1997. Mishra et al (2009) studied the efficiency of Indian stock market during the global financial crisis. The study utilized methodology based on Augmented Dickey-Fuller test and Poterba and Summers (1988) implication of market inefficiency. Employing daily stock returns, the author suggested the existence of mean reversion illusion in India. In the same research context, some years before, Gupta et al., (2007), find evidence of weak form of efficiency for Indian Stock Market.

ECONOMETRIC METHODOLOGY

The current part of the study is concerned with introducing different versions of VRs used to test for the RWH which is equivalent to testing for weak-form market efficiency. The methodology of VRs, used in

this paper, is based on the fact that variance of the random walk is positively correlated with time and the relationship between them is linear. This property of the random walk is applicable for strong random walk, where returns are independently and identically distributed (IID) as represented by equation (1) and weak random walk where returns follow martingale difference sequence (MDS) .(Campbell et al., (1997)).
Consider the following equation to describe random walk model.

$$\rho_t = \mu + \rho_{t-1} + \varepsilon_t , \qquad \varepsilon_t \sim \text{IID}(0, \sigma^2) \tag{1}$$

Or

$$\alpha_t = \mu + \varepsilon_t, \qquad \varepsilon_t \sim \text{IID}(0, \sigma^2) \tag{2}$$

Whereρ_t donate the log of the return series under the consideration of time , μ is drift parameter and the expected value of random error term ε_t is zero for all t, finite variance and they (ε_t) are independently and identical distributed (IID). So, any conditional heteroskedasticity is excluded.

Single Variance Ratio of Lo and Mackinlay (1988)

Lo and Mackinlay (1988) introduced their single variance ratio (VR) tests by utilizing the property of random walk that if the natural logarithms of asset prices follow a random walk, then the variance *q*-difference of asset prices should be *q* times of its first difference. In other words, *VR (q)* of *(1/q) th* of the variance of *q*-holding -period return to that of one-holding-period return has to be unity for all *q*. They derived two test statistics, under the assumptions of homoscedasticity and heteroskedasticity, which are asymptotically normally distributed. Since then, the methodology of VR has been received a lot of attention and developments.

$$VR(q) = \frac{\sigma^2(q)}{\sigma^2\,(1)} \tag{3}$$

Where σ^2 (q) is the unbiased estimator of 1/q of the variance of the qth difference and σ^2 (1) is the variance of the first difference. Where σ^2 (q) and σ^2 (1) can be calculated as the following:

$$\sigma^2\,(q)=\frac{1}{m}\sum_{t=q}^{nq}(\rho_t - \rho_{t-q} - q\mu)^2 \tag{4}$$

Where:

$$M=q\,(nq-q+1)\left(1-\frac{q}{nq}\right)$$

And

$$\sigma^2(1)=\frac{1}{(nq-1)}\sum_{t=1}^{nq}(\rho_t - \rho_{t-1} - \mu)^2 \tag{5}$$

Where:

$$\mu = \frac{1}{nq}(\rho_{nq} - \rho_0)$$

ρ_0 and ρ_{nq} are the first and last observations of the time series.

Lo and Mackinlay (1988) derived two test statistics to test for RWH under the assumptions of both homoscedasticity and heteroskedasticity. These test statistics are represented below by equations (6) and (7) respectively. Both test statistics are asymptotically, and normally distributed with mean zero and variance M1(q) and M2(q) are (0,1). As the test statistics are normally distributed with (0,1), the critical values of the standard normal distribution are used to make the decision rule. Accordingly, if the absolute value of the calculated test statistics (i.e. M1(q) and M2(q)) exceeds the critical values of 2.58(1%) and 1.96(5%),the null hypothesis of RWH should be rejected at 1% and 5% levels of significance respectively.

$$M1(q) = \frac{VR(q)-1}{(V*(q))^{1|2}} \quad N(0,1) \tag{6}$$

$$M2(q) = \frac{VR(q)-1}{(V*(q))^{1|2}} \quad N(0,1) \tag{7}$$

Where M1(q) and M2(q) represent the asymptotic Variance respectively under homoscedasticity and heteroskedasticity. If VR does not significantly differ from one, the null hypothesis of RWH is accepted. If VR significantly exceeds one, the null hypothesis of RWH is rejected which indicating that returns are positively serially correlated. If VR significantly found to be less than unity, the null hypothesis of RWH is reject with negatively serially correlated returns which match with findings of Lo and Mackinlay (1988).

Multiple Variance Tests of Chow and Denning (1993)

Multiple variance ratios (MVR) of Chow and Denning (1993) used the Studentized Maximum Modulus (SMM) distribution to conduct such joint test. They criticized VR tests where the null hypothesis is tested for an individual value of holding period, q. They argued that question as whether or not stock prices obey the RWH requires that the null hypothesis hold true for all holding periods of q. Accordingly, this necessitates conducting a joint test where a multiple comparison of VRs over a set of different time horizons is made. So, the weakness of approach of Lo–MacKinlay is that it ignores the joint nature of testing for the RWH and, thus, it may involve much larger Type I error than the nominal level of significance. Namely, the probability of incorrect rejection of the true null hypothesis can be quite larger than the chosen level of significance. To avoid this problem, Chow–Denning (1993) invented a joint test with controlled size. They treated the test statistics of Lo and Mackinlay (1988) as Studentized Maximum Modulus (SMM) variates.

$$Mr(q) = \frac{\sigma_q^2(q)}{q\sigma_1^2(q)} - 1.0 \tag{8}$$

As Mr (q_i) is a set of m variance ratio estimates=1,2,…. and m corresponding to selected values of the aggregation (observation) intervals (q_i). Under the random walk hypothesis which are:

$$H_{0i}: M_r(q_i) = 0 \qquad for\ i = 1,2,\ldots$$
$$H_{1i}: M_r(q_i) \neq 0 \qquad for\ any\ i$$

These two statistics are appropriate to test an individual variance ratio, i.e. for a given value k. However, under the null hypothesis any variance ratio must be equal to one, so that a more powerful approach is a comparison of all selected variance-ratios with unity. Let k_i be any integer greater than one with $k_i \neq k_j$ for $i \neq j$, Chow and Denning formulate the null hypothesis as H0 : V R(k_i) = 1 for i = 1; 2,…,m, and define their statistics as:

$$\mathrm{MVR}_1(\mathrm{m}) = \max_{1\le i\le m} |\mathrm{MVR}_1(\mathrm{K_i})|$$
$$\mathrm{MVR}_2(\mathrm{m}) = \max_{1\le i\le m} |\mathrm{MVR}_2(\mathrm{K_i})|$$

Single VR Based on Ranks and Signs of Wright (2000)

Both Lo–MacKinlay and Chow–Denning tests are asymptotic tests, whose sampling distributions are approximated based on their limiting distributions, which may have deficiencies especially when the sample size is not large enough to justify asymptotic approximations. Wright (2000) introduced new VR tests based on ranks and signs of the returns series which are exact tests.
Given the series of asset returns, ε_t with associated ranks r(ε_t), Wright (2000) defined two random variables:

$$r_{1t} = \left(r(\varepsilon_t) - \frac{T+1}{2}\right) \Big/ \sqrt{\frac{(T-1)(T+1)}{12}} \tag{9}$$

Which has sample mean and variance of 0 and 1, respectively, and

$$r_{2t} = \phi^{-1}(r(\varepsilon_t)/(T+1)) \tag{10}$$

As $\mathrm{r}(\varepsilon_t)$is the rank of $\mathrm{y_t}$ among $\varepsilon_1, \varepsilon_2, \varepsilon_3, \ldots\ \varepsilon_T$ in the first equation, for the second one ϕ is defined to be the standard cumulative distribution function. The series of $\mathrm{r_{1t}}$ should be simple linear transformation of the ranks while $\mathrm{r_{2t}}$ is inverse normal. Both are with sample mean zero and sample variance approximately one.
The null hypothesis of random walk is rejected if observed R1, R2, and S exceed their corresponding values obtained from Monte Carlo simulation, which are shown as following:

$$R_1 = \left(\frac{\frac{1}{Tq}\sum_{t=q+1}^{T}(r_{1t}+r_{1r-1}+\cdots+r_{1t-q})^2}{\frac{1}{T}\sum_{t=1}^{T} r_{1t}^2} - 1\right)\left(\frac{2(2q-1)(q-1)}{3qT}\right)^{-1/2} \tag{11}$$

$$R_2 = \left(\frac{\frac{1}{Tq}\sum_{t=q+1}^{T}(r_{2t}+r_{2r-1}+\cdots+r_{2t-q})^2}{\frac{1}{T}\sum_{t=1}^{T} r_{2t}^2} - 1\right)\left(\frac{2(2q-1)(q-1)}{3qT}\right)^{-1/2} \tag{12}$$

Wright (2000) used the signs of returns instead of its ranks to modify the variance ratio tests which imply for any series $\mathrm{y_t}$ as u $(\mathrm{y_t} > q) - 0.5$ by getting result whether is $\frac{1}{2}$ if $\mathrm{y_t}$ is positive or -$\frac{1}{2}$ if $\mathrm{y_t}$is negative. as $\mathrm{S_t}$=2u $(\mathrm{y_t}, 0)$=2u, where $\mathrm{S_t}$ is a series with mean equal to zero and variance equal to the unit.
$\mathrm{S_t}$ takes value 1 with probability -$\frac{1}{2}$ and -1 with probability $\frac{1}{2}$, variance ratio tests using signs returns can be define as the following :

$$\mathrm{S}=\left(\frac{\frac{1}{Tq}\sum_{t=q+1}^{T}(s_t+s_{t-1}+\cdots.+s_{t-q})^2}{\frac{1}{T}\sum_{t=1}^{T} s_t^2} - 1\right)\left(\frac{2(2q-1)(q-1)}{3qT}\right)^{\frac{-1}{2}} \tag{13}$$

Wild bootstrap of Chow and Denning Test Introduced by Kim (2006)

The wild bootstrap of MVR2 test statistic of Chow and Denning (1993) introduced by Kim (2006) is alternative of VR tests, as it is re-sampling method which approximates the sampling distribution of a statistic. The test is applicable to data with unknown forms of conditional and unconditional heteroskedasticity. This test has to be considered recently as mostly effective for econometrics problems. The test based on three stages:

1. Form bootstrap sample of T observations $\varepsilon_t^* = \eta_t \varepsilon_t$ (t =1,. . . T) Where η_t is a random sequence with $E(\eta_t)=0$ and $E(\eta_t^2)=1$.
2. Calculate MVR2*= MVR2 (ε^*,q_j), the MVR2 (ε,q_j) statistic obtained from the bootstrap sample.
3. Repeat (1) and (2) sufficiently many m times to form a bootstrap distribution of the test statistic$\{MVR2\ (\varepsilon^*;\ qj;\ j)\}_{j-1}^{m}$.
4. The test of P value can be calculated as the proportion of $\{MVR2\ (\varepsilon^*;\ qj;\ j)\}_{j-1}^{m}$ greater than the sample value of MVR2 (ε,q_j).

Joint Sign Test Introduced by Kim and Shamsuddin (2008)

Kim and Shamsuddin (2008) joint tests have superior size and power properties in small samples compared to conventional multiple horizon variance ratio tests. As the Joint sign statistic also has an exact sampling distribution, and its critical values can be obtained by simulation in a similar way as that of S given in equation (13). The null hypothesis is rejected when the observed JS statistic is greater than the critical value.

Data

In this paper the main data comprises weekly and monthly national stock prices indices in both domestic (local) currency and the US dollar for 6 emerging stock markets form Africa and Asia. Egypt, Morocco and South Africa are chosen to be as representatives of Africa .On the other hand, India, China, and Indonesia are chosen to be as representatives of Asia. These national stock indices are obtained from Thomson Financial DataStream (MSIC). The MSIC stock indices are value-weighted and are reformed for dividend payments. Three of these 6 series China, India, and South Africa cover the period from 1/1/1993 to 1/1/2010, while two series Egypt and Morocco run a little shorter from to 12/30/1994 to 1/1/2010. Finally Indonesia from 12/30/1990 to1/1/2010. The examining evidences have very importance role in Asia and Africa. Indeed, all these markets are characterized with the rapid growth, the commitment to the rules of the international market, and furthermore, these markets have different economic and institutional systems, which would confer on the search side of the comparison and variety.

Using local currency and US dollar for a reason that exchange rates affect in the determination of emerging markets' stock returns' dynamics. The attractiveness of investing in emerging markets, especially in the countries which are well known with exchange rate regime instability, depends on the different equity dynamics return for international and local investors.

The tests in this paper are based on asymptotic approximations, which require a large number of observations. Using weekly and monthly data are deriving a large number of observations and lower biased than daily. Therefore, weekly and monthly are the ideal alternative of using daily data.

EMPIRICAL RESULTS

Empirical Results from Local Investors' Perspective

Tables (3) and (4) show results of VR tests, based on Lo and Mackinlay (1988) approach, on weekly and monthly returns denominated in local currencies, for intervals 2, 4, 8, and 16, with the base of one week (month). From Table (1), except for Egypt in interval 2 when M2(q) is employed, the RWH has to be rejected, at conventional levels of significance, for Egypt and Morocco as the VRs are found to be significantly larger than one for all holding periods whether M1(q) or M2(q) is used. This result indicates that return series in both Egypt and Morocco are positively serially correlated which agree with the fact that these stock exchanges witnessed growth during the investigated period. It is worth mentioning that rejections under heteroskedasticity, for Egypt and Morocco, are weaker than rejections under the assumption of homoscedasticity as indicated by the fact that each M2(q) is less than its corresponding M1(q). Thus, RWH is partially rejected due to changes in variance but the main reason for such rejections is still the violation of randomness as the test statistic M2(q), which is robust for heteroskedasticity, reject the null of RWH. On the other hand, according to the test statistic robust for heteroskedasticity M2(q), all other markets are said to be efficient in pricing securities as the null hypothesis of RWH has to be accepted except for India in intervals 4 and 16.

Table (1): Variance Ratio Tests for Intervals 2, 4, 8, and 16 on Weekly Returns - (Local Currencies)

Index	Egypt	Morocco	South Africa	India	China	Indonesia
No of obs.	783	783	887	887	887	992
q = 2	VR(q)= 1.089	VR(q)= 1.115	VR(q)=0.981	VR(q)= 1.053	VR(q)= 0.9862	VR(q)= 0.9651
	$M_1(q)$= 2.435** [×]	$M_1(q)$= 3.100* [√]	$M_1(q)$=-0.624	$M_1(q)$= 1.505	$M_1(q)$=-0.4963	$M_1(q)$=-1.157
	$M_2(q)$= 1.842	$M_2(q)$= 2.103** [×]	$M_2(q)$=-0.4480	$M_2(q)$= 1.205	$M_2(q)$=-0.3860	$M_2(q)$= -0.6744
q = 4	VR(q)= 1.235	VR(q)= 1.277	VR(q)=1.011	VR(q)=1.178	VR(q)= 1.099	VR(q)= 1.070
	$M_1(q)$= 3.380* [√]	$M_1(q)$=3.980 * [√]	$M_1(q)$= 0.0732	$M_1(q)$= 2.710* [√]	$M_1(q)$=1.462	$M_1(q)$=1.074
	$M_2(q)$= 2.476** [×]	$M_2(q)$= 2.773* [√]	$M_2(q)$=0.0543	$M_2(q)$=2.168** [×]	$M_2(q)$=1.172	$M_2(q)$= 0.6424
q = 8	VR(q)= 1.483	VR(q)= 1.441	VR(q) =1.063	VR(q) =1.255	VR(q)= 1.246	VR(q)= 1.260
	$M_1(q)$= 4.318* [√]	$M_1(q)$= 3.903* [√]	$M_1(q)$= 0.468	$M_1(q)$=2.371** [×]	$M_1(q)$= 2.283** [×]	$M_1(q)$=2.587* [√]
	$M_2(q)$= 3.129* [√]	$M_2(q)$= 2.859* [√]	$M_2(q)$=0.3501	$M_2(q)$=1.940	$M_2(q)$=1.845 [×]	$M_2(q)$=1.545
q = 16	VR(q)=1.945	VR(q)= 1.707	VR(q) =1.053	VR(q)=1.391	VR(q)= 1.363	VR(q)=1.239
	$M_1(q)$= 5.542 * [√]	$M_1(q)$= 4.054* [√]	$M_1(q)$= 0.1232	$M_1(q)$=2.331** [×]	$M_1(q)$= 2.152** [×]	$_1(q)$= 1.449
	$M_2(q)$= 4.115* [√]	$M_2(q)$=3.136 * [√]	$M_2(q)$= 0.094	$M_2(q)$=1.972** [×]	$M_2(q)$=1.777	$M_2(q)$=0.9054

**, ** indicate significance at 1% and 5% when compared with critical values of 2.576 and 1.96 (of the standard normal distribution) respectively. The symbol [√] indicates that the VR is statistically different from unity at the 5% level of significance when compared with the SMM critical value of 2.491. The symbol [×] indicates an inferential error in which the variance ratios are separately statistically different from unity according to the standard normal distribution critical values, however; they are insignificant compared with the SMM distribution critical values.*

According to Table (2), the VRs are found to be significantly larger than unity for all holding periods, whether M1(q) or M2(q) is employed, implying the presence of positive serial correlation in Egyptian return series. In contrast, as indicated by the test statistic robust for heteroskedasticity M2(q), all other markets are found to be efficient in pricing equities as the null hypothesis of prices obey the RWH has to be accepted except for Morocco in intervals 8 and 16. In Tables (1) and (2), the calculated test statistics are compared with the SMM distribution critical value of 2.491 (corresponding to a 5% level and m=4). It appears that as calculated test statistics are large enough, for example Egyptian weekly returns for

intervals 8 and 16 and monthly return in all holding periods, the RWH is rejected when critical value of SMM distribution is employed. Hence, Egyptian weekly and monthly returns (local currency) are not consistent with RWH according to both single and multiple VR tests. On the other hand, when test statistics are not large enough, for example weekly Indian returns in interval 16 and monthly returns of Morocco in holding period 8, inferential errors have been highlighted. Such inferential errors arisen from using the single VR tests and ignoring the joint nature of the VR approach to testing the RWH. Accordingly, an incorrect rejection of the null hypothesis of the RWH is made when calculated test statistics are compared with critical values of standard normal distribution and not by the critical value of SMM distribution.

Table (2): Variance Ratio Tests for Intervals 2, 4, 8 and 16 on Monthly Returns

Index	Egypt	Morocco	South Africa	India	China	Indonesia
No of obs.	**180**	**180**	**203**	**203**	**203**	**228**
q = 2	VR(q)=1.276	VR(q)= 1.049	VR(q)= 0.991	VR(q)= 1.134	VR(q)= 1.114	VR(q)= 1.154
	$M_1(q)$=3.505* [√]	$M_1(q)$=0.5022	$M_1(q)$=-0.2603	$M_1(q)$= 1.745	$M_1(q)$=1.472	$M_1(q)$= 2.175** [×]
	$M_2(q)$= 2.713* [√]	$M_2(q)$= 0.429	$M_2(q)$= 0.2631	$M_2(q)$=1.676	$M_2(q)$=1.056	$M_2(q)$=1.560
q = 4	VR(q)=1.645	VR(q)= 1.255	VR(q)=0.984	VR(q)= 1.241	VR(q)= 1.216	VR(q)= 1.103
	$M_1(q)$= 4.240* [√]	$M_1(q)$= 1.536	$M_1(q)$=-0.344	$M_1(q)$= 1.557	$M_1(q)$= 1.374	$M_1(q)$= 0.602
	$M_2(q)$=3.505 * [√]	$M_2(q)$= 1.340	$M_2(q)$= 0.3011	$M_2(q)$=1.536	$M_2(q)$=1.039	$M_2(q)$=0.4421
q = 8	VR(q)=2.240	VR(q)= 1.611	VR(q)= 0.883	VR(q)= 1.361	VR(q)= 1.146	VR(q)= 1.175
	$M_1(q)$=4.847 * [√]	$M_1(q)$= 2.215** [×]	$M_1(q)$= -0.851	$M_1(q)$= 1.296	$M_1(q)$= 0.330	$M_1(q)$= 0.528
	$M_2(q)$=4.183* [√]	$M_2(q)$= 1.973** [×]	$M_2(q)$= -0.729	$M_2(q)$=1.267	$M_2(q)$=0.261	$M_2(q)$= 0.398
q = 16	VR(q)=2.740	VR(q)= 2.332	VR(q)= 0.838	VR(q)= 1.167	VR(q)= 1.183	VR(q)= 0.9093
	$M_1(q)$= 3.968* [√]	$M_1(q)$= 2.924* [√]	$M_1(q)$= -0.911	$M_1(q)$= 0.003	$M_1(q)$= 0.047	$M_1(q)$= -0.7110
	$M_2(q)$= 3.656* [√]	$M_2(q)$= 2.776 * [√]	$M_2(q)$= 0.7290	$M_2(q)$=0.0021	$M_2(q)$=0.0383	$M_2(q)$= -0.5571

**, ** indicate significance at 1% and 5% when compared with critical values of 2.576 and 1.96 (of the standard normal distribution) respectively. The symbol [√] indicates that the VR is statistically different from unity at the 5% level of significance when compared with the SMM critical value of 2.491. The symbol [×] indicates an inferential error in which the variance ratio is separately statistically different from unity according to the standard normal distribution critical values, however; it is insignificant compared with the SMM distribution critical values*

These findings agree with findings of Karemera et al (1999) and Chow and Denning (1993) who highlighted inferential errors arisen from using the single VR tests and ignoring the joint nature of the VR approach to testing the RWH). For this reason, caution should be paid to research employed the single VR of Lo and Mackinlay (1988) in testing for RWH.

Taking into account that both Lo and Mackinlay (1988) and Chow and Denning (1993) tests are asymptotic tests may show small sample deficiencies as their sampling distributions are approximated by their limiting distribution. We employ VR test based on ranks and signs introduced by Wright (2000). Based on 5000 Mont Carlo trials, as described in Wright (2000), Table (3) presents the critical values of R1, R2, and S1 tests associated with the sample sizes and holding periods.

Results of VR tests based on ranks and signs for weekly and monthly returns of employed indexes, when returns are denominated in local currencies, are reported in Table 6-panels A and B respectively. R1, R2, and S1 statistics do agree in rejecting the null of RWH for all holding periods, at 1% level of significance, for weekly returns of Morocco – as the observed test statistics are greater than their corresponding critical values obtained from Monte Carlo simulation reported in Table 2.

Similarly, except for R1in intervals 8 and 16 for weekly returns, the three test statistics agree in rejecting the null of RWH for all holding periods, at 1% level of significance, for weekly and monthly returns of

Egypt. All rejections are in the right tail of the distribution implying that return series of Morocco and Egypt are positively serially correlated. With contradiction of results based on the methodology of Lo and Mackinlay (1988), the Chinese stock exchange is found to be violating the RWH.

The null is rejected according to the three test statistics in intervals 2 and 4, for monthly returns and in intervals 8 and 16 for weekly returns. The aforementioned test statistics agree that weekly and monthly returns of South Africa in all intervals, monthly returns of India for all holding periods, and monthly returns of Indonesia in intervals 4, 8, and 16 obey the RWH.

Table (3): Critical Values for WRIGHT's R1, R2, and S1

Sample size		**Holding period**							
		q=2		q=4		q=8		q=16	
		1%	5%	1%	5%	1%	5%	1%	5%
T=783 :	R_1	-2.644, 2.51	-2.027 , 1.921	-2.490 ,2.560	-1.980 ,1.920	-2.573 ,2.521	-1.989 ,1.899	-2.403,2.617	-1.966 ,1.830
	R_2	-2.596, 2.495	-1.996, 1.894	-2.624 ,2.555	-1.976 ,1.929	-2.508 ,2.639	-1.991,1.879	-2.356,2.617	-1.950,1.823
	S_1	-2.68 , 2.609	-2.037, 1.965	-2.521,2.559	-1.948 , 2.043	-2.422,2.712	-1.915 ,2.011	-2.322,2.750	-1.859,1.936
T= :887	R_1	-2.577,2.504	-2.034 ,1.865	-2.538,2.442	-1.936,1.903	-2.504 ,2.517	-1.962 ,1.897	-2.417,2.467	-1.957,1.807
	R_2	-2.574,2.494	-2.065 ,1.904	-2.481, 2.485	-1.945 ,1.907	-2.461 ,2.547	-1.966 ,1.888	-2.428 ,2.522	-1.961 ,1.856
	S_1	-2.518 ,2.383	-1.913 , 1.846	-2.512, 2.584	-1.956 ,1.938	-2.383 ,2.701	-1.924 ,1.958	-2.305,2.629	-1.861 ,1.889
T= :992	R_1	-2.682,2.486	-2.057,1.875	-2.576,2.507	-1.983,1.915	-2.492,2.703	-1.993,1.839	-2.416,2.672	-1.948,1.854
	R_2	-2.691,2.559	-2.025,1.902	-2.561,2.538	-2.018,1.892	-2.510,2.736	-2.008,1.881	-2.486,2.628	-1.959,1.849
	S_1	-2.540,2.540	-1.968,1.841	-2.511,2.596	-1.968,1.934	-2.388,2.661	-1.926,1.948	-2.308,2.672	-1.916,1.951
T= :180	R_1	-2.801,2.451	-2.186,1.797	-2.580,2.619	-2.053,1.843	-2.379,2.705	-1.943,1.849	-2.090,2.409	-1.835,1.577
	R_2	-2.776,2.457	-2.220,1.804	-2.598,2.618	-2.061,1.807	-2.345,2.702	-1.961,1.769	-2.090,2.379	-1.834,1.615
	S_1	-2.683,2.534	-2.086,1.792	-2.430,2.550	-1.992,2.550	-2.204,2.759	-1.852,1.864	-2.002,3.018	-1.744,1.909
T= :203	R_1	-2.702,2.472	-2.089,1.762	-2.494,2.589	-2.004,1.860	-2.367,2.554	-1.981,1.761	-2.121,2.588	-1.892,1.660
	R_2	-2.759,2.502	-2.073,1.776	-2.477,2.544	-1.969,1.796	-2.353,2.494	-1.953,1.726	-2.124,2.444	-1.862,1.589
	S_1	-2.456,2.596	-1.895,1.895	-2.288,2.701	-1.876,1.950	-2.183,2.799	-1.815,2.017	-1.997,3.049	-1.718,1.989
T= :228	R_1	-2.694,2.525	-2.044,1.874	-2.495,2.493	-1.991,1.831	-2.356,2.640	-1.986,1.816	-2.189,2.491	-1.890,1.643
	R_2	-2.759,2.454	-2.065,1.858	-2.454,2.374	-1.996,1.828	-2.339,2.439	-1.970,1.793	-2.124,2.333	-1.871,1.613
	S_1	-2.649,2.384	-2.119,1.854	-2.442,2.655	-1.946,1.876	-2.261,2.720	-1.858,1.936	-2.117,2.817	-1.756,1.916

The critical values were simulated with 5000 replications in each case. The 1 %(5%) critical values represent the 0.5^{th} (2.5^{th}) and 99.5^{th} (97.5^{th}) percentiles of the simulated distribution.

Motivated by the fact that the RWH is a joint hypothesis in the context of the variance ratio tests and the fact that the use of single test for a joint hypothesis would induce size distortion, results of multiple variance ratio tests (namely, Chow and Denning (1993) test, the wild bootstrap of Chow and Denning (1993) test introduced by Kim (2006), and the joint version of Wright's (2000) sign test (JS1) introduced by Kim and Shamsuddin (2008) are presented in Table (5).

According to JS1, weekly return series of all indexes, except for South Africa, are found to disobey the RWH. For weekly returns, the null of not violating RWH has to be rejected for two countries (Egypt and Morocco) when test statistic of Chow and Denning robust for heteroskedasticity (MVR2) is employed and for three countries (Egypt, Morocco, and India) when the wild bootstrap of Chow and Denning (1993) is used.

For monthly returns, the three multiple variance ratio tests do not support the random behaviour of Egyptian and Moroccan returns whereas the random behaviour is supported by the three tests for South African, Indian and Indonesian returns. For monthly returns of China, the JS1 statistic only indicates disobedience of the RWH.

Empirical Results from International Investors' Perspective

Results of VR tests, based on the Methodology of Lo and Mackinlay (1988), on weekly (monthly) returns denominated in US dollar currencies, for intervals 2, 4, 8, and 16, with the base of one week (month) are shown in Table (6) and (7) respectively. For weekly returns, except for Morocco and India in interval 2 when M2 (q) is employed, the null hypothesis of RWH has to be rejected at conventional levels of significance whether M1(q) or M2(q) is used for Egypt, Morocco and India.

Table (4): Results of WRIGHT's Ranks and Signs Tests for Weekly and Monthly Returns (Local currencies)

Country	**Panel A- Weekly Returns Holding Period**			
	q=2	q=4	q=8	q=16
Egypt	R_1=3.976*	R_1=4.640*	R_1=0.030	R1=0.097
	R_2=3.429*	R_2=4.070*	R_2= 4.603*	R2=5.711*
	S_1=3.466*	$S_{1=}$ 4.259*	$S_{1=}$ 4.711*	S1=5.524*
Morocco	R_1=4.363*	R_1=5.250*	R_1=6.000*	R_1=6.557*
	R_2=3.802*	R_2=4.595*	R_2=4.956*	R_2= 5.397 *
	S_1=3.109*	S_1=4.565*	S_1=4.977*	S_1=4.895*
South Africa	R_1=0.812	R_1=0.474	R_1=0.532	R_1=0.361
	R_2=0.163	R_2= 0.304	R_2=0.550	R_2= 0.325
	S_1=1.242	S_1=1.005	S_1=0.970	S_1=1.636
India	R_1=2.312	R_1=3.227 *	R_1=2.838*	R_1=2.875*
	R_2= 1.822	R_2= 2.841*	R_2=2.459**	R_2=2.484**
	S_1=3.324*	S_1=4.253*	S_1=3.328*	S_1=3.526*
China	R_1=0.716	R_1=2.040**	R_1=2.787 *	R_1=2.679*
	R_2= -0.061	R_2= 1.643	R_2=2.493**	R_2=2.304**
	S_1=1.981**	S_1=2.081**	S_1=2.508**	S_1=2.704*
Indonesia	R_1=0.860	R_1=2.925 *	R_1=3.698*	R_1=2.886 *
	R_2= 0.171	R_2=2.396*	R_2=3.486*	R_2=2.490**
	S_1=1.397	S_1=2.647*	S_1=2.973*	S_1=2.733*
Country	**Panel B- Monthly Returns Holding Period**			
	q=2	q=4	q=8	q=16
Egypt	R_1=2.815*	R_1=3.800*	R_1=4.764*	R_1=4.134*
	R_2=3.220*	R_2=4.120*	R_2=4.887*	R_2=4.236*
	S_1=1.639	S_1=2.629*	S_1=3.023*	S_1=2.650**
Morocco	R_1=1.478	R_1=2.955*	R_1=3.975*	R_1=5.087*
	R_2= 0.872	R_2=2.208**	R_2=3.116*	R_2=4.055*
	S_1=3.428*	S_1=4.502*	S_1=5.820*	S_1=7.302*
South Africa	R_1=-0.233	R_1=-0.639	R_1=-1.170	R_1=-1.069
	R_2=-0.308	R_2=-0.618	R_2=-1.096	R_2=-1.122
	S_1=0.631	S_1=-0.187	S_1=-0.237	S_1=-0.223
India	R_1=1.228	R_1=1.470	R_1=1.116	R_1=0.355
	R_2=1.615	R_2=1.647	R_2=1.250	R_2=-0.018
	S_1=-0.210	S_1=0.712	S_1=1.269	S_1=1.518
China	R_1=2.526*	R_1=2.232**	R_1=1.147	R_1=0.974
	R_2=2.087**	R_2=1.939**	R_2=0.896	R_2=0.519
	S_1=2.456**	S_1=2.138**	S_1=1.376	S_1=1.953
Indonesia	R_1=1.726	R_1=0.855	R_1=0.741	R_1=-0.324
	R_2=1.888**	R_2=0.751	R_2=0.687	R_2=-0.684
	S_1=1.589	S_1=0.991	S_1=0.671	S_1=0.308

**, ** indicate significance at 1% and 5% respectively.*

Table (5): Multiple VR Results for Weekly and Monthly Returns (Local currencies)

Country	Panel A: Weekly Returns No. of Obs.	JS_1 q=(2,4,8,16)	MVR_2 *m*=4	MVR_2^* p-values from Wild Bootstrap
Egypt	783	5.524*	4.115*	0.0006*
Morocco	783	4.977*	3.136*	0.005*
South Africa	887	1.636	0.4482	0.9448
India	887	4.253*	2.168	0.0632***
China	887	2.704**	1.845	0.1462
Indonesia	992	2.973*	1.545	0.239
Index	**Panel B: Monthly Returns**			
	No. of Obs.	**JS_1 q=(2,4,8,16)**	**MVR_2 q=(2,4,8,16)**	MVR_2^* **p-values from Wild Bootstrap**
Egypt	180	3.023*	4.183*	0.0002*
Morocco	180	7.302*	2.776**	0.0084*
South Africa	203	0.631	0.8038	0.8352
India	203	1.518	1.676	0.1918
China	203	2.456**	1.056	0.5336
Indonesia	228	1.589	1.560	0.2028

Based on 5000 Monte Carlo trials for q=(2,4,8,16), the critical values of JS_1 test statistic for sample size of 783 are 2.900 (1%),2.325 (5%); when sample size is 887; 2.854 (1%),2.279 (5%) when sample size is 992, 2.919 (1%), 2.291 (5%) when sample size is 180; 2.929 (1%), 2.236 (5%) when sample size is 203; 3.018 (1%), 2.288 (5%) when sample size is 228; 2.921 (1%),2.265 (5%) . The critical values for CHODE (MV) test are 3.022(1%), 2.491(5%), and 2.226(10%).,** indicate significance at 1% and 5% respectively.*

Table (6): Variance Ratio Tests for Intervals 2, 4, 8, and 16 on Weekly Returns (US dollar)

Index	Egypt	Morocco	South Africa	India	China	Indonesia
No of obs.	783	783	887	887	887	992
q = 2	VR(q)= 1.102	VR(q)= 1.079	VR(q)=0.993	VR(q)= 1.053	VR(q)= 0.985	VR(q)= 0.9154
	$M_1(q)$= 2.768* [√]	$M_1(q)$=2.064** [×]	$M_1(q)$= -0.277	$M_1(q)$=2.060** [×]	$M_1(q)$= -0.513	$M_1(q)$=-2.723* [√]
	$M_2(q)$=2.055 ** [×]	$M_2(q)$= 1.464	$M_2(q)$= -0.149	$M_2(q)$= 1.635	$M_2(q)$= -0.400	$M_2(q)$=-1.030
q = 4	VR(q)= 1.267	VR(q)= 1.227	VR(q)=1.0348	VR(q)=1.178	VR(q)= 1.098	VR(q)= 1.065
	$M_1(q)$= 3.850* [√]	$M_1(q)$= 3.195* [√]	$M_1(q)$=0.443	$M_1(q)$= 3.157* [√]	$M_1(q)$=1.447	$M_1(q)$=0.984
	$M_2(q)$=2.770* [√]	$M_2(q)$= 2.265** [×]	$M_2(q)$=0.249	$M_2(q)$=2.452** [×]	$M_2(q)$= 1.161	$M_2(q)$=0.369
q = 8	VR(q)= 1.558	VR(q)= 1.379	VR(q) =1.095	VR(q) =1.255	VR(q)= 1.245	VR(q)= 1.276
	$M_1(q)$= 5.019* [√]	$M_1(q)$= 3.317* [√]	$M_1(q)$= 0.786	$M_1(q)$=3.037* [√]	$M_1(q)$= 2.270** [×]	$M_1(q)$=2.750* [√]
	$M_2(q)$=3.567* [√]	$M_2(q)$= 2.362** [×]	$M_2(q)$=0.457	$M_2(q)$=2.389** [×]	$M_2(q)$= 1.837	$M_2(q)$=1.068
q = 16	VR(q)=2.057	VR(q)= 1.630	VR(q) = 1.078	VR(q)=1.391	VR(q)= 1.363	VR(q)=1.338
	$M_1(q)$= 6.223* [√]	$M_1(q)$= 3.573* [√]	$M_1(q)$= 0.281	$M_1(q)$=3.137* [√]	$M_1(q)$= 2.143** [×]	$_1(q)$= 2.128** [×]
	$M_2(q)$=4.532* [√]	$M_2(q)$= 2.640* [√]	$M_2(q)$=0.174	$M_2(q)$=2.539** [√]	$M_2(q)$=1.772	$M_2(q)$=0.922

,indicate significance at 1% and 5% when compared with critical values of 2.576 and 1.96 (of the standard normal distribution) respectively. The symbol [√] indicates that the VR is statistically different from unity at the 5% level of significance when compared with the SMM critical value of 2.491. The symbol [×] indicates an inferential error in which the variance ratios are separately statistically different from unity according to the standard normal distribution critical values, however; they are insignificant compared with the SMM distribution critical values.*

For the aforementioned countries, VRs exceed unity which implies the existence of positive serial correlation amongst return series. On the other hand, according to the test statistic robust for heteroskedasticity M2(q), the remaining markets are said to be efficient in pricing securities as the null hypothesis of RWH has to be accepted . According to Table (7), VRs are found to be significantly greater than unity for all holding periods, whether M1(q) or M2(q) is used, for Egypt. In contrast, according to the test statistic robust for heteroskedasticity M2(q), all other markets are found to be efficient in pricing equities as the null hypothesis of obeying random walk has to be accepted except for Morocco in intervals

8 and 16 and India in intervals 2 and 4. For Tables (6) and (7), the calculated test statistics are compared with the SMM distribution critical value of 2.491 (corresponding to a 5% level and m=4). This comparison highlights inferential errors, as shown before in Tables (1) and (2), due to using the single VR tests and ignoring the joint nature of the VR approach to testing the RWH. Generally speaking, for weekly returns, the Egyptian, Moroccan, and Indian exchanges violate the RWH according to both single and multiple VR tests, as the null has to be rejected whether critical values of normal distribution or those of SMM distribution are used. Disobedience of the RWH, according to both single and multiple VR tests, has been only confirmed for the Egyptian and Moroccan exchanges.

Table (7): Variance Ratio Tests for Intervals 2, 4,8 and 16 on Monthly Returns: (US dollar)

Index	**Egypt**	**Morocco**	**South Africa**	**India**	**China**	**Indonesia**
No of obs.	**180**	**180**	**203**	**203**	**203**	**228**
q = 2	VR(q)= 1.307	VR(q)= 1.069	VR(q)= 1.037	VR(q)= 1.184	VR(q)= 1.115	VR(q)= 1.229
	$M_1(q)$= 3.934* [√]	$M_1(q)$=0.724	$M_1(q)$= 0.384	$M_1(q)$= 2.453** [×]	$M_1(q)$= 1.479	$M_1(q)$=3.301* [√]
	$M_2(q)$=2.966 * [√]	$M_2(q)$=0.580	$M_2(q)$=0.315	$M_2(q)$= 2.037** [×]	$M_2(q)$= 1.061	$M_2(q)$=2.138** [×]
q = 4	VR(q)= 1.715	VR(q)= 1.284	VR(q)=1.029	VR(q)= 1.329	VR(q)= 1.217	VR(q)= 1.282
	$M_1(q)$= 4.719* [√]	$M_1(q)$= 1.728	$M_1(q)$=-0.007	$M_1(q)$= 2.204** [×]	$M_1(q)$= 1.378	$M_1(q)$=2.008** [×]
	$M_2(q)$=3.818* [√]	$M_2(q)$=1.447	$M_2(q)$= -0.006	$M_2(q)$= 1.955** [×]	$M_2(q)$=1.042	$M_2(q)$=1.362
q = 8	VR(q)= 2.380	VR(q)= 1.624	VR(q)= 0.946	VR(q)= 1.528	VR(q)= 1.146	VR(q)= 1.586
	$M_1(q)$=5.435* [√]	$M_1(q)$= 2.265** [√]	$M_1(q)$=-0.565	$M_1(q)$= 2.042** [×]	$M_1(q)$= 0.327	$M_1(q)$=2.499** [√]
	$M_2(q)$=4.624* [√]	$M_2(q)$= 1.949** [√]	$M_2(q)$= -0.450	$M_2(q)$=1.850	$M_2(q)$=0.259	$M_2(q)$= 1.729
q = 16	VR(q)= 2.937	VR(q)= 2.242	VR(q)= 0.907	VR(q)= 1.366	VR(q)= 1.182	VR(q)= 1.586
	$M_1(q)$= 4.470* [√]	$M_1(q)$= 2.690* [√]	$M_1(q)$= -0.720	$M_1(q)$= 0.551	$M_1(q)$= 0.042	$M_1(q)$= 1.316
	$M_2(q)$=4.075* [√]	$M_2(q)$=2.480** [×]	$M_2(q)$= -0.617	$M_2(q)$=0.498	$M_2(q)$=0.034	$M_2(q)$= 0.927

**, ** indicate significance at 1% and 5% when compared with critical values of 2.576 and 1.96 (of the standard normal distribution) respectively. The symbol [√] indicates that the VR is statistically different from unity at the 5% level of significance when compared with the SMM critical value of 2.491. The symbol [×] indicates an inferential error in which the variance ratio is separately statistically different from unity according to the standard normal distribution critical values, however; it is insignificant compared with the SMM distribution critical values.*

Results of VR tests, based on the methodology of Wright (2000), for weekly and monthly returns of employed indexes, when returns are denominated in US dollar currencies, exhibits that statistics do agree in rejecting the null of RWH for all holding periods for weekly and monthly returns of Egypt and for weekly returns of Morocco and India. The observed test statistics are greater than their corresponding critical values obtained from Monte Carlo simulation reported in Table 2. Evidence is omitted for reasons of space. All rejections are in the right tail of the distribution implying that return series of these countries are positively serially correlated. On the other hand, the aforementioned test statistics agree that weekly and monthly returns of South Africa obey the RWH. For other countries, mixed results have been found as rejections of the null vary according to frequency of data and holding periods.

Results of multiple variance ratios for weekly and monthly returns of employed indexes are shown in Table (8). For weekly returns, the calculated test statistic of JS1 are found to significantly larger than their corresponding critical values, obtained from Monte Carlo simulation and reported beneath Table (8), for all countries except for India. Thus, all markets are not in conformity with the RWH according to JS1. According to MVR_2 and MVR_2*, the null of RWH is to be rejected for four countries (Egypt, Morocco, India, and China) and for three countries (Egypt, Morocco, and India) respectively, when weekly data is employed. For monthly data, the three multiple tests agree in rejecting the null for the Egyptian and

Moroccan exchanges. For the other markets, the null is to be rejected by only one test (e.g. it has to be rejected for China when JS1 test is used and for India when the wild bootstrap of MVR2 is used).

Table (8): Multiple VR Results for Weekly and Monthly Returns (US dollar)

Country	Panel A: Weekly Returns			
	No. of Obs.	JS_1 q=(2,4,8,16)	MVR_2 *m*=4	MVR_2^* p-values from Wild Bootstrap
Egypt	783	5.788*	4.532*	0.0002*
Morocco	783	5.163*	2.640**	0.0168**
South Africa	887	2.480**	0.4573	0.9138
India	887	4.074*	2.539**	0.026**
China	887	1.837	2.437***	0.148
Indonesia	992	4.722*	1.068	0.5142
Index	**Panel B: Monthly Returns**			
	No. of Obs.	**JS_1 q=(2,4,8,16)**	**MVR_2 q=(2,4,8,16)**	**MVR_2^* p-values from Wild Bootstrap**
Egypt	180	3.678*	4.624*	0.000*
Morocco	180	2.950*	2.480***	0.0186**
South Africa	203	1.725	0.6173	0.963
India	203	0.7128	2.037	0.0828***
China	203	2.73**	1.061	0.5282
Indonesia	228	1.854	2.138	0.054***

Based on 5000 Monte Carlo trials for q=(2,4,8,16), the critical values of JS_1 test statistic for sample size of 783 are 2.900 (1%),2.325 (5%); when sample size is 887; 2.854 (1%), 2.279 (5%) when sample size is 992, 2.919 (1%), 2.291 (5%) when sample size is 180; 2.929 (1%), 2.236 (5%) when sample size is 203; 3.018 (1%), 2.288 (5%) when sample size is 228; 2.921 (1%),2.265 (5%) . The critical values for CHODE (MV) test are 3.022(1%), 2.491(5%), and 2.226(10%).,**,*** indicate significance at 1%, 5%, and 10% respectively.*

CONCLUSION

This paper is trying to examine the efficiency in emerging stock markets, and the impact on the foreign investment opportunities in these markets, concluding the ability of these markets to face the global competition and improving their performance. Based on the goal of the paper it is required using different econometrical methods focusing on the recent ones. Particularly we run Single variance ratio test of Lo and Mackinlay (1988), multiple variance tests of Chow and Denning (1993), individual variance test based on ranks and signs of Wright (2000), Wild bootstrap test of Chow and Denning introduced by Kim (2006), and joint version of sign test of Wright by Kim and Shamsuddin (2008). It is worth to mention that the methodology used in this paper considered as the recent and the most used in the recent papers regarding to this topic. Our datasets contain stock market data from different emerging markets, namely: Egypt.

Morocco, South Africa, India, China and Indonesia. The empirical analysis came out with some results could be concluded as the following: the efficiency of the stock market varies with the level of institutionally mature which leads to equity market development. Accordingly, the Egyptian, Moroccan and Indian exchanges are not in conformity with the RWH from the perspective of both local and international investors when weekly returns are employed. More the first two markets are considered inefficient in pricing equities, from the perspective of both local and international investors, when monthly returns are employed. The Indian market supports that testing for RWH is sensitive to the frequency of data used. It is worth mentioning that empirical results obtained from employing multiple variance ratio tests demonstrate insensitivity of testing of RWH to exchange rate changes. So we document that exchange rates matter in the determination of emerging markets' stock returns' dynamics. Investing in countries that have a history of marked exchange rate regime instability, yielded different equity return dynamics for international and local investors. Finally, this paper could be the initial of series of research focusing on the emerging stock markets especially in Asia and Africa and the

possibility of the integration between those markets as they considered as the lowest influenced markets by the global financial crisis which make them the right markets to invest especially after integration.

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CUSTOMER NET VALUE: A SERVICE GAP PERSPECTIVE FROM SAUDI ARABIA

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ABSTRACT

The identification and creation of customer value is regarded as an essential prerequisite for the success, long-term survival and competitive advantage of firms. However, the current customer value construct is too narrow and simplistic. The advice provided to companies also rest on little scientific understanding of what and how customers' derived their desired value as the current customer value construct adopts a received value conceptualization. Therefore, the main aim of this article is to discuss, operationalized and proposed the measurement for a comprehensive customer value construct comprising of customer desired value, received value and customer net value. In the process of validating the measurements, 800 questionnaires were distributed to grocery shoppers in different shopping outlets in Saudi Arabia of which 407 questionnaires were completed. The findings indicated that the proposed constructs were valid and have practical and theoretical significance especially in the customer satisfaction management.

JEL: M31 Marketing

KEYWORDS: Customer Net Value, Perceived Value, Desired Value, Service Quality Gap

INTRODUCTION

Value has always been 'the fundamental basis for all marketing activity' (Holbrook, 1994). Indeed creating superior customer value is a necessary condition for company securing a niche in a competitive environment, not to mention a leadership position in the market (Day, 1990). Sinha and DeSarbo (1998) for instance argued that value was labelled as "the new marketing mania and the way to sell in the 1990s" and value has proven to "be of continuing importance into the twenty-first century" (Sweeney and Soutar, 2001). Meanwhile, the notion of "value creation" reflects upon the increased recognition of value as one of the most important measures in gaining a competitive edge (Parasuraman, 1997) and a key factor in strategic management (LeBlanc and Nguyen, 2001). Consequently, there has been a growing interest in the value construct among both marketing researchers and practitioners (Eggert and Ulaga, 2002). The growing importance of the value construct is evident with the inclusion of 'customer value' in the definition of 'Marketing' that has been modified by the American Marketing Association (2006). The identification and creation of customer value is regarded as an essential prerequisite for the success, long-term survival and competitive advantage of firms. Hence, it is the intention of this paper to discuss the development, operationalization and measurement of customer value.

The importance of understanding customer value is underscored in numerous journal articles, conference presentations, books, and discussions in the business press on the topic. Nevertheless, despite the many articles and the centrality of the value concept in marketing, there is still relatively little knowledge about what value is, what its characteristics are, or how consumers determine it (Huber, and Herrmann, 2000). Though the interest in customer value has been substantial in the last couple of decades (DeSarbo, et al., 2001), authors indicate that research in this area is still in its early stages (Flint, et al., 2002; Jensen, 2001; Parasuraman and Grewal, 2000). With respect to the current literature, despite numerous studies were done concerning the meaning of customer value (e.g., Zeithaml, 1988), how customers perceive value (Gardial, Clemons, Woodruff, Schumann and Burns, 1994), and ways to uncover what customers

currently value (e.g., Woodruff, and Gardial, 1996), we could not find any research that examined how or what customers 'value' from their business providers (Flint, and Woodruff, 2001). The advice provided to businesses to date rests on little scientific understanding of what and how customers' derived their desired value (Woodruff, 1997).

In addition, most discussions of customer value research tend to adopt a received value conceptualization (Flint, and Woodruff, 2001). That is, value is conceptualized as a customer's perceived net trade-off received from all relevant benefits and costs (sacrifices) delivered by a product/service/supplier and its use (Flint, Woodruff and Gardial, 1997). In addition, there is a tendency to concentrate customer value as "received product quality-price trade-off (Bolton, and Drew, 1991; Zeithaml, 1988). While we acknowledged the contribution that past studies have focused in this perspective, we argue that it is too simplistic and it misses the "true" customer value conceptualizations hold by consumers.

The severity of the issue is aggravated by the relatively little empirical research that is required to develop a comprehensive understanding of the concept (Huber, and Herrmann, 2000). Even fewer researches have focused on specifying its domain or on developing a practical and operational customer value scale. Other authors have also suggested that viewing value as a trade-off between quality and price is too simplistic (e.g. Bolton and Drew, 1991). These views suggest that existing value constructs are too narrow and that dimensions other than price and quality would increase the construct's usefulness.

Understanding the customer experience both (value) from a customer - supplier perspective is one of the main research priorities that the Marketing Science Institute stated in its report (MSI, 1999). Woodruff (1997) for instance, has called for more research that can help develop a richer customer value theory, as well as better tools with which value can be measured. Examining the meaning of value and explicating the value assessment process could potentially lead to the development of new theory that not only enhances our understanding of consumer value assessment but also provides direction to marketing managers in gaining a competitive advantage through value-oriented strategies.

Therefore, a more sophisticated measure is necessary to understand how consumers value products and services. Coherently, the purpose of this paper is to define, operationalize and measure the customer desired value, perceived value and ultimately customer net value. The remainder of the paper is organized as follows. It begins by reviewing the discussion of customer perceived and desired value which leads to the construct of customer net value. In the next section, the paper explains the research methodology adopted in the research followed by the analysis of data. The findings of the study are incorporated in the results of the analysis. The paper closes with concluding remarks of the study, limitations and suggestions for future research.

LITERATURE REVIEW

Foundations And Definitions Of Customer Perceived Value

An early and widely cited definition of customer value is one by Zeithaml (1988): "*perceived* value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (p. 14). In simple terms, customer value is the trade-off between perceived benefits and perceived sacrifice (i.e. "get" and "give" components) (e.g. Chen and Dubinsky, 2003; Dev and Schultz, 2005). The trade-off definition ("get" and "give" components) of perceived value has its roots in the economic theory. This definition has strongly influences the thinking of previous researchers (Chen and Dubinsky, 2003; Dev and Schultz, 2005; Zeithaml, 1988). Nevertheless, although much literature in the consumer behavior area has focused on value as a price/ quality trade-off, recent developments in the literature suggest that the reality of value to the consumer is far more complex.

According to Woodruff (1997), "consumers think about products as bundles of specific attributes and attribute performances". Since consumers usually search for benefits and perceive differences between products by looking at product attributes (Datta, 1996), value should be analysed such that the firm gets an understanding of which, and how, features that together produce benefits "to justify the price that reflects the value" (Smith and Nagle, 2002). Such notions seems to be supported by Ravald and Grönroos's (1996) definition of perceived benefits as "some combination of physical attributes, service attributes and technical support available in relation to the particular use of the product, as well as the purchase price and other indicators of perceived quality".

Based on these arguments, Woodruff (1997) defined customer value as "a customer's perceived preference for and evaluation of those products attributes, attribute performances, and consequences arising from use that facilitates (or blocks) achieving the customer's goals and purposes in use situations." Woodruff (1997) argues that his definition broadens the customer value concept by incorporating both desired and received value and emphasizing that value stems from consumers' learned perceptions, preferences, and evaluations. It also "links together products with use situations and related consequences experienced by goal-oriented customers" (Woodruff, 1997).

Based from Woodruff (1997) definition, the value potentially derived by consumers extends beyond financial benefits to include a range of tangible, social, emotional and other advantages. Indeed, a review of the literature (Holbrook, 1999; Jensen and Hansen, 2007; Sparks, Butcher, and Bradley, 2008; Woodall, 2003) supports the notion that value of many types can be derived in many ways. Ironically, although Zeithaml (1988) identified four diverse meanings of value: (1) value is low price, (2) *value is whatever one wants in a product*, (3) value is the *quality* that the consumer receives for the *price* paid, and (4) value is what the consumer gets for what he or she gives; when summarizing all the four definitions of value, Zeithaml (1988, p.14) "*still*" defined perceived value as "the consumer's overall assessment of the utility of a product based on a *perception* of what is received and what is given." Although what is received and what is given varies across consumers, value "represents a trade-off of the salient give and get components" (Zeithaml, 1988).

Based from our assessment of all these different definitions, most of the definitions share a common ground in that customer value is considered as a theoretical construct which describes a customer perspective of a provider's products or services (Huber, Herrmann and Morgan, 2001; Spiteri and Dion, 2004). Table 1 represents various definitions of customer perceived value.

Table 1: Various Definitions of Customer Perceived Value

Zeithaml (1988)	**"Perceived value is the customer overall assessment of the utility of the product based on perceptions of what is received and what is given"**
Gale (1994)	"Customer value is market perceived quality adjusted for relative price of your product. [It is] your customer's opinion of your product or services as compared to that of your competitors"
Holbrook (1994)	"Customer value is a relativistic (comparative, personal, situational) preference characterizing a subject's (consumer's) experience of interacting with some object .... i.e. any good, service, person, place, thing, event or idea"
Woodruff (1997)	"A customer's perceived preference for and evaluation of those products attributes, attribute performances, and consequences arising from use that facilitates (or blocks) achieving the customer's goals and purposes in use situations."

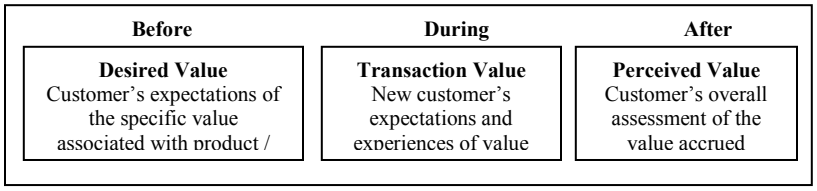
The Dimensions and Construct of Customer Desired Value

Moving from the definition of customer perceived value, we noted that customer value can exists at various temporal stages, i.e. *before*, *during*, or *after* purchase and *use* of a product or service (cf. Flint, et al., 2002; Sweeney and Soutar, 2001; Woodruff, 1997). However, past studies have mainly focus on after purchase and use which is consumer perceived value – "the consumer's overall assessment of the utility of a product based on a perception of what is received and what is given (Zeithaml, 1988)". As we have pointed out earlier, the trade-off definition of perceived value has strongly influenced researchers'

thinking when conducting consumer value studies. We believe although studies in this area is important in providing the feedback to business or service providers of their offerings, the abandonment of the consumer "desired" value of the product or service – which basically is the expectations or wants of the consumer of a particular product/service is a grave omission.

To explain in detail the three different temporal customer values, Woodall's (2003) model is used as a reference based on ownership sequence. In the first stage (before), the product/service is not (yet) owned/used. The value associated with the product/service is based on the expectations or needs anticipated by the consumer. Like quality, it is based on "cognitive" expectations of the consumer rather than "actual" value. Value at this stage is referred to as desired value or sometimes referred as pre-purchase value: it equates to expectations of what might be accrued if the product was purchased. Many of the determinants of desired value come from marketing initiatives such as advertising, sales personnel or word-of-mouth from family, friends and other contacts. This value perception may or may not propel them toward a purchase. Meanwhile, as Vargo and Lusch (2004) observed, actual value is co-created through the purchase and use process. In this transaction process, the product/service is being, or has recently been, purchased. Value in this phase is sometimes referred to as transaction value. It is likely to result from a mix of marketing-influenced expectations and early experiences with the product. It is likely to be quite volatile, as early experiences confirm or refute previously-received promises and initially-held expectations. Finally, in the final stage, longer-term owners of a product/service are likely to perceive value in a more settled ways. In perceived value or sometimes referred to as derived value, the customers usually have multiple experiences and deeper knowledge of the product upon which to make their assessments of value. Figure 1 provides an overview of these stages of ownership and the different types of value assessments associated with each stage.

Figure 1: Types of Value Assessment in the Stages of Ownership



To date however, it appears that few if not any research has sought to differentiate the value that accrues to customers at pre-purchase and purchase stage although this stage tends to be most volatile that "determines" the desired customer value. Similar to the disconfirmation theory in the service quality gap, it is unlikely that the business providers are able to meet "perfectly" the needs and expectations (desired value) of customer through their offerings. As consumers proceed from non-ownership to established ownership, their experiences of the product/services serve to alter their perceptions as to the benefits (values) to be derived from it. For example, products or service that meet or exceed expectations are likely to enhance the value consumers derive, whereas poor products or service will undermine value perceptions. Following our argument, although the value equation depends largely on the value that is expected or desired and perceived by the customer (Khalifa, 2004; Vargo and Lusch, 2004), firms generally provide the value that the business providers "think" consumers want them.

Essentially, firms can only offer value propositions (i.e. propose what they think the value is), while the customer determines what the value is to him or her (Vargo and Lusch, 2004). Naturally, this has important implications for issues such as pricing, as customers "buy on the basis of perceived value, not what it costs the seller to produce and have the product available for sale"(Monroe, 2003). This proposition do not consider at all what the consumer desires. The consumers are mainly on the receiving end and "value" the product/service that is offered to them. This is obviously against the spirit of customer orientation or market orientation which is deemed as a significant company philosophy of the

decade. Based on our elaborated arguments, the definition and conceptualization of desired or expected value is a consumer's anticipation about the outcome of purchasing a product or service based on future benefits. To elaborate the definition, perceived benefits are regarded as consisting of "all the characteristics that an individual consumer values in a product/service" (Jelassi and Enders, 2005), and can be derived from tangible or intangible sources. Therefore, for customer value at a pre-purchase level, the benefits are viewed as desired rather than received (cf. Grewal, et al., 2003; Huber, et al., 2001; Monroe, 2003; Sweeney, et al., 1999). The following table describes the differences of customer desired value as opposed to perceived and (personal) value.

Table 2: Three Forms of Customer Value

	(Personal) Value	Desired Value	Perceived Value
Definition	Implicit belief that guide behaviour	What customer wants to happen (benefits sought)	Assessment what has happen (benefits and sacrifices)
Level of Abstraction	Abstract, centrally held, desired end states – higher order goals	Less abstract, less centrally held, lower order goals, benefits sought to achieve higher order achievement	Overall trade-off of view between benefits and sacrifices actually received
Source of Value	Specific to customer	Conceptualized interaction of customer, product/service and anticipated use situation	Interaction of customer product/service and a specific use situation
Relationship to use	Independent use situations	Independent of use specific situations	Dependent of use specific situations
Permanence	Enduring	Moderately enduring	Transient over occasions

Source: Flint, Woodruff and Gardial (1997)

Although previous studies or literatures have shown that there are confusions and overlaps in the definition and operationalization of customer value, Table 2 clearly depicts the contrasting facts of customer desired value (CDV) and customer perceived value (CPV). The 'personal values' category was added to serve as an additional contrast. It should be noted that 'value' and 'values' have different meanings here. 'Value' refers to the benefit which is received, perceived, exchanged as a result of acquiring or purchasing goods or services. 'Personal values' means the individual beliefs and goals which motivate a person's behaviour, in particular their desire for certain emotional experiences.

Customer Net Value

Based on the discussions put forth in the previous sections, value is grounded in the customer's expectation of what should be provided and the perception of what is offered. In accessing the service quality of the service provided, the customer value position is consistent with the position taken by Parasuraman et al. (1991) who argued that perceived service quality is determined by five main factors (reliability, assurance, empathy, responsiveness and tangible evidence) experienced in the course of the personal service encounter. Thus, similar to the argument proposed by Heskett et al. (1997), it imply that the impact of perceived quality, along with results produced, is similar to the customer's assessment of value expected and received. The view that value offered and received resides in a customer's assessment is not new and is widely shared (Day, 1990; Eggert and Ulaga, 2002; Gronroos, 1996; Woodruff and Gardial, 1996; Zeithaml, 1988). Zeithaml (1988) for example, has argued that, from the perspective of a customer, ". . . perceived value is the customer's overall assessment of the utility of a product based on perceptions of what is received and what is given". Hence, acknowledging related work of others (Gronroos, 1982); Parasuraman et al. (1991) hold that service quality is defined by the customer with reference to how well the service delivered and perceived matches their expectations. In other words, what we have argued here rests on the premise that the quality and value of a service offering may be defined and assessed from at least two perspectives: that of the service provider and that of the customer. It may be argued that the former should reflect an understanding of, and adequate response to, the latter's needs and expectations so that the two perspectives are congruent. To elaborate on the issue, an elaboration on the definition of service is essential.

Service, as defined by Grönroos (1990) is "an activity or a series of activities of more or less intangible nature that normally, but not necessarily, takes place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems". As a result of these interactions, the customer will make evaluations based on his emotional judgements and decisions of the service performance received in his service encounter as compared to his initial expectations. According to the disconfirmation theory, a customer's feeling of satisfaction/dissatisfaction with his service encounter is related to the magnitude and direction of the disconfirmation experience, where disconfirmation is related to the person's initial expectations (Walker, 1995) formed prior to purchase/consumption. Evaluations yield outcomes along a continuum ranging from positive disconfirmation (i.e. performance better than expected), to negative disconfirmation (i.e. performance worse than expected), with confirmation representing the evaluation that performance is as good as expected. Therefore, in line with the concept of service quality, customer net value is the difference between customer initial expectations of the value expected minus the customer perceived value of the products or services rendered by the business provider.

Therefore, in coherence with the gap model developed by Parasuraman et al. (1985) customer net value results from customers comparing their expectations prior to receiving service to the perceptions of the service experience itself. The assessment of the variance resembles our proposition of customer net value where it is operationalized as $Q = P - E$, which means customer net value (Q) equals customers perception of service provision (customer perceived value) (P) minus service expectation (customer desired value) (E). Therefore, following Nam (2008) and Jannadi and Al-Saggaf (2000) operationalization of customer value, this study argued on a similar note that customer net value or customer value gap is measured through Parasuraman, Zeithaml, and Berry (1994).

Measures

Subsequent to our discussions, Parasuraman's SERVQUAL has been adopted by numerous scholars to measure the customer service quality gap. However, although SERVQUAL has been empirically tested in a number of studies involving 'pure" service settings; it has not been successfully adapted to and validated in a retail store environment. The validation of a retail service setting is essential as the basic retailing strategy for creating a competitive advantage is the delivery of a high service quality (Dabholkar et al., 1996). Parasuraman et al. (1991) themselves describe their 22-item SERVQUAL scale as providing 'a basic skeleton, which when necessary, can be adapted or supplemented to fit the characteristics of specific research needs of a particular organization'. Thus, the scale's originators themselves adapted the scale, replacing two items and reversing the negative items (Parasuraman, Berry, and Zeithaml, 1991).

Consequently, scholars continue to adapt and validate the "retailing specific" service quality in various geographical contexts (see Finn and Kayande, 2004). Admitting the importance of retailing in a new emerging economy like Saudi Arabia, we have decided to focus on the dimensions of customer net value in a retail environment. Therefore, to measure the quality dimensions and therefore the gap in customer value, this survey adopted the instrument known as "Retail Service Quality" proposed and developed by Dabholkar et al. (1996). The measurement items of the survey were related to each of the five quality dimensions. However, unlike SERVQUAL, this survey adopted the items proposed by Dabholkar (1996) for the retail industry that includes dimensions such as physical aspects, reliability, personal interaction, problem solving and policy. In addition, as recommended by Parasuraman et al. (1991), the 7 point rating scale used in SERVQUAL was reduced to a 5-point scale (1= *Strongly Disagree*, 5=*Strongly Agree*). Parasuraman et al. (1996) administered a two-part questionnaire with separate expectation and perceptions sections in his data collection. We however grouped together the expectation statements and corresponding perception statements with only one list of statement utilizing two portions of measurement. Therefore, the potentially lengthy and confusing impact of having one set of instructions

referring to an industry (or an ideal store) and another set to a particular firm were eliminated by this simpler format (Babakus and Boller, 1992).

For each statement, respondents were instructed to indicate the level of service that they expect from an excellent grocery store and express their perceptions about their choice of grocery store (their favorite or normal store that they usually patronize). The original items of the retail service quality (Dabholkar et al., 1996) instruments were translated into Arabic version with back-to-back translation done to ensure consistency in the measurement. No major differences or variations in terms of meaning were found. Finally, as part of the scale purification process, we administered the list of questions to a convenience sample of 40 respondents gathered from a (single) reputable supermarket in Riyadh. Although we do not report the analyses of our pilot study, we used the pilot study to revise some of the questions that seems confusing to the respondents. Based on the findings of the pilot study, we deleted two items from the original source adopted from Dabholkar et al. (1996) which are *employees of this store treat customers courteously on the telephone* and *this store offers its own credit card* that are not relevant in the Saudi Arabian context. The final questionnaire contained 26 statements representing the five service quality dimensions. We measured the gap by finding the difference between these responses, resulting in a possible range from -4, indicating a massive shortfall, to +4, indicating a great degree of exceeding expectations.

DATA AND METHODOLOGY

Due to the unavailability of an established sampling frame and accessibility (there is no "complete" residential address in Saudi Arabia), the customer survey participants based on convenience sampling was selected. We distributed eight hundred questionnaires to major shopping malls that house Saudi Arabian grocery stores in three major cities which are Riyadh, Dammam and Jeddah. The data collection process consists of enumerators asking questions to respondents face-to-face through a mall intercept. The main advantage of this method was that it helped the researcher to obtain complete and precise information (Zikmund, 2003). Item non response was also less likely to occur. Due to the country cultural influence, male and female enumerators were employed. The data was collected over a period of six (6) weeks on weekdays and weekends and at different times of the day to enable the researcher to obtain both frequent and infrequent patrons. Data collection took place during the months of March and April, 2012.

The respondents were intercepted at the hypermarket immediately after they completed their shopping experience. This technique was used by Boshoff and Terblanché (1997). They argued that respondents are more attentive and responses are more meaningful where the evaluation of the quality of service is done in the environment being evaluated. Thus problems associated with memory loss or relapse was avoided. On the other hand, the incidence of refusal was moderately high since some patrons were in a hurry or reluctant to speak to strangers. The returned questionnaires were carefully examined for completeness. The total number of usable responses resulting from this process was 407 (50.9 per cent).

Customer Net Value Measurement

Following the guidelines of Gerbing and Hamilton (1996), exploratory factor analysis (EFA) was implemented. Adopting the guidelines outlined by Hair et al. (1998) EFA using principal components analysis and varimax rotation was conducted (Greenley, 1995). Variables with low factor loadings (<0.3) were considered for deletion, as were variables loading significantly (>0.3) onto more than one factor. The communalities of the variables, representing the amount of variance accounted for the factor solution of each variable, were also examined. Factors with low communalities (<0.4) were also considered for deletion. Several other complementary methods were employed to obtain the most representative and parsimonious set of components such as eigenvalues more than 1 and scree plot.

The results of the exploratory factor analysis and cronbach coefficient for all the dimensions are presented in Table 3. Table 3 displays the results of the factor analysis for customer value (retail service quality). Based on the analysis, initially two items were dropped due to cross loadings. These items are "*customers feel safe in their transactions with this store*" representing the "Professionalism" factor and "*This store willingly handles returns and exchanges*" representing the "problem solving" factor. In general, the results of the factor analysis correlates similarly to the original dimensions and factors of Retail Service Quality proposed and developed by Dabholkar et al. (1996). However, in the sub-factor of "Personal Interaction", there were minor differences in terms of the composition of "*Inspiring confidence*" and "*Courteous/Helpfulness*" based on the original sub-dimension by Dabholkar (1996). Based on these new compositions, we have decided to re-label the sub-dimension of "Inspiring Confidence" to "Professionalism" while retaining the original sub-dimension of Courteous/Helpful. Overall, each item measuring the related dimension exhibits an acceptable level of internal reliability ranging from Cronbach α=0.753 to 0.918. Nunnally (1978) suggest that a value of 0.7 be used as the lowest acceptable value of alpha indicating adequate reliability although in exploratory research, the acceptable range for a reliability measure is usually lower (0.50) (Nunnally, 1967).

Table 3: Results of Factor Analysis for Customer Value (Retail Service Quality)

Factor Items	Item Loading
Factor 1 – Physical Aspect (Cronbach a= 0.918)	
This store has modern-looking equipment and fixtures	0.745
The physical features of the facilities at this store are appealing	0.866
Materials associated with this store's service are appealing	0.885
This store has clean, attractive and convenient public areas	0.841
The store layout makes it easy for customers to find what they need	0.866
The store layout makes it easy for customers to move around	0.885
Factor 2 – Reliability (Cronbach a= 0.904)	
When this store promises to do something by a certain time, it will do	0.833
This store provides its services at the time it promises to do so	0.717
This store performs the service right from the first time	0.903
This store has merchandise available when the customers want it	0.887
The store insists on error-free sales transactions and records	0.900
Factor 3 – Professionalism (Cronbach a= 0.852)	
Employees in this store has knowledge to answer customer's questions	0.772
The employees behavior instills confidence in customers	0.850
The store gives customers individual attention	0.849
Employees in this store are consistently courteous with customers	0.813
Factor 4 – Helpful (Cronbach a= 0.864)	
Employees in this store give prompt service to customers	0.919
Employees in this tore inform customers exactly when services will be performed	0.955
Employees in this store are never too busy to respond to customers' requests	0.753
Factor 5 – Problem Solving (Cronbach a= 0.753)	
When a customer has a problem this store shows a sincere interest in solving it	0.826
Employees in this store are able to handle customers' complains directly and immediately	0.950
Factor 6 – Policy (Cronbach a= 0.903)	
This store offers high quality merchandise	0.967
This store provides adequate and convenient parking for customers	0.826
This store has operating hours convenient to their customers	0.747
This store accepts most major credit cards	0.697

This table shows the results of the factor analysis for the above construct. All cross loadings were deleted and factor loadings less than 0.4 are suppressed.

Based on the results of the EFA, subsequently the mean, standard deviation, minimum and maximum values for desired value, received value and the customer net value scores were calculated. The mean item score for the desired value was 2.94 and for perceived value or received value were 2.95 on a five-point

scale. The overall customer value scores based on this retail service quality measurement, which can be ranged from -4 to +4 on which zero implies that consumer perceptions and expectations coincide, negative values imply perceptions fall short of expectations and positive values imply perceptions exceed expectations, has a mean of 0.18. This implies that on average respondents' perceptions exceed their expectations or their desired value. The low positive gap scores imply high level of perceived service quality, i.e. customer perceptions exceed expectations. Both constructs (desired and perceived) shared a similar mean minimum value of 1.66 and a mean maximum value of 4.02. Surprised by the findings, we analyzed the scores based on each dimensions. Again, the results in Table 4 illustrated the same phenomenon.

Table 4: Customer Net Value: Mean Scores of Customer Desired and Perceived Value

Customer Value Dimensions	Mean Desired Value	Mean Perceived Value	Net Value
Physical Aspect	3.17	3.17	0
Reliability	2.61	2.61	0
Professionalism	3.53	3.53	0
Helpful	2.86	2.87	0.01
Problem Solving	2.97	2.97	0
Policy	2.53	2.53	0

The range of the dimension is between 1 =Strongly Disagree to 5=Strongly Agree

The results showed that there was almost zero (0) value gap which means that the customers favourite grocery store fulfilled almost all the dimensions desired or expected by the customers. This means that the grocery store of their choice has done a very good job in meeting the expectations of their customers. Initially, we were surprised by the outcome of the findings as we believed, they would be variance in some areas or dimensions of the retail service quality. As the scores comprises of a summated scores of the respective sub-dimensions, we decided to 'magnify' the differences by looking into the individual differences between the two dimensions namely the customer desired value (service expectations) and customer perceived value (service perception). Table 5 demonstrated the differences between each items of the retail service quality dimensions.

The results showed that there are mixed compositions of positive and negative value gap on the respective items. Generally, the negative figures shown in the table are consistent with Brown, Churchill, and Peter's (1993) argument that service expectations scores will be almost always higher than actually perceived service scores. However, we are amazed that the grocery stores are actually performing better in some aspects of the service quality dimensions such as "*merchandise availability*" and "*keeping error records free*" (meaning they do not make mistakes). These are supported by the positive scores of "*the store doing it right for the first time*" and "*the store carries quality items*". Meanwhile, the retail stores performed marginally poor in "*giving individual customer attention*" and "*courteous with customers*". The grocery stores need to give more attention in the "personal service" while maintaining their good performance in the other dimensions of the service quality.

To investigate the matter in-depth, we conduct a paired sample t-Test. Paired sample t-Test is used when we have one group of sample and we need to compare data on two occasions or two different conditions or asking the same person in terms of his/her response to two different questions. In this case, as both questions (customer desired and perceived value) are measured on the same scale (dimension), this analysis is permissible. The results showed that there is a significant difference (0.03) in the scores of customer perceived and customer desired value. The mean increase was a meagre 0.0019 with a 95% confidence interval stretching from a lower bound of 0.0022 to an upper bound of 0.00353. The customer perceived value is a bit higher than the consumer desired value. As there was a significant difference between the two customer values, we further calculate the effect size of the paired sample t-Test. Based

on the procedure to calculate the eta squared; the results depicted a small effect based on the guidelines suggested by Cohen (1988).

$$\text{Eta squared} = \frac{t^2}{(t^2)+ N-1} = \frac{2.232^2}{(2.232^2)+ 407-1} = 0.012 \quad (1)$$

Table 5: Customer Net Value: Mean Scores of Customer Desired and Perceived Value

Item No	Description	Mean Desired Value	Mean Perceived Value	Net Value
1.	Modern equipment and fixtures	3.14	3.08	-0.06
2.	Physical Facilities	3.11	3.11	0
3.	Visually Appealing Materials	3.22	3.22	0
4.	Good Public Facilities	3.22	3.22	0
5.	Good Layout for Easy Product Search	3.11	3.11	0
6.	Good layout for Consumer Movement	3.22	3.08	-0.14
7.	Deliver as promise	2.91	3.11	0.2
8.	Provide services at promise time	3.02	3.22	0.2
9.	Perform right the first time	2.32	3.22	0.9
10.	Merchandise availability	2.48	3.11	0.63
11.	Keep error-free records	2.34	3.22	0.88
12.	Knowledgeable employees	3.05	3.08	0.03
13.	Instill confidence in customers	3.36	3.11	-0.25
14.	Provide prompt service	2.79	3.22	0.43
15.	Inform customers when to provide service	2.82	3.11	0.29
16.	Never too busy to respond	2.97	3.22	0.25
17.	Give customers individual attention	3.95	2.91	-1.04
18.	Courteous with customers	3.76	3.08	-0.68
19.	Sincere interest to solve customer's problem	2.91	3.22	0.31
20.	Handle customer complaints immediately	3.02	3.21	0.19
21.	Store offer quality items	2.32	3.11	0.79
22.	Store provide adequate parking	2.48	3.22	0.74
23.	Store has convenient operating hours	3.02	2.91	-0.11
24.	Store accepts major credit cards	2.32	3.02	0.7

SUMMARY AND CONCLUSIONS

Although the customer value literature has identified the importance of customer value in consumer behavior studies, research exploring customer value have been relatively limited. This paper therefore identifies and responds to three gaps in the customer value literature within the context of grocery shopping where there is (1) lack of clarity about the dimensions of customer value; (2) lack of research on customer value and service quality from the consumer perspective and (3) lack of research in determining the customer value gap. This paper attempts to extend the knowledge of customer value by developing the concept and measurement of customer desired value, received value and customer net value. In achieving the intended purpose, we collected data from a sample of respondents that comprises of grocery shoppers in three major cities in Saudi Arabia. Based from the disconfirmation theory or service gap perspective, the paper proposed the measurements of the customer value construct using Retail Service Quality items proposed and developed by Dabholkar et al. (1996). The results depicted that the constructs and measurement of customer desired value, perceived value and customer net value are valid and applicable. The outcome of the findings highlighted that the customer value dimensions should act as a guideline or benchmark for the retail operators to improve their performance. It is imperative that grocery retailers understand what aspects of their determinant attributes of value (quality) that customers consider important when evaluating the grocery shopping or retailers. Retailers must be customer focus or driven to gain intrinsic knowledge of the customers' needs and expectations and actively manage them rather than providing the finest products and services and hope for the best. The study also highlighted the performance of the retail operators in meeting the needs of the customers in the marketplace. This could be a good indicator for the retail industry in determining their service quality standards.

This study, while providing much useful and interesting information, is not without its limitations. Like all research, this study has some weaknesses and the above conclusions and contributions should be considered in light of these limitations. First, due to the skewed gender distribution in the sample, the data analyzed in this study are based on a mostly male sample. This is due to the local patriarchal society where on most daily activities; the male decides or conduct the activities on behalf of the members of the family and that includes "traditionally" female task-related activities such as shopping for groceries. However, studies have shown that women as compared to men are more involved in purchasing activities (Slama and Tashlian, 1985) and have more attentive to the services of sales personnel (Gilbert and Warren, 1995). Therefore, it is interesting and pertinent that future research should consider this element. Second, the surveys were completed by a convenience sample of customers who patron the retail malls and may not represent the larger population. Although the sample of this study represents the pattern of the general population, future studies should take consideration the probability issues.

Given the exploratory nature of this research, there are many opportunities for researchers to extend it. First, future researchers may want to explore demographic issues further, given that this study skewed mainly on male consumers. In comparison to other countries, most of the grocery shoppers comprise of women. Therefore, it would be very important to get a balance respondents or to study female consumers' shopping behaviors and their value perceptions (desired and perceived) when they shop at their favourite grocery retail outlets. The findings of this exercise may validate the results in our study and it would be beneficial to retailers targeting a broad range of consumers and families.

Second, future research may focus on investigating consumers' desired value and perception in other retail stores such as specialty stores or online stores which have become more salient for today's consumers. Third, future research may focus on developing valid scale to identify shopper types according to consumers' shopping desired value to facilitate relative studies. Finally, this study should be replicate to other parts of the world to validate the findings and improvised the research theoretical model.

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BIOGRAPHY

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CORPORATE FINANCING AND BUSINESS DEMOGRAPHY IN ITALY

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ABSTRACT

Recently, world financial markets were in the midst of a credit crisis of historic breadth and depth. The crisis had significant impact on the corporate sector. Many firms encountered difficulties surviving and adopting correct strategies. This research provides a picture of Italian industrial and service firms in the period 2007-2010. We highlight principal economic characteristics and focus attention on corporate financing. Second, the paper studies business demography and describes the survival of the Italian corporate system. The research uses data published by the Bank of Italy concerning a survey on Italian Industrial and Service Firms in 201. The data is an elaboration of data published by Infocamere in the period 1995-2009. The study uses a multi-disciplinary approach.

JEL: G01, G30, J11

KEYWORDS: Italian Firms, Corporate Financing, Business Demography

INTRODUCTION

Italian firms were seriously affected by the financial crisis of 2007. Different types of businesses felt the effects of the crisis. Their survival has been questioned. The resulting excessive mortality of firms is a serious risk for the Italian economy.

This research studies Italian firms from two points of view. Firstly, it provides a picture of Italian industrial and service firms. We highlight the principal economic characteristics (labor, capital and output, ownership, organization and governance) and focus attention on some aspects of corporate financing (bank debt). Secondly, it examines the growth of Italian firms by studying the quantitative change undergone by the Italian industry over the last fifteen years. This approach provides a method for the evaluation of services and results a crucial tool for supporting political decisions.

The Bank of Italy publishes data concernig a survey on Italian Industrial and Service Firms in 2010. The sample consists of 2,809 industrial firms, 504 construction companies and 1,128 non-financial private service firms. Data are collected by Infocamere and present the demographic structure of firms from 1995 to 2010. From this, it is possible to have a complete vision of Italian firm's demography and of their survival.

The remainder of the paper is organized as follows. The first section provides a review of the dynamics of Italian firms, the second section describes data and methodology used and the following section presents the empirical results. The last Section concludes the paper.

LITERATURE REVIEW

The first part of the research focuses on the period 2007-2010. This period is characterized by a deep financial crisis. This crisis is of such proportions that even important initiatives to face the problem have so far been insufficient to resolve it. An analysis of phases and causes of this "colossal failure" that has

put "the entire financial system at risk" (Woellert and Kopecki, 2008) is fundamental to understand the current situation of Italian firms and their survival.

The financial crisis originated in the segment of subprime mortgage and structured products (Greenlaw et al., 2008). By the end of 2006, growth in house prices in the United States (US) stopped abruptly reflecting the rise in official interest rates and a slowing economy. At the beginning of 2007, subprime mortgages started to show high rates of default following the increase in debt service (Chomsisengphet and Pennington-Cross, 2006; Doms et al., 2007). This financial crisis represented the worst crisis since the Great Depression of the 1930s (Sinn, 2009). The crisis contributed to the failure of many companies, led to a substantial decline in consumer wealth, produced enormous financial commitments incurred by governments, and resulted in a strong decline in economic activity. The severity of the crises became clear with the bankruptcy of Lehman Brothers and the near-bankruptcy of American International Group in September 2008. Following these events, financial institutions in the US and around the world lost large portions of their value and some could only be saved from bankruptcy by government interventions.

Many causes of the crisis have been proposed. According to some authors, a fundamental cause for this failure regards the often inadequate model of risk management (Rajun et al., 2008). We focus on some prominent explanations: the US housing bubble, the subprime crisis, the deregulation of financial markets in recent decades and the consequent creation of many complex financial innovations.

The years prior to the outbreak of the crisis were characterized by a strong increase in US housing prices. This housing bubble was related to increasing financial incentives for banks to engage in mortgage loans. The decrease in the federal funds rate from the year 2000 onwards coincided with larger profit margins for banks on mortgages. As a result, housing prices peaked in 2006; their value had roughly doubled over the preceding decade. This boom period in the housing market was most importantly characterized by a strong increase in the amount of subprime mortgages. Secondly, between 2004 and 2007, the federal funds rate started to steadily increase again. This trend brought increasing expenses for borrowers holding adjustable-rate mortgages. The combination of an increasing federal funds rate with the growing share of subprime mortgages led to a severe increase in the number of homeowners defaulting on mortgage payments as well an increase in the number of property foreclosures. Increasing insecurity with regard to the credibility of institutions has made banks more reluctant to lend, leading to a tightening of their lending requirements. Finally, government regulations did not prevent banks from providing larger shares of subprime mortgages. In 2004, the loosening of the net capital rule made banks able to take on larger proportions of debt. The increasing share of subprime mortgages was pooled into new financial products, selling them off to investors as CDOs (collateralized debt obligation) and MBS (mortgage-backed securities) (Bolton and Freixas, 2000; Mayer and Pence, 2008). The relatively safe credit ratings of these products contributed to an increasing demand of investors for mortgage-based derivatives.

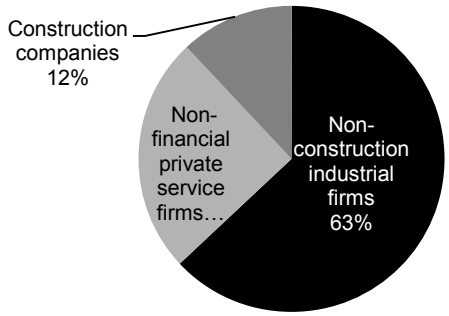
According to forecasts by Bank of Italy, in 2010, the Italian economy returned to modest growth of 1.3%, close to the average for the ten years before the recession, prolonging the country's lag with respect to the euro area as a whole. From the start of the cyclical recovery in the summer of 2009, Gross Domestic Product (GDP) has recouped just 2 of the 7 percentage points lost during the financial crisis (Bank of Italy, 2011a). The slow growth of the Italian economy in 2010 was ascribable to both industry and services, particularly services provided by general government, which were subject to tight budget constraints. Data now indicate the recovery will continue at a slow pace in the coming months. The recovery in GDP in 2010 was sustained by growth in value added in industry excluding construction (4.8%) and, more moderately, in services (1.0%). In manufacturing, the largest value added increase was recorded in base metals and fabricated metal products, mechanical engineering products and electrical and electronic machinery. In the traditional sectors (textiles and clothing, hides and leather, furniture) value added recovered only a very small part of the decline recorded during the recession. The growth in value added in the service sector was modest, partly owing to the stagnation in general government activity,

including healthcare and education. These sectors, which were affected by budget restrictions, accounted for more than half the gap with respect to the growth of Germany's service sector (1.8% and 3.5%, respectively, since the start of the recovery). There is a gap with respect to growth rates of the other main euro-area countries that reflects the slowdown in industry under way since the last months of 2010.

DATA AND METHODOLOGY

Annual data concerning the principal economic, financial and demographic characteristics of Italian firms in 2010 are published by the Bank of Italy and by Infocamere (several years). The research begins by examining the main findings of the Bank of Italy Survey of Industrial and Service Firms conducted in the early months of 2010 (Bank of Italy, 2011b). Our sample is composed of only Italian industrial and service firms and, from the structural point of view, it consists of 2,809 non-construction industrial firms, 1,128 non-financial private service firms and 504 construction companies (Figure 1).

Figure 1: Sample of Firms (Values In Percent)



This figure shows the percentage distribution of sample of firms: the non-construction industrial firms representing the 63%, the non-financial private service firms the 25% and the construction companies the 12%.

In the second part, the study focuses on the demographic performance of Italian firms by activity sector from 1995 to 2010. The following activity sectors are observed: agriculture; manufacturing; construction; commerce; tourism; financial intermediation and real estate, renting and research. From the methodological point of view, the research uses a multi-disciplinary approach and is developed through a demographic investigation regarding the Italian industrial trends from 1995-2010. Firstly this study shows a picture of Italian industrial and service firms, highlighting the principal differences in economic and financial characteristics such as labor, capital and output, ownership, organization, governance and corporate financing. Secondly it observes the impact of the financial crisis on the Italian corporate system with regards to birth and mortality rates of firms to investigate by a demographic approach the firms structure during the period examined. Birth and mortality rates are measured as follows:

$$Birth\ Rate = \frac{Firms(t)_{birth}}{Firms(t)_{actived}} * 1000; \quad Mortality\ rate = \frac{Firms(t)_{closed}}{Firms(t)_{actived}} * 1000 \qquad (1)$$

where (t) is the considered period.

RESULTS

We examine characteristics of industrial and service firms regards the following aspects: employment, turnover and operating results, investment and capacity utilization, ownership, organization and governance, aspects of corporate financing. According to the Bank of Italy survey, in 2010, average employment continued to fall and declined by 1.4%. This was slower than in the previous year, when it fell by 1.9%. The largest fall occurred in industry and amounted to 2.2% (in 2007 there was a growth),

while the fall in services was 0.6% (in the period 2007-2008 there was growth). Furthermore the contraction in employment was especially pronounced in the textile, clothing and footwear sectors (-1.0% in 2007 and -3.3% in 2010), where it had begun before the crisis. In 2010, this contraction was sizable in the basic metals and engineering sector (-2.6%). In geographical terms, in the period 2007-2010, the contraction employment in industry occurred in the North-West (Table 1).

Table 1: Change in Average Workforce (Values in Percent)

	Industrial firms				Service firms			
Area of employment	***2007***	***2008***	***2009***	***2010***	***2007***	***2008***	***2009***	***2010***
North-West	-0.1	-1.3	-2.5	-3.1	1.8	0.7	-2.3	-1.5
North-East	0.9	0.1	-2.4	-1.6	3.1	1.7	-1.1	-0.4
Centre	0.2	0.3	-2.5	-1.6	3.1	0.3	0.0	0.2
South and Islands	0.3	-2.3	-3.0	-1.4	1.3	1.0	-0.6	0.7
Branch of activity								
Total manufacturing	0.4	-0.7	-2.7	-2.4				
Textiles, clothing, leather, footwear	-1.0	-2.6	-3.0	-3.3				
Chemicals, rubber, plastics	0.2	-0.6	-2.9	-1.2				
Metals and Engineering	1.4	0.3	-2.6	-2.6				
Other manufacturing	-0.7	-1.7	-2.7	-1.9				
Energy and extraction	-2.0	-1.3	-0.8	-0.2				
Trade, hotels, restaurants					2.4	1.2	-2.3	0.2
Transport, storage, communication					1.4	-0.7	-1.1	-1.0
Other h.hold and business services					2.7	2.1	0.3	-1.1
Number of employees								
20 – 49	-0.5	-1.6	-2.5	-2.2	1.2	-2.0	-4.9	-2.3
50 – 199	0.6	-0.8	-2.7	-1.8	1.6	1.7	-0.4	0.2
200 – 499	0.9	0.3	-2.4	-2.5	3.7	3.8	0.7	-1.0
500 and over	0.5	-0.3	-2.5	-2.4	2.9	1.3	0.0	0.1
Total	*0.3*	*-0.7*	*-2.5*	*-2.2*	*2.3*	*0.9*	*-1.2*	*-0.6*

This table shows the change in average workforce in industrial and service Italian firms. Eata are distinct in the area of employment, branch of activity and number of employees in the period 2007-2010.

In 2010, the turnover of private-sector firms rose by 1.1% at constant prices, recovering only a small part of the large fall of 7.5% recorded in 2009. The increase was the result of a 3.5% rise in industry and of a -1.1% fall in services. In industry better-than-average improvements were recorded by firms in the North (4.9%) and firms in the basic metals and engineering sector (7.6%). In the service sector sales contracted in all the macro regions and size classes of firms, except for those with between 200 and 499 workers. At the sectoral level there was a small increase in sales of 2.2% by firms providing services to enterprises and households (Table 2).

The proportion of firms posting a profit rose from 53% in 2009 to 57.8% in 2010. The improvement was greatest for industrial firms (for which the proportion rose from 52% to 60% overall), especially the larger ones. In services the fall in the proportion of loss-making firms to 27.4% was accompanied by an increase of just one percentage point to 55.3% in the proportion of those making a profit. In general, the results are worse compared with the crisis period 2007-2008.

Gross fixed investment rose by 3.5% compared with 2009, thus making up about a quarter of the fall recorded in that year. The result derived from the modest improvement of 0.7% in industry (5.6% in 2007) and the growth of 6.8% (-0.1 in 2007) recorded by the service sector. Investment by industrial firms with less than 50 workers recorded a strong recovery of 11.8% (6.0% in 2007), while that by firms with 500 or more workers declined further, by 4.7% . The investment grew by 3% in the North (more than 4% in the North-East), compared to contractions of 3% in the Centre and the South and Islands. The largest sectoral increase in investment (18.6%) was recorded by the textile, clothing and leather sector, which had suffered a contraction of 40% in the two previous years taken together. The chemical, rubber and plastic industries saw a smaller increase of 6%, while investment by firms in the basic metals and engineering sector declined further, by nearly 5%, after falling by 23% in 2009. In service firms the

recovery in investment was basically common to every type of firm but was strongest for firms with their head office in the North-West or the Centre and those with 50 or more workers. Transport and telecommunications was the service sector with the largest increase in investment (9.4%), while the other service sectors achieved only a modest recovery (Table 3).

Table 2: Annual Change in Turnover (Values in Percent)

	Industrial firms				Service firms			
Geographical area	***2007***	***2008***	***2009***	***2010***	***2007***	***2008***	***2009***	***2010***
North-West	2.0	-2.7	-11.1	4.8	1.2	-1.6	-5.4	-0.7
North-East	2.7	-1.1	-12.8	5.1	2.2	-1.3	-4.1	-0.4
Centre	-3.1	-5.3	-8.1	-0.4	2.1	-2.3	-3.8	-1.8
South and Islands	0.8	-2.0	-6.3	0.9	2.1	-2.7	-2.5	-3.8
Branch of activity								
Total manufacturing	2.0	-2.5	-11.8	3.6				
Textiles, cloth., leather, footwear	0.3	-6.0	-14.2	3.9				
Chemicals, rubber, plastics	-0.7	-3.8	-6.5	-1.7				
Engineering	5.0	-1.1	-17.0	7.6				
Other manufacturing	0.7	-2.3	-7.3	1.6				
Energy and extraction	-4.3	-4.7	-3.6	3.2				
Trade, hotels, restaurants					1.4	-2.4	-3.4	-1.5
Transport, storage, communication					1.1	-1.9	-5.2	-2.2
Other h.hold and business services					3.8	0.9	-9.4	2.2
Number of employees								
20 – 49	2.5	-3.7	-9.1	3.2	1.4	-3.1	-6.4	-1.9
50 – 199	2.2	-2.0	-11.4	4.8	2.4	-1.4	-5.0	-1.6
200 – 499	0.3	-2.1	-10.5	5.3	1.5	-0.1	-3.7	0.6
500 and over	0.2	-3.3	-10.8	1.8	1.8	-1.3	-2.8	-1.1
Total	*1.1*	*-2.8*	*-10.5*	*3.5*	*1.4*	*-2.3*	*-4.6*	*-1.1*

This table shows the change in turnover in industrial and service Italian firms. Data are distinct in geographical area, branch of activity and number of employees in the period 2007-2010.

Table 3: Annual Change in Investment (Values in Percent)

	Industrial firms				Service firms			
Geographical area	***2007***	***2008***	***2009***	***2010***	***2007***	***2008***	***2009***	***2010***
North-West	3.8	3.2	-18.4	0.5	-4.9	-4.7	-9.6	12.9
North-East	8.1	-3.2	-15.1	5.5	1.1	2.5	-14.0	1.2
Centre	7.9	-0.6	-12.9	-2.2	7.3	-5.6	-10.0	5.3
South and Islands	3.2	-1.1	-14.8	-4.9	-0.1	-1.3	-8.0	-0.1
Branch of activity								
Total manufacturing	3.9	0.1	-21.1	0.4				
Textiles, clothing, leather, footwear	2.8	-4.2	-36.0	18.6				
Chemicals, rubber, plastics	0.9	2.5	-17.2	6.0				
Engineering	6.3	5.3	-23.0	-4.8				
Other manufacturing	2.5	-8.8	-16.3	2.7				
Energy and extraction	12.2	1.3	-4.8	1.3				
Trade, hotels, restaurants					-2.9	-0.2	-20.1	3.5
Transport, storage, communication					1.7	-4.4	-4.1	9.4
Other h.hold and business services					0.6	-5.1	-14.6	1.3
Number of employees								
20 – 49	6.0	-1.3	-18.3	11.8	0.9	2.1	-13.0	3.0
50 – 199	6.0	-4.5	-18.5	1.2	-4.2	-4.0	-15.6	8.7
200 – 499	2.0	3.0	-13.3	1.5	-4.2	1.5	-13.0	6.3
500 and over	6.8	3.0	-14.5	-4.7	2.5	-5.8	-5.6	7.5
Total	*5.6*	*0.4*	*-16.0*	*0.7*	*-0.1*	*-3.5*	*-10.4*	*6.8*

This table shows the change in investment in industrial and service Italian firms. Particularly, data are distinct in geographical area, branch of activity and number of employees in the period 2007-2010.

Regarding ownership concentration, stock exchange listing, and controlling shareholders, the survey collects information of industrial firms with 50 employees and over. In industrial firms with 50 or more workers about 70% of the capital was owned by the main shareholder on average. In about 55% of such firms the shares were held by a company (a holding or a sub-holding company or a nonfinancial

corporation). Industrial firms continued to have very limited access to the capital markets. No more than 1.7% of such firms are listed on the stock exchange and most of these are of above-average size. In line with the previous year, transfers of control involved about 4% of industrial firms with 50 or more workers in 2010. Nearly 70% of the transfers consisted of shifts in shareholdings between companies belonging to the same group or between relatives. Finally, the research provides a more detailed analysis on some aspects of firms fund-raising exclusively for firms with 50 or more workers.

More firms reported an increase in self-financing than a fall (in industry respectively 63.5% and 28.1% of the total; in service sector respectively 61.7% and 30.4% of the total), thus halting the adverse trend of previous years. The recovery in corporate profitability was not sufficient to meet firms increased financing needs in relation to the increases in investment and production. Consequently, the rise in self-financing was accompanied by increased recourse to equity capital and bank loans both in industrial and service firms (Table 4).

Table 4: Changes in Sources of Finance in Firms with 50+ Employees in 2010 (Values in Percent)

					Industrial Firms			
	Self-Financing		**Equity Capital**		**Bonds and Other Longterm Securities**		**Bank Loans**	
Geographical Area	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**	**Positive**
North-West	24.2	67.5	5.2	12.1	3.0	1.7	16.6	32.1
North-East	31.2	67.5	3.0	12.5	2.5	1.9	29.6	29.9
Centre	30.1	57.8	2.8	13.4	0.4	2.6	20.3	31.0
South and Islands	30.2	52.3	3.7	11.9	1.0	2.8	12.5	25.3
Branch of activity								
Total manufacturing	28.2	63.4	4.1	12.3	2.3	2.0	21.0	30.4
Textiles, clothing, leather, footwear	23.9	68.9	2.2	7.9	2.2	0.7	23.8	25.1
Chemicals, rubber, plastics	25.3	69.5	2.5	8.8	1.6	0.3	16.1	38.5
Engineering	25.2	67.7	4.6	13.7	2.7	2.3	20.6	29.3
Other manufacturing	37.4	49.7	4.6	13.3	2.1	2.9	23.0	30.9
Energy and extraction	26.1	64.9	1.6	13.9	0.0	2.3	23.0	27.1
Number of employees								
20 – 49	-	-	-	-	-	-	-	-
50 – 199	27.8	62.7	3.9	11.8	1.9	2.0	19.5	30.0
200 – 499	31.9	65.2	4.5	16.3	2.8	1.0	28.9	32.5
500 and over	23.1	72.6	2.9	13.7	5.5	4.4	28.1	26.6
Total	*28.1*	*63.5*	*3.9*	*12.4*	*2.2*	*2.0*	*21.2*	*30.1*
					Service Firms			
	Self-Financing		**Equity Capital**		**Bonds and Other Longterm Securities**		**Bank Loans**	
Geographical Area	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**	**Positive**
North-West	29.7	61.0	4.8	9.6	3.6	2.5	19.5	20.6
North-East	34.3	60.6	7.4	11.8	4.0	0.9	22.7	21.8
Centre	29.4	68.0	3.7	11.5	0.2	0.9	13.5	31.9
South and Islands	28.2	57.0	6.0	12.1	1.4	2.9	12.3	25.0
Branch of activity								
Trade, hotels, restaurants	31.4	59.8	4.3	12.7	0.7	4.5	17.8	23.4
Transport, storage, communication	28.5	63.4	7.2	8.5	4.0	1.0	16.2	27.2
Other h.hold and business services	31.0	62.5	5.4	11.0	2.6	0.3	19.2	21.9
Number of employees								
20 – 49	-	-	-	-	-	-	-	-
50 – 199	32.5	58.7	5.5	9.4	2.6	1.9	16.3	22.0
200 – 499	19.4	76.6	4.1	16.1	1.1	0.9	24.7	34.0
500 and over	29.4	66.2	6.9	19.1	4.2	4.5	20.2	27.7
Total	*29.2*	*62.6*	*4.7*	*11.7*	*2.4*	*1.9*	*19.6*	*27.3*

This table shows the change in sources of finance in industrial and service firms with 50 employees and over in 2010. Particularly, data are distinct in geographical area, branch of activity and number of employees and in different source of finance (self-financing, equity capital, bonds and other longterm securities, bank loans).

The demand for loans for debt restructuring purposes slowed significantly. Some 9.6% of firms declared they had entered into negotiations to restructure their bank loans. The reduction was especially marked for services and varied across industry. More specifically, there was a large fall among firms in the Centre (10 percentage points) and the South and Islands (6.4 percentage points) while the fall among firms in the North-West was less pronounced (3.7 percentage points) and firms in the North-East recorded an increase (2.6 percentage points). Some 4.2% of firms declared they had reached an agreement with their lenders (down by more than 4 percentage points on 2009), while another 3.9% were on the verge of concluding such an agreement; only 1.5% of firms failed to reach an agreement. Moreover, 5.9% of firms declared they had adhered to the "debt moratorium".

To measure firms effective need for credit, a series of questions on the firms willingness to incur additional costs to obtain more financing and the action to obtain it are proposed. In 2010 some 29.6% of firms would have liked to increase their borrowing from banks and other financial intermediaries at the cost and security conditions currently applied. The proportion was slightly higher for industrial firms (31.3%) than for non-financial private service firms (27.7%) and in the South and Islands (35.6%) than in the Centre (31.3%) and the North (27.3%) (Table 5).

Table 5: Percentage of Firms That Want Increase Their Indebtedness in 2010

	Total	**Would have accepted worse conditions to obtain financing (1)**	**Actually applied for new loans (2)**	**Both the foregoing (1) and (2)**	**Applications for new loans turned down in whole or in part**	**Did not apply to banks because they believed they would be turned down**
			Geographical area			
Centre North	28.3	10.4	26.3	9.6	5.9	0.9
South and Islands	35.6	13.8	32.1	12.9	10.4	2.5
Branch of activity						
Industry	29.6	10.4	27.4	9.6	6.4	1.0
Services	29.6	12.3	27.3	11.4	7.5	1.7
Number of employees						
20 – 49	31.3	11.6	28.9	10.8	7.0	1.5
50 and over	27.7	10.4	25.7	9.6	6.4	0.9
Total	*29.6*	*11.0*	*27.4*	*10.2*	*6.7*	*1.2*

This table shows the percentage of firms that wanted to increase their indebtedness in 2010, distinct in geographical area, branch of activity and number of employees. Data includes questions on the firms willingness to incur additional costs to obtain more financing and the action to obtain it.

In industry, sectors that showed the greatest desire to increase their borrowing were energy and extractive firms (34.5%). In services they were transport and communications firms (33.1%). Only 11% of firms wished to increase their borrowing and would have accepted tighter lending or security conditions. Nearly all the firms that wished to increase their borrowing (27.4% of all firms) actually applied for new financing in 2010. Another 1.2% did not apply mainly because they believed intermediaries would have turned down their requests. Some 6.7% of firms declared that their applications for financing were turned down in whole or in part.

Between 2009 and 2010 there was a small decrease in the proportion of industrial firms reporting a tightening of borrowing conditions and a small increase in the proportion of service firms. The most severe assessments of the change in borrowing conditions concerned the level of accessory costs and, to a lesser extent, interest rates and the complexity of the corporate information to be provided to obtain new loans. Some 4.1% of firms had loans called in early by their lenders in 2010 (Table 6).

The Business Demography

The business demography is used to analyze the dynamics of the market and the various regional economic environments. The creation of new businesses and their exit from the market are important indicators of the degree of dynamism of an economic system and persistence of new initiatives in the markets to competition (Vivarelli, 2000).

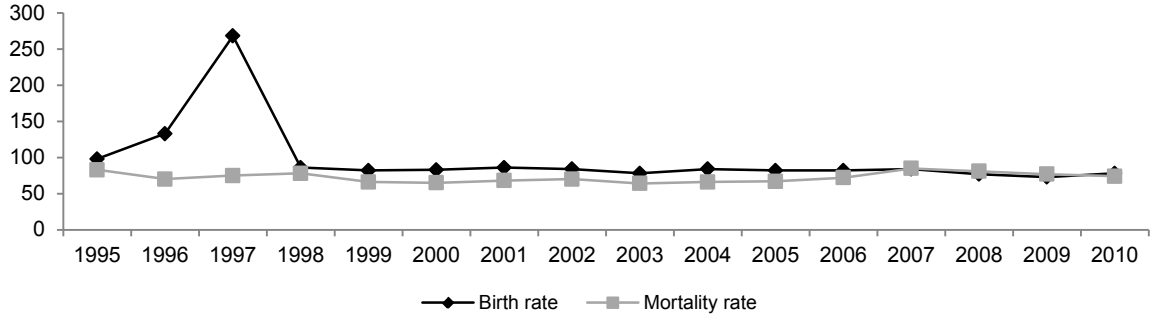
Table 6: Borrowing Conditions and Loans Called in (per Cent of Firms)

	2009	2010
Tightening of borrowing conditions		
Industry	22.4	19.3
Services	16.7	18.7
Total	19.8	19.0
Loans called in		
Industry	9.0	4.1
Services	6.1	4.1
Total	7.7	4.1

This table shows the percentage of borrowing conditions and loans called in, distinct in tightening of borrowing conditions and loans called in, in the period 2009-2010.

The impact of the financial crisis on the Italian corporate system has been studied considering the demographic trend of Italian firms from 1995 to 2010. Generally, the first observation shows the Italian corporate system has undergone important changes. The birth rate and the mortality rate were computed to describe the demographic trend of Italian firm. Figure 2 shows the demographic transition of Italian firms from 1995 to 2010. It presents the birth and mortality rates of firms recorded in the same period. The demographic analysis, generally, describes a constant trend, even if it observes a strong input of birth in 1997. This data is influenced by the strong growth in agriculture sector activity. In fact its birth rate increases from 73‰ in 1995 to 848‰ in 1997. In 2009 the mortality rate is higher than the birth rate, but during the next year (2010) of the analysis it is possible to observe a slight growth.

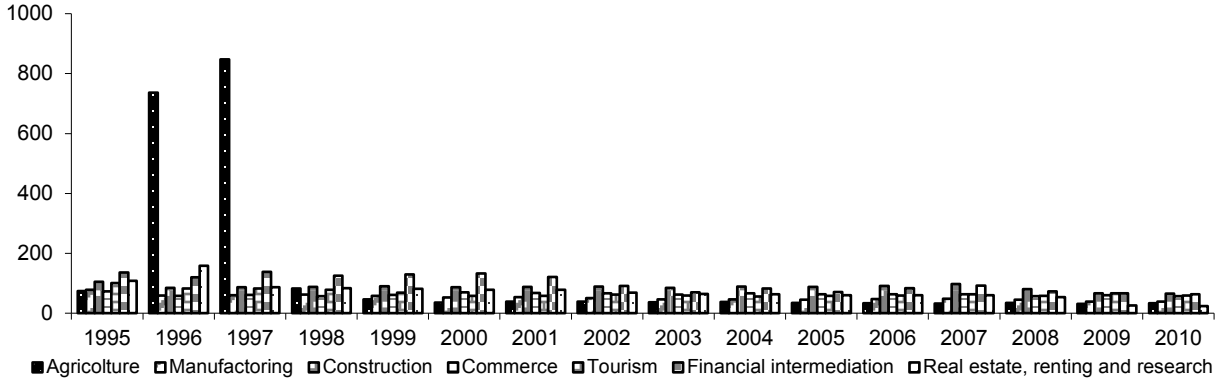
Figure 2: Demographic Transition of Italian Firms (Values per Thousand)



This figure shows the demographic transition of Italian firms in the period 1995-2010. Data on birth date and mortality rate are put in evidence.

The birth of the firms decreases for all examined periods and the sector activity with the largest decrease is the real estate, renting and research following by the financial intermediation, respectively from 108‰ (1995) to 24% (2010) and from 136% (1995) to 63% (2010). However, it is evident the strong growth of the agriculture firms above all in 1996 and 1997 (Figure 3).

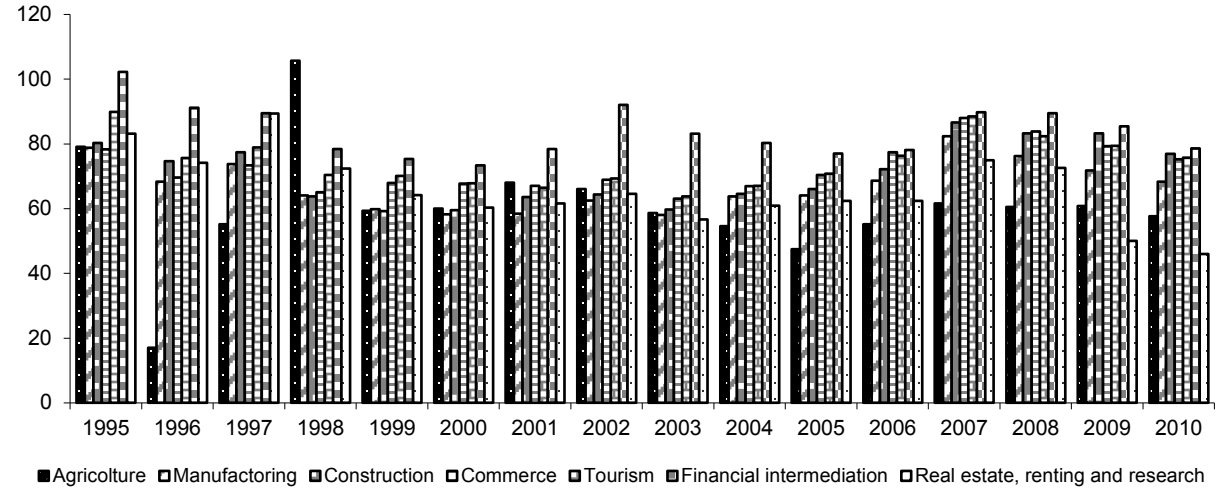
Figure 3: Birth Rate Trend by Activity Sector (Values per Thousand)



This figure shows the different trends of the birth rate by activity sector in the period 1995-2010.

The data previously described are confirmed by the mortality rate trend. Figure 4 notes how the agriculture sector experiences a good period in 1996-1997, and real estate, renting and research together to the financial intermediation present the high mortality of the firms.

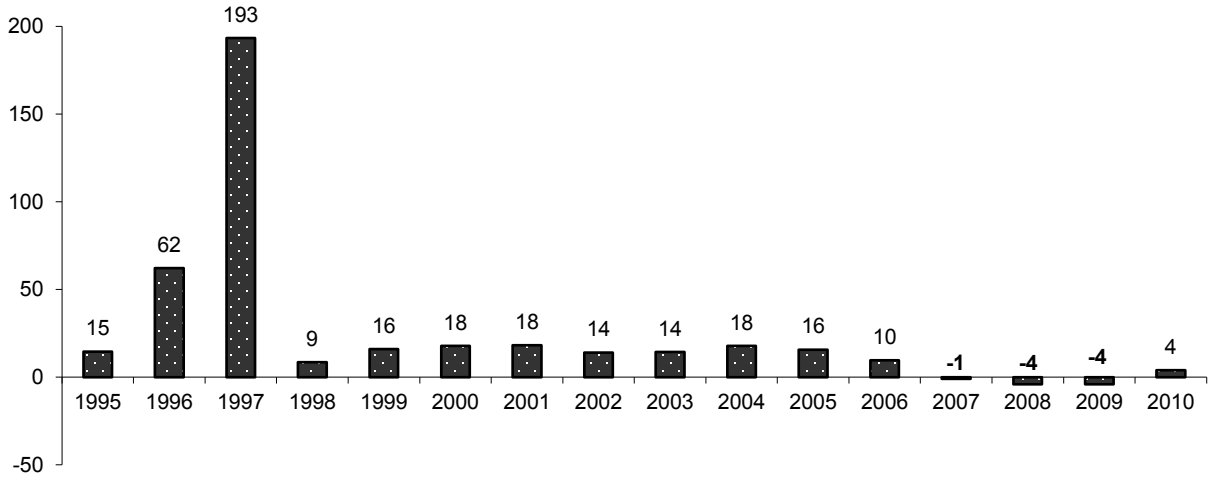
Figure 4: Mortality Rate Trend by Activity Sector (Values per Thousand)



This figure shows the mortality rate trend by activity sector in the period 1995-2010.

Besides, the study has developed the net rate of turnover namely the difference by the two demographic rates discussed in the precedent section. This indicator explains the increase undergone by Italian firms and it confirms the bad birth trend (Figure 5). By this indicator the growth of the number of Italian firms is observed. The net rate of turnover shows high values for the first part of the period examined, this positivity is due to the increase of the agriculture sector. During the last years considered, its values become negative, indicating a decrease of firms, but in 2010 it observes a slight growth due to the positive birth rate data.

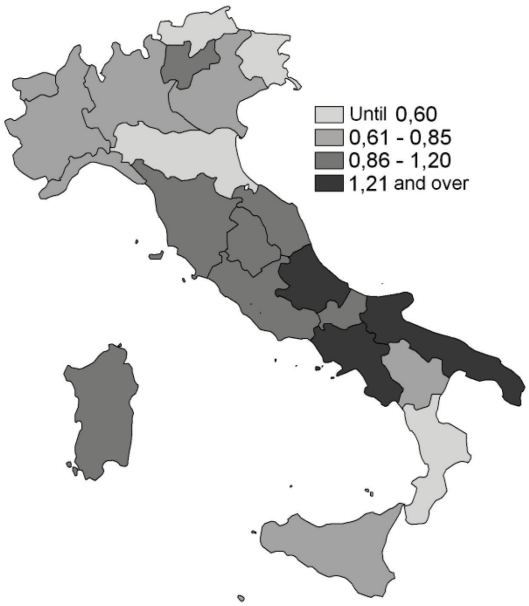
Figure 5: Net Rate of Turnover (Values per Thousand)



This figure shows the net rate of turnover in the period 1995-2010.

The business demography in Italian regions for 2010 shows different values for birth and mortality rates. For both indicators, the highest values are recorded in the South of Italy, while lower values are related to the Northeast (Figure 6). In the South of Italy, records the highest net rate of turnover, confirming 2001 data. The data shows particularly high values in Puglia, Abruzzo and Campania. Lombardy and Veneto is around 0.7%, while in Emilia-Romagna net rate of turnover amounted to 0.56%. Among the regions of Centre of Italy, the Marche present a gross rate of turnover much lower than the average of own geographical distribution, but it is associated a net rate of turnover high.

Figure 6: Net Rate of Turnover of the Italian Regions in 2010 (Values in Percent)



This figure shows the net rate of turnover through photography of the different Italian region in 2010. Data are distinct from more light colors to identify low net rate of turnover to more strong colors to identify low net rate of turnover.

CONCLUSIONS

This articles provides a picture of Italian industrial and service firms in the period 2007-2010, through a collection and elaboration of data published by the Bank of Italy and Infocamere regarding some aspects, as employment, turnover and operating results, investment and capacity utilization, ownership, organization and governance and corporate financing.

In 2010 employment fell by 1.4% compared with 2009. The largest contraction occurred in industry (2.2%), while the fall in services was 0.6%. Turnover rose by 1.1% at constant prices, thanks to the increase of 3.5% recorded by industry, while services recorded a further fall of 1.1%. Furthermore, the research shows the majority of firms reported an increase in their self-financing (the first time for two years). The rise in self-financing was accompanied by increased access to equity capital and bank loans. With regard to bank loans, nearly all the firms that wished to increase their borrowing actually applied for new financing in 2010. Few firms did not apply because they believed intermediaries would have turned down their requests.

In this paper, we examine the main findings of the Bank of Italy Survey of Industrial and Service Firms in 2010 to describe the principal characteristics of Italian industrial and service firms. Future studies might observe other indicators. Finally, another possible venue of future research is to analyze the relationship between corporate financing and the business demographic transition in different Italian regions.

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BIOGRAPHY

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BALANCED SCORECARD FOR ENTREPRENEURIAL STRATEGIC MARKETING IN COLOMBIA

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ABSTRACT

The article formulates a Balanced Scorecard (BSC) based upon research outcomes. It enables knowledge centric entrepreneurships in Colombia to implement strategic Marketing practices. The research project explores entrepreneur's marketing rationale through fieldwork and data analysis. Marketing rationale was defined within knowledge management and consumer behavior theory based on the three elements of the Wheel of Consumer Analysis framework (WCA): 1.Environment: Knowledge acquired from the outside, 2.Affective and Cognitive: Specialized training and procedures, formal and non-formal education obtained thorough technical instruction, competences implemented and experienced as routines and finally. 3. Behavior: transferring that knowledge across business areas and embed it the final product. Factor analysis helped establish equivalences between hypotheses and strategies by relating latent variables derived from the correlation of WCA elements to unravel underlying assumptions based on local idiosyncrasies to interpret those latent variables. Strategic mapping for technology based entrepreneurships identified customer benefit as the common thread to manage business tensions created by the need to obtain growth and profitability at the same time.

JEL: M14; M16

KEYWORDS: Balanced Scorecard, Marketing Strategy, Marketing Education

INTRODUCTION

This paper proposes a Balanced score card as educational interface at the National Learning Service System (SENA). The goal is to increase knowledge for Colombians. We consider the study of marketing rationale as the process by which an entrepreneur interprets the environment in order to survive and compete by engaging in strategic options. The theoretical framework used to interpret the entrepreneur`s Marketing rationale as a consumer`s perception was the Wheel of Consumer Analysis (WCA). WCA is often used to analyze market segments, industries and individual consumers. Hypothesis testing provided guidance throughout the research process and more specifically during its initial stages by testing the adaptability of (WCA) to entrepreneurs as opposed to ultimate consumers. In later stages of the research, the establishment of equivalences between hypotheses and strategies helped the undertaking. It strengthened business consolidating activities committed to foster an entrepreneurial culture that is triggered to innovate and competition within an organizational learning framework.

In 1957, an integrated effort from organized workers, Entrepreneurs, The Catholic Church and The International Labor Organization lead to the creation of SENA, the National Learning Service System.
It is a public establishment with an independent legal persona, patrimony and management structure. It is adhered to the Social Protection Department of the Republic of Colombia. SENA provides integrated education tailored to incorporate people in productive activities contributing to social and economic growth through technological development. It fulfills the government´s technical and social intervention function to the worker´s community through 116 education centers countrywide and involving 1,098

country municipalities (The Inter-American Centre for Knowledge Development in Vocational Training, 2011).

By December 2006, a total of 4,148,809 students attended SENA´s education centers. Some 433,885 of those attendees pursued a formal degree and 3,714,924 pursued continuing education. Combined, they utilized 12,750,278 hours of class time. By comparing these results with SENA´s 2002 statistics a student training coverage increment of 263% is observed (SENA, 2011a).

Between 2002 and 2006, once a thorough priority exercise had been performed, a (2007-2010) Strategic Plan called Knowledge for Colombians was formulated. The strategic plan included SENA´s most relevant concerns including: its orientation, organizational structure, management performance, situational analysis, restrains and outcome appraisal. As a timely reaction to public and private demands from different industries, educational institutions and society in general, this Plan emphasized the impact of its education programs to productivity and country competitiveness according to the company´s long-term vision of providing the latest learning methods, meeting equity between the worker´s need and Business World Demand.

Among SENA´s core strategies included in the 2002 strategic plan, were the strengthening and undertaking of business consolidation activities committed to fostering an entrepreneurial culture triggered to innovate and compete. Both actions were necessary to ultimately achieve the goal of knowledge based business communities constituting 800 operating businesses, 10% of which were actively selling overseas by 2006. According to objectives set out by SNICE (National Business Creation & Incubation Association), in Colombia, orchestrated efforts made by public and private entities seek to generate thinking in terms of self-reinforcing "value cycles" rather than linear value chains (Vargo *&* Lush, 2004**).** In the service-centered view of marketing entrepreneurial education, firms should be in a process of continuous hypothesis generation and testing between Incubators and Universities to contribute to Value Chain Development. By this process business creation will meet the challenges of our time (SENA, 2011 b).

Balanced score card (BSC) was created by Robert Kaplan and David Norton in 1992. It was applied primarily to for profit organizations in Europe and USA. It works as a control board in a race car, used by pilots to supervise the conditions of the car while simultaneously responding strategically to other competitor's move in the racetrack. BSC is an integrated system because it employs every business perspective. Each perspective is indispensable to visualize the firm as a whole. It is a balanced system because it is essential for the strategy to be coherent and balanced with the group of indicators, whether they are financial, non-financial or obtained as a result from processes. It's strategic because the objectives are related and in that way strategy is translated into a cause and effect map.

The main purpose of the BSC tool is not simply developing a group of indicators. Even though indicators help describe a project´s goals, results provide the link that evaluates personnel for successful strategy attainment. The potential use of an indicator structure must pursue the creation of an integrated management system. Kaplan and Norton (2000: 283) said, "Indicator structures should only be the means to obtain a greater goal: a strategic management system that helps executives to implement an instrument to obtain feedback from the performance of the strategy.

In summary, SENA earned its place in the Colombian Society by benchmarking the industry thanks to audacious strategic moves and the ability to evolve with time. Currently, Industries have not only settled expectations and demands for traditional continuing education, but solid research outcome applications to provide specific solutions in various technical fields. *Strategic Marketing interfaces such as BSC need to be created for the challenges of our time, based upon existing entrepreneur´s. Marketing rationale and cultural background is a starting point for knowledge centric administration*. The above researcher´s

Working Hypothesis adds to the existing body of the literature, since it considers the need to develop a tool that eases the implementation of a "sense and response" rather than a "make and sell" (Kotler, 2006) philosophy. It contributes to a more accurate strategic planning since it encompasses information from the customer value co creation process, small business owner´s marketing rationale and financial objectives. It manages business tension generated by the need to obtain growth and profitability that in turn enhances the quality provided by entrepreneur oriented education institutions.

The remainder of the paper is organized as follows: The literature review section briefly discusses the relevant literature. It seeks to establish relationships between the entrepreneur´s idiosyncrasy and organizational learning. The data selection and research methodology section lays out a research strategy oriented to achieve efficiency and effectiveness. Factor analysis served as a foundation to formulate a Balanced Scorecard based on a dynamic hypotheses generation scenario. The empirical results helped in the contextualizing the research problem based on local idiosyncrasies and provides analysis and interpretations of the findings. In the conclusion section, a BSC tool formulates a structure to balance organizational tensions derived from the need to seek business growth and profitability both of which apparently pursue opposing objectives. If the common and inherent thread in a tension is ignored, good performance for one business objective will inevitably lead to poor performance for the other. On the other hand if the common thread is strengthened, both objectives can be achieved at the same time. Costumer benefit: is the common thread between profitability and growth. It is the reward costumers receive after experiencing a product or a service. Remember the word customer is used in two ways: one is the entrepreneur who pays to receive business education at SENA. If entrepreneurs attend good quality and meaningful marketing training sessions they will be happy publicize SENA´s role to new entrepreneurs by word of mouth advertising. Aggressive persuasion will not be necessary to keep classrooms busy. Second use of the word consumer is the ultimate consumer who buys from the entrepreneur. Those customers want to demand quality and feel important.

LITERATURE REVIEW

In Colombia, Entrepreneur´s creativity for survival is synonymous with innovation. It occurs in response to an excess of society´s individualism and lack of collective consciousness that impedes the reach of collective agreements. Thus, social agreements achieve maximum individual benefit at the expense of collective wellness (Gomez, 1999). In other words, Colombia accounts for a remarkable individual creativeness married to an equally remarkable social indiscipline. That scenario offers various advantages such as individual creativity and a great social mobility that allows coexistence of an enormous regional diversity and plurality. Collectively these traits impede the rise of a dictatorship. In contrast, complexity to achieve mutual objectives brings the appearance of patronizing systems, corruption and drug trafficking among other consequences.

It´s true that entrepreneur´s excessive individualism has an effect on teamwork efficiency. Pereira (2003, as cited in Gómez, 1999) note; "A Japanese professor in Colombia used to say: Colombians are smarter than Japanese, but two Japanese can do we work of many Colombians". However, based upon Global Competitiveness Report (Schwab & Porter, 2008) on the Colombian competitive position chapter, it is clear that quality of management performance is within Latin-American standards (74th position in the world rank).

According to Baumol (1968), Entrepreneur´s management performance implies a resourceful attitude and customized marketing implementations. Limited capital and availability of bank loans for startups are two major factors that compel entrepreneurs to innovate. Innovation is a means to attain resources. On the other hand, entrepreneurs make additional efforts, aside from those necessary to maintain core business operations, in reaction to discontinuous production mechanisms at connected industries (Leibenstein, 1968).

Porter (96) describes the basis of strategy as the set of activities that an organization decides to highlight: "In the end, all the differences in cost or price between firms are derived from the hundreds of activities required to create, produce, sell and deliver their products or services ... differentiation comes from the type of activities that are chosen and the manner in which they are carried out".

The essence of strategic thinking is based upon decisions to perform business activities in a manner different from competitors bringing a unique value proposition in return. In Porter´s opinion a sustainable strategic position comes from a system of activities, each of which reinforces the other. The Balanced Scorecard - a descriptive rather than a prescriptive framework, - shares a similar overview with that of Porter´s about the meaning of strategy although it has been developed outside of his framework. The Balanced Scorecard´s creation process is based upon on the premise of "strategy as a hypothesis". The strategy involves moving an organization from its current position to a future desirable but uncertain one. Given that the organization has never been in this future position, entrepreneurs should establish a series of relationships between hypotheses. The Balanced Scorecard allows you to describe strategic scenarios as a set of cause and effect relationships that are explicit in nature and can be tested over time. In addition, those strategic scenarios require separate activities acting as causes for either anticipated or overdue indicators of desired results. The key to implementing the strategy is to make all people in the organization understand the underlying assumptions, align resources with hypotheses, test the hypothesis and continuously adapt to the requirements of real time.

Marketing science seldom places an interest on individual idiosyncratic perceptions. Rather it seeks to reach consensus of various consumers about the perceived environment. The environment can influence affective-cognitive responses and behavior (Peter & Olson, 2008). For example, an individual can react to a new store layout and decide what type of behavior will lead to purchase objectives.

Marketing analysts are interested to know how the consumer perceived the environment, sometimes called functional environment or perceived environment. Since every consumer has his or her own belief system, the perceived environment will be different for every consumer (Peter & Olson, 2008. pag 256). Perceived customer´s value is the apparent difference between the sums of advantages minus costs form a product offering compared to others (Kotler & Keller 2006, pag 141).

From the entrepreneur´s viewpoint, a marketing strategy is a conjoint of artificial stimuli applied to a consumer´s environment designed to produce an effect on the affective-cognitive system and its behavior. Marketing strategies influence not only consumers but entrepreneurs as well. The three elements to be explored to develop effective marketing strategies are: (1) Consumer´s affective-cognitive system, the affective system means the effect of the environment on feelings and emotions, such as either acceptance or rejection towards products. The cognitive system refers to thoughts such as beliefs towards particular products. (2) Consumer´s behavior refers to the ability to observe and measure consumer´s physical actions. For example, behaviors can be retail, internet shopping or credit card usage. (3) Consumer´s environment refers to externalities that ultimately influence what they think, feel and do. This includes social stimuli in a culture, subculture, reference groups and families that influence consumer. Peter *et al.* (2008, 25) says; "Elements are connected one another by a two way arrow, called reciprocal system, meaning that an alteration on anyone of the elements can be the cause or effect of the alteration in one or more of the others" (p.25). Constantin and Lush (1994) define operand resources as resources on which an operation or act is performed to produce an effect, and they compare operand resources with operant resources, which are employed to act on operand resources (and other operant recourses). A goods-centered dominant logic considers operand resources primary. A firm (or nation) had factors of production (largely operand resources) and a technology (an operant resource), which had value to the extent that the firm could convert its operand resources into outputs at a low cost. Service-centered dominant logic perceives operant resources as primary, because they are the producers of effects. This

shift in the primacy of resources has implications for how exchange processes, markets, and customers are perceived and approached. (See Figure 1)

Figure 1: The Wheel of Consumer Analysis (WCA)

Marketing strategy involves designing, execution and control of a plan to influence exchanges leading to achieve organizational objectives. Entrepreneurs are used to designing marketing strategies to increase the probability that consumers have thoughts and favorable feelings toward products, services and specific brands; testing them and repeat purchase. Olson and Peter (2005)

The accelerating pace of changes in operational environments of business organizations has created an increasing need to find adequate ways to adapt with continuously changing situations. The ability to learn is seen as a major source to stay competitive in a changing environment. Stata (1989) argues that the rate at which individuals and organizations learn may become the only sustainable competitive advantage, especially in knowledge-intensive industries. Garvin (1993) points out that in the absence of learning, companies and individuals simply repeat old practices. Therefore, the increasing need for learning has raised interest in learning theories. Beach (1980) describes learning as "the human process by which skills, knowledge, habit and attitudes are acquired and altered in such a way that behavior is modified". According to Schein (1993), learning is not a unitary concept, there are at least three distinctly different kinds of learning that require different time horizons and that may apply to different stages of an organizational change process: knowledge acquisition and insight, habit and skill learning, emotional conditioning and learned anxiety.

Kim (1993) differentiates two meanings of learning: the acquisition of skill or know-how, which implies the physical ability to produce some action, and the acquisition of know-why, which implies the ability to relate conceptual understanding and experience. Probst and Büchel (1997) write that organizational learning is unique to an institution, creating a culture around knowledge management. Table 1 presents a smooth transition from the different types of organizational learning and its processes to a reciprocal system created by the interaction between WCA elements. (Rheem, 1995).

Two relevant definitions for the context of this application are: ¨Technology based firm¨. Meaning knowledge centric business focused on acquiring new knowledge, from the environment, integrating it with the business, transferring it, sharing it, and ultimately selling it embedded in the product. Secondly, Marketing Rationale. Meaning the process used to determine what products or services might be of interest to customers, and the strategy to use in sales communications and business development. It generates a strategy that underlies sales techniques, business communication, and business development. Companies build strong customer relationships and create value for their customers and for themselves through an integrated process. Kotler *et al.* (2006).

Table 1: Relationship between WCA Reciprocal System and Organizational Learning

Organizational learning types	Process of organizational learning Probst *et al.* (1997, 24)	WCA Reciprocal system
Competency acquisition to cultivate new capabilities in either teams or individuals	Change in organizational knowledge	Environment-Affective & Cognitive system
Experimentation to try out new ideas	Increase in the range of possible actions	Behavior- Environment
Continuous improvement to master each step in a process before moving to the next	Change in organizational knowledge	Behavior- Affective & Cognitive system
Boundary spanning to scan other companies efforts, by benchmarking their progress against competitor´s and by pursuing information from sources outside the organization	Change intersubjective constructions of reality	Affective & Cognitive system- Environment

Knowledge entrepreneurship describes the ability to recognize or create an opportunity and take action aimed at realizing the innovative knowledge practice or product. Knowledge entrepreneurship is different from 'traditional' economic entrepreneurship in that it does not aim at the realization of monetary profit, but focuses on opportunities with the goal to improve the production (research) and throughput of knowledge (as in personal transformation (Harvey & Knight, 1996)), rather than to maximize monetary profit. It has been argued that knowledge entrepreneurship is the most suitable form of entrepreneurship for not-for-profit educators, researchers and educational institutions.

DATA AND METHODOLOGY

On May 2011, students in a Marketing Research course conducted a survey questionnaires on 311 small to medium sized business based upon ¨technology based entrepreneur¨ profiling. Exploratory factor analysis was performed as a guidance to set out some initial working hypotheses and measure the quality of the data retrieved. Once surveys had been sorted in the classroom, research objectives were reviewed and sample validity and subject homogeneity assured. Descriptive analysis showed a distribution of 5.6% from the distribution sector, 22.4% manufacturing, 21.4% commercial, 29.9% consulting and 7.4% others. Some 146 surveys were selected out of the 311 to run a confirmatory factor analysis to determine correlational hypotheses between factor loadings within every measure and formulate a marketing mix derived from the latent variables.

Primary data was collected through a survey tailored to measure WCA elements using variables addressing repeated behavior attitudes and perceptions. We used semantic scale questions i.e. 1= totally disagree, 10= totally agree. Secondary data was collected form academic databases and textbooks explaining the relationship between consumer behavior, product/service marketing strategy, knowledge centric entrepreneurship and Balanced Scorecard implementation according to the above literature review. The theoretical framework identified a set of marketing variables resembling what the entrepreneur thinks, feels and does. In other words, the measures reflect the nature of the variable pointing causality from construct to measures. Thus the group of measures was correlated and interchangeable, so that if one measure was dropped the nature of the latent construct did not change. Questions resembled an established set of marketing variables, hence variables belonging to relative measures could be represented as a reflective construct (i.e. *Product* can include measures such as product expectations, product contact, or product benefit). Notice in Table 2 how each of these measures seems to be saying the same thing. We expect them to be highly correlated so that removing one would not change the construct nature, reflective measures reflect the nature of the latent construct. By contrast, formative measures form the nature of the latent construct. Since the project is oriented to close the gap between theory and reality, correlation analysis provided the non-identity matrix needed to interpret entrepreneurs´ marketing rationale allowing principal components to pop up and therefore unraveling a cultural based marketing mix.

The data arrangement set out 21 ordinal variables. In order to perform Principal Component Factor Analysis (PCA), to derive a relatively small number of latent variables, we obtained the correlation matrix to examine variable correspondence (De Coster, 1998). Since we want the final model to account for as much of the covariance in our data with as few factors as possible, we identified latent variables by using a number of factors equal to the number of the eigenvalues of the correlation matrix greater than 1. The

resulting variables will contain both common and unique variance. Latent variable interpretation using orthogonal Varimax factor rotation explained linear relations between latent variables and each of the factors. The strength of this relationship is contained in the respective factor loadings, produced by rotation. This loading can be interpreted as a standardized regression coefficient, regressing the factor on the latent variables. We defined Entrepreneur´s Marketing variables by considering the possible theoretical constructs that could be responsible for the observed pattern of positive and negative loadings belonging to each factor.

$$F = W_{i1}X_1 + W_{i2}X_2 + W_{i3}X_3 \ldots\ldots + W_{iK}X_k \quad (1)$$

Table 2: The Wheel of Consumer Analysis and the Extended Marketing Mix

	Environment	**Affective-Cognitive System**	**Behavior**
Price	Price elasticity	Perceived value	Fund Access
Product	Brand Awareness	Satisfaction	Brand fidelity
Promotion	Ad saturation	Ad persuasion	Ad frequency
Place	Pushing/placing	Store image	Repeated purchase
Physical Evidence	Service tangible	Service appearance	Service purchase intention
Process	Knowledge acquisition	Customer value co-creation	Knowledge transfer
People	Word of mouth advertising	Customer driven attitude	Knowledge integration

Entrepreneurs have two basic operant resources: physical and mental skills. Both types of skills are distributed unequally in a population. Each person's skills are not necessarily optimal for his or her survival and well-being; therefore, specialization is more efficient for society and for individual members of society. The wheel of consumer analysis and the extended marketing mix categorizes entrepreneur´s marketing rationale by either service or product orientation

Relations between measures and each of the factors, considering the possible theoretical constructs, are called correlational hypothesis. PCA rejects the null hypothesis that variable correlation within one measure is not significant ($p< 0, 05$).

Table 3 identifies the number of common factors influencing a set of latent variables. The strength of the relationship between each latent variable and each observed measure, determined what sets of items "hang together" form table 3 (De Coster, 1998). Empirical results offer a set of new hypothesis or strategies for the Colombian technology based entrepreneur. As mentioned before, the essence of strategic thinking is based upon making decisions that perform business activities in a different manner from competitors, therefore bringing a unique value proposition in return. Strategic mapping in a sense can be used to generate, visualize, structure, and classify ideas, and as an aid to studying and organizing information, solving problems, making decisions, and writing.

RESULTS

Once spearman´s rho coefficient correlation analysis had been performed: Affective-Cognitive system vs Behavior showed significance of (0.360) **, Behavior vs. Environment showed (0.555) **, Environment vs. Affective –Cognitive showed (0.480) **.These results reject the null hypothesis that the wheel of consumer analysis could not be applied at an industry level to interpret entrepreneur`s marketing rationale dynamics. In contrast, these results show the flexibility of WCA for application on different levels of consumer analysis. It helped understanding different societies, industries or activity changes, marketing segments or consumers as individuals. It can be fruitfully used in a wide range of scenarios form small business marketing strategist to public servants in the processing of different business dynamics.

The Kaiser-Meyer-Olkin measure of sampling adequacy tests whether partial correlations among items are small. Values between 0.5 and 1 indicate how appropriate it is to apply Factor Analysis to the data. We obtained 0.793 and so, proceeded with the analysis. Bartlett's test of sphericity tests whether the correlation matrix is an identity matrix, which would indicate that the factor model is inappropriate. If

variables are not intercorrelated, the test should present a significant level above 0.05. In our case, the analysis showed 0.00 at a p<0,01 and so, the data matrix is appropriate to continue the analysis.

Table 3 Rotated Component Matrix

	Latent Variable H1	Latent Variable H2	Latent Variable H3	Latent Variable H4	Latent variable H5
Brand fidelity	0.722				
Repeated purchase	0.692				
Ad frequency	0.602				
Service purchase intention	0.549				
Word of mouth advertising	0.549				
Knowledge transfer		0.786			
Knowledge acquisition		0.757			
Knowledge integration		0.704			
Customer driven attitude			0.643		
Perceived value			0.617		
Store image			0.583		
Price elasticity				0.687	
Ad saturation				0.682	
Brand Awareness					0.679
Pushing/placing					0.595

Exploratory factor analysis is often confused with principal component analysis (PCA), a similar statistical procedure. However, there are significant differences between the two: EFA and PCA will provide somewhat different results when applied to the same data. The purpose of PCA is to derive a relatively small number of components that can account for the variability found in a relatively large number of measures. This procedure, called data reduction, is typically performed when a researcher does not want to include all of the original measures in analyses but still wants to work with the information that they contain. Only factor loadings above 0,6 were considered in the analysis to sustain the validity of the results.

Figure 2 illustrates the combination of continuous self-reinforcing hypothesis generation process in a value cycle as opposed to a linear value chain with resource allocation to those hypotheses including present and future indicators. The Balanced Scorecard defines objectives and activities in the short term (causes) that will differentiate a company from competition and create long-term value for customers and shareholders (results). The process is top down oriented, by clearly defining the strategy from the perspective of shareholders and customers.

A set of six hypotheses was proposed, based upon the variables reflecting each main latent variable. Since correlation was significant at p<0.01, the null hypotheses, that mutual correspondence is absent, is rejected.

H1: Amplification: augmented intensity of a physical phenomenon by means of an apparatus of device.

Entrepreneurs appreciate the brand fidelity concept by engaging in activities oriented to generate buying patterns between existing clientele. Customer based growth is not to be achieved solely based upon the accidental consumer, but incidental on a referral basis.

H2: Apprehension: Acquisition of knowledge in specialized fields to master core competences.

Entrepreneurs find themselves immersed in a market whose imperative condition is to sustain long-term differentiation through the introduction of knowledge management techniques by acquisition, integration and transferring of knowledge.

H3: Quotation: Finding safe harbor within foreign boundaries locating and satisfying customer needs.

Entrepreneurs choose to sell their product to easily pleased and accessible consumers, especially those products the company can make best.

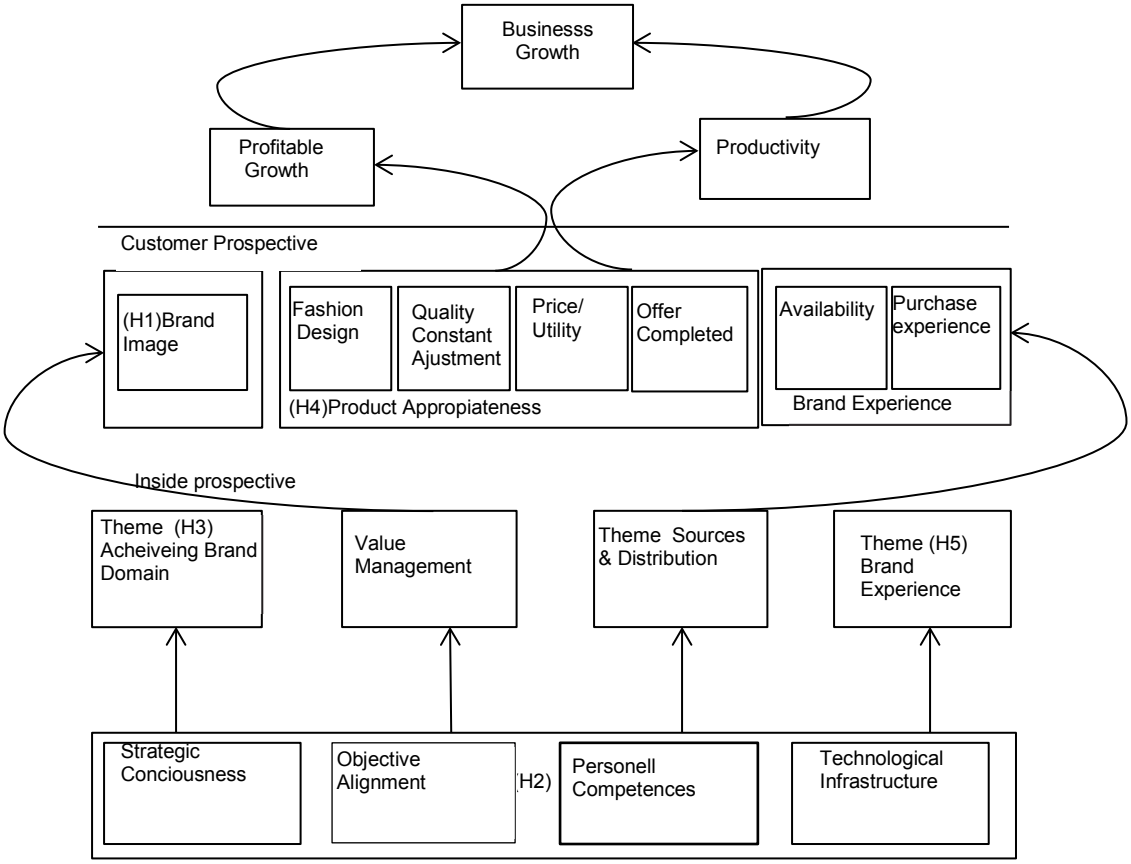
H4: Aptitude: Qualification to be apt, capacity or willingness to perform a task, duty or responsibility

Entrepreneurs acknowledge the necessity to compete on price and quality for their products and consider competition.

H5: Acceptance: Experiencing of comfort by approving a certain course of action.

Entrepreneurs must develop advanced use of strategies tailored to influence the consumer's environment to willingly generate positive word of mouth advertising on both existing and potential clientele.

Figure 2 Definition of the Cause-effect Relationships of the Strategy



Mind mapping is a simple technique for drawing information in diagrams, instead of writing it in sentences. The diagrams always take the same basic format of a tree, with a single starting point in the middle that branches out, and divides again and again. The tree is made up of words or short sentences connected by lines. The lines that connect the words are part of the meaning.

CONCLUSIONS

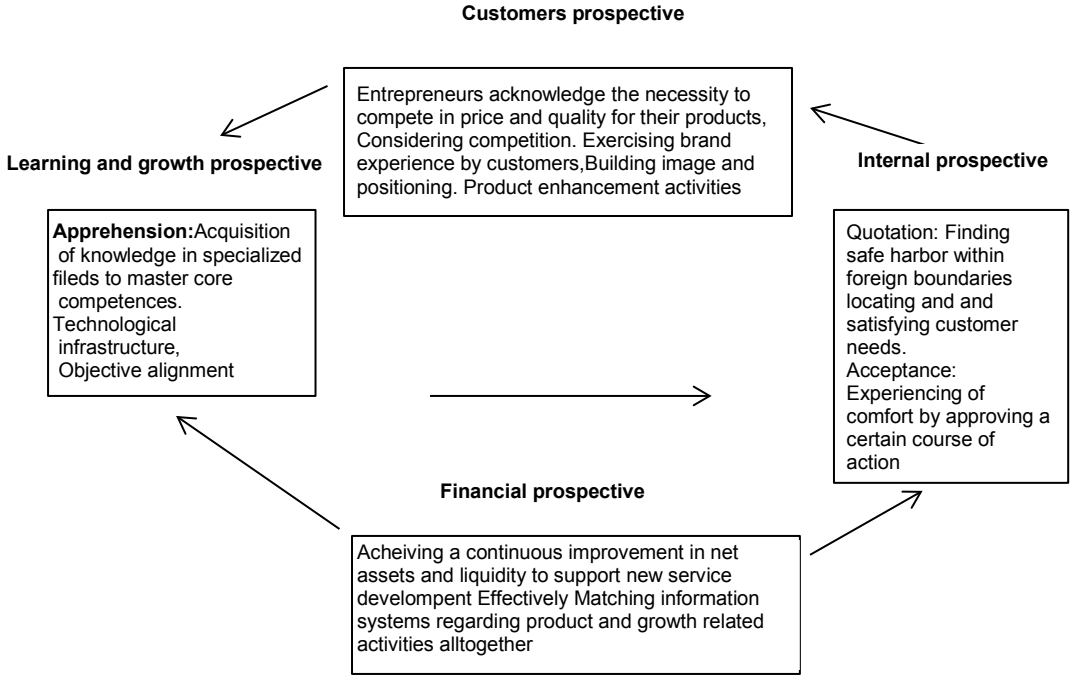
The Balanced Score Card effort by SENA will be the starting point for a new beginning in the quest to reach its long term vision: ¨providing the latest learning methods, meeting equity between the worker´s need and Business World Demand¨. Emphasizing the phrase meeting equity is good news. Previously, entrepreneurial courses only had to follow the book. They didn`t have to worry about when or how actual knowledge management was being performed. The implementation of a Hypothesis based BSC at business incubators involves a cultural shift since it now holds the entrepreneur accountable for the entire learning process. He or she is now compelled to confront their own perception to real market behavior by maintaining a customer centric focus and a sense of continuous process improvement while emphasizing

on results. The Entrepreneur´s BSC will play a crucial role on easing the cultural change that will make possible the supply function to rely on customer value co-creation process as opposed to mere compliance with customer oriented results.

BSC formulates a structure to balance organizational tensions derived from the need to seek business growth and profitability both of which apparently pursue opposing objectives. Figure 3 shows how cultural based hypotheses coming from empirical analysis contributed to the value management process by considering an idiosyncratic perspective found on strategy focused organizational literature. Strategic mapping cleared the way to formulate the balanced scorecard.

The customer's perspective should also include the value proposition, which defines the way in which the company differentiates to attract, retain and deepen relationships with target market population. The financial objectives and relations to the customers are desired results. However they do not explain how to achieve them. The internal processes (such as product design, brand development and markets, sales, service, operations and logistics) define the activities necessary to create the customer value proposition and differentiation, being as important as the desired financial results sought.

Figure 3: Balanced Scorecard for Entrepreneurial Strategic Marketing in Colombia



The traditional approach of constructing special-purpose control methods would require information about the environment, which is not available a priori in several business situations. An alternate approach is to utilize a general control approach with significant capability to adapt its behavior, a so called adaptive problem solving methodology. Using adaptive problem-solving, businesses can use reinforcement learning to adapt an environment-specific search strategy given the entrepreneurial general problem solver with flexible control architecture. The resulting methods would enable the entrepreneur to increase its performance and achieve mission goals.

APPENDIX

The research questionnaire is laid out by questions appointing the intersection between marketing variables with each WCA element. Question #1 is an attitude measurement of Product-Affective Cognitive system relationship. Question #2 is a frequency measurement of Product-Behavior relationship. Question #3 is a perception measurement of the environment-product relationship. For space reduction, questions 4 to 21 are reported without the measurement instrument.

(*Opening line*) Universidad Militar Nueva Granada is currently conducting an interview among technology-based entrepreneurs. Our main purpose is to identify Education opportunities based upon their strategic marketing rationale. The following questions are related to entrepreneur´s attitude, perception and behavior to be answered on a semantic scale ,where according to the question, choice 1 is located at the beginning of the semantic spectrum and 10 is located at the end. i.e. 1= low frequency behavior, 10= extremely high frequency behavior.

1.Years in operation

Product is way Below Expectations	1 2 3 4 5 6 7 8 9 10	Product far exceeds Expectations

2.How often do you implement actions oriented to increase product contact on customers to generate brand loyalty?

	1	2	3	4	5	6	7	8	9	10
Never										
1 to 3 times a										
4 to 6 times a										
7 to 9 times a										
10 or more times										

3	Do you consider that it is easy and fast for your consumer to understand your product benefits and single out your brand among others?
4	Extremely fast and easy 1 2 3 4 5 6 7 8 9 10 extremely difficult
5	Do you consider necessary to include feelings and emotions to communicate your product benefits in order to persuade your customer in their decision making process?
6	How often do you have sales promotions, discounts, advertising or incentives to increase your referral base?
7	Do you consider add saturation on the same product category, can affect demand for your product?
8	Is your price value in accordance to product differentiation (1=not agree, 10=totally agree)
9	How often do you execute sales transactions using electronic means such as credit cards?
10	To what extent do you consider that price fluctuation affects product demand?
11	How important it is for your business to use store image (physical or virtual) in order to attract customer´s attention to your product?
12	What same costumer store visit, would you give to your business by frequency range? (1 to 3 times a year, 4 to 6 times a year, 7 to 8 times a year, more than 10 times a year)
13	How important do you consider it is to generate product contact with your customer, inside or outside your business establishment, i.e.: Trade shows, catalogs, webcasts, etc.
14	How important it is for your business to provide staff training oriented to improve your customer service?
15	How often do you offer integration activities among your employees oriented to share experiences and generate a sense of belonging to your business?
16	How often do you get sales leads from past customers?
17	Do you get your customer involved in product development processes by taking into consideration their observations?
18	How often do you implement cross training activities to tear organizational barriers and improve inside business communication?
19	How often do you implement activities oriented to acquire knowledge from outside of your business to improve business

	functions?
20	How important do you consider it is to improve your employee´s personal presentation or incorporate physical objects to enhance your service experience oriented bring more security in your customer´s decision-making process?
21	How often do your customers manifest a positive buying intention thanks to visual objects, packaging or sales brochures incorporated in your business?
22	Do you consider it is characteristic of your business, the need to make service tangible to help your customer understand your offering?

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CULTURAL RECEPTIVITY: PREDICTING CONSUMPTION IN THE INTERNATIONAL BEVERAGE MARKET

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ABSTRACT

The purpose of this study was to further explore the potential of the Hofstede paradigm as a predictor, and to uncover some meaningful interaction effects. Hofstede's Cultural Dimensions as predictors, rather than correlates, of consumer behavior at the national level are presented and discussed as an example. Potential for methodological application cuts across many fields. National cultures and volume consumed were studied in these empirical analyses of the international beverage market. The purpose was to discern patterns of variability in nations' receptivity to products offered by The Coca-Cola Company, as predicted by Hofstede's six Cultural Dimensions, urbanization, and income using regression analyses. Results indicated that, including Hofstede's recently published dimension of Indulgence Versus Restraint (IVR), cultural dimensions alone predicted up to 63% of the variability in volume consumed. Predictive models containing Uncertainty Avoidance Index (UAI), Individualism (IDV), and variable interactions were worthy challengers to models including urbanization, a known correlate with product distribution and advertising. This research should be of particular interest to any multi-national company, marketing researchers or practitioners, psychologists, sociologists, and behavioralists interested in the cultural context of acceptance. Results for BRIC countries, Mexico, Indonesia, and other nations were discussed.

JEL: M16

KEYWORDS: Culture, Coca-Cola, Coke, Consumption, Equation, Hofstede, International, Marketing, Predict, Regression

INTRODUCTION

The main objective of this study was to further explore the potential of the Hofstede paradigm as a predictor as well as investigating meaningful interaction effects. Hofstede's Cultural Dimensions as predictors, rather than correlates, of consumer behavior at the national level were presented and discussed in simple language. Hofstede, Hofstede, and Minkov (2010) indicated that product performance as related to cultural dimensions was only recently introduced in scholarly literature. Furthermore, they stated that, "understanding the variations in what motivates people is important for positioning brands" (p. 94). Variable receptivity to branding, at least in the case of The Coca-Cola Company, was shown to be driven by national cultural dimensions and in some cases interactions between two or more cultural dimensions (Lanier, 2011).

Bhushan (2001) remarked that urbanization adds fuel to the fire of evolving consumer preferences because it eases the difficulty of distributing products to the masses. Urbanization is also linked to per capita income, which makes affordability less of a barrier for consumers as well. Evolving beverage trends have paralleled the rapid growth of markets including the so-called BRIC countries of Brazil, Russia, India, and China. Rapid growth and market changes have also occurred in certain African nations, such as Ghana and Nigeria.

Although culturally different, each of these countries has become more modern, urban, and economically powerful in its own way over the past 50 years. Furthermore, each has exhibited a different profile of

cultural dimensions (Hofstede, 1980; www.geert-hofstede.com, 2011). Using these measures of culture, one may explore relationships between culture and the evolution of beverage markets. In fact, it may be possible to determine the cultural receptivity of a nation to The Coca-Cola Company's brands and other available beverage products.

LITERATURE REVIEW

Seminal works containing concepts applied directly to the research topic included *Culture's Consequences: International Differences in Work-Related Values* (Hofstede, 1980), *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations* (Hofstede, 2001), and *Cultures and Organizations: Software of the Mind* (Hofstede, Hofstede, & Minkov, 2010). Minkov's (2007; 2011) extension of cultural dimensions from the World Value Survey included the addition of Indulgence Versus Restraint (IVR), a new cultural dimension to Hofstede's five previously defined dimensions: Power Distance Index (PDI), Individualism Versus Collectivism (IND), Masculinity Versus Femininity (MAS), Uncertainty Avoidance Index (UAI), and Long-term Versus Short-term Orientation (LTO). Each of these works fulfilled an important need in the research goal. Along with data available from The Coca-Cola Company and gapminder.org, Hofstede's cultural dimensions potentially linked national behavioral tendencies with national product results. Additionally, Hofstede's and Minkov's research facilitates a more simple understanding of complex data by allowing the reader, manager, or leader to glean meaning from cultural dimension data with renewed perspective.

As a social psychologist, Geert Hofstede has been considered the father of cross-cultural research due to his creation of a paradigm for national cultures. His definition of culture in *Culture's Consequences* (Hofstede, 1980) was "the collective programming of the mind which distinguishes the members of one human group from another" (p. 25). When Hofstede's study of culture within IBM was published, it immediately drew attention. Before that time, human nature was widely considered a natural tendency attributable to all humans, but Hofstede determined that human nature must be redefined in terms of cultural context. Since much of the world's business, social, and psychological research had been conducted in North America and Europe, the conceptual framework for human nature was incomplete. Hofstede's findings strongly influenced the fields of business, sociology, psychology, and many others. The perspective of researchers was introduced as a variable dependent upon culture rather than independent or constant.

Hofstede's research is ongoing and he has suggested several areas for future research. For example, he suggests that Asian researchers have an important role to play in trading ideas with colleagues from other parts of the world in order to escape from the cultural restrictions of one's own Western research perspective (Hofstede, 2001). Hofstede suggested future replications, simulations, and acculturation studies to develop a better understanding of personality and other human traits. Finally, he encouraged research in the business arena where he predicted that cultural norms of a long-term view and more responsibility toward society will outlast somewhat recent obsessions with growth and personal wealth.

Standard criticisms of Hofstede's work include: weaknesses of surveys in general, that nations are not suitable for studying culture, that the use of one company weakens the implications, that old data was used, and that additional dimensions must be developed to explain human behavior. Even Hofstede himself raises questions about how American ideas for business may have been imported by businesses in other countries (Goodstein, Hunt, & Hofstede, 1981). However, some of these weaknesses may also act as strengths, depending on uses of the data, because Hofstede's cultural dimensions proved to be concise and powerful.

Notably, researchers have analyzed applications of Hofstede's work (Kirkman, Lowe, & Gibson, 2006; Taras, Kirkman, & Steel, 2010) to suggest limitations and make recommendations for researchers who

plan to envelop their study within Hofstede's paradigm. Despite the critics of Hofstede's (1980, 2001, 2010) *Culture's Consequences*, users of the cultural paradigm have often found it to be revealing in many fields of research and practice. Taras, Kirkman, and Steel (2010) noted that a quantitative examination of Hofstede's cultural value dimensions was "conspicuously absent" (p. 405) from the body of research. Therefore, they conducted a meta-analysis of nearly 600 empirical studies encompassing at least 200,000 participants. Relationships between cultural dimensions and measurable outcomes such as emotions, attitudes, behaviors, and job performance were explored. In the course of their research, the use of cultural values in general and Hofstede's cultural dimensions specifically as the focus of research was questioned and resolved. Ultimately, the recommendation for scholars to continue using Hofstede's framework in research was strongly supported, as long as culture was relevant to the research question and national dimensions of culture were suitable (Taras, Kirkman, & Steel, 2010).

One of the primary motivations for the extensive study conducted by Taras, Kirkman, and Steel (2010) was to determine the overall value of Hofstede's dimensions as predictors. Each of the four initially described cultural dimensions (PDI, IND, MAS, and UAI) were analyzed for predictive power. Although IND was the most popular subject of study (Kirkman, Lowe, & Gibson, 2006; Oyserman, 2002), no evidence existed to suggest this dimension was the best predictor for expressions of culture (Taras, Kirkman, & Steel, 2010).

The decision proposed by Taras, Kirkman, and Steel (2010) to refrain from making predictions about relationships between specific cultural dimensions and specific outcomes "but rather to take a higher level overview of Hofstede's cultural value effects," did not prevent them from publishing some very useful results. For example, regarding emotions and attitudes, cultural dimensions provided stronger predictive power than measures of personality. Furthermore, cultural dimensions proved to be a relatively valuable predictor of emotions, attitudes and perceptions, and behaviors.

Perhaps most relevant to this research were the following statistically significant positive relationships when studying data at the national level (Taras, Kirkman, & Steel, 2010): Individualism with Wealth (0.70), Innovation (0.65), Income Equality (0.64), and Satisfaction (0.64); Masculinity with Corruption (0.29) and Wealth (0.11); Power Distance with Corruption (0.83), Agreeableness (0.46), Conformity (0.42), and Family Importance (0.34); Uncertainty Avoidance with Neuroticism (0.59), Corruption (0.43), and Conformity (0.26). Marketing messages often make reference to attitudes or behaviors such as those listed above. Therefore, direct relationships between cultural dimensions and attitudes affecting consumer choices are almost certain to exist. Moreover, characteristics of nations pertaining to these behaviors could certainly affect a population's receptivity to beverage products.

Conversely, the following negative relationships were among those found to be statistically significant at $p < 0.05$ (Taras, Kirkman, & Steel, 2010): Individualism with Corruption (– 0.84), Family Importance (– 0.55), External Locus of Control (– 0.46), Agreeableness (– 0.42), and Conformity (– 0.42); Masculinity with Gender Role Equality (– 0.50) and Satisfaction (– 0.16); Power Distance with Income Equality (– 0.60), Openness (– 0.54), Gender Role Equality (– 0.49), Extraversion (– 0.48), and Human Rights (– 0.45); Uncertainty Avoidance with Satisfaction (– 0.49), Innovation (– 0.45), Income Equality (– 0.25), and Wealth (– 0.23).

Results of these meta-analyses signify the importance of cultural dimensions as significant predictors of many emotions and attitudes. Purchases of beverage products are commonly linked to the products' emotional appeal. Therefore, it may be reasonable to expect that these cultural dimensions are also related to consumer decisions such as beverage choice.

In fact, Punyapiroje (2002) found that the most commonly used approach in Thai advertising for food and beverage products was fun and pleasure value. Similarly, Strauss (1998) found that culture-specific

tendencies were responsible for the emotional appeal of advertisements in Japan and Korea. The web of relationship between cultures, emotions, and beverages seemed likely to exist and may be quite strong.

DATA AND METHODOLOGY

Populations of countries used in this study were represented primarily by national data available from The Coca-Cola Company's 2010 annual report (2011); Hofstede, Hofstede, and Minkov (2010); and gapminder.org (2011). The Coca-Cola Company provided a ubiquitous product line upon which to study relationships between products and cultures. Data was available for the volume of beverage products distributed throughout each of 35 countries. Gapminder.org provided data by country regarding urbanization, per capita income, and other characteristics of each nation.

Scores for each of five cultural dimensions were reported by nation and by world region (Hofstede, 2010). Although Hofstede's fifth and sixth dimensions of Long Term Orientation and Indulgence versus Restraint, respectively, were only available for a select subset of nations, the nations of primary interest in this research were included in that subset. Populations of world regions may be represented by the aggregated data of nations making up Latin America, Asia, Europe, and North America.

In some cases, not all countries in the region were included under that data label. That is, the data from some nations may be missing when aggregated. However, national data was the level of analysis most appropriate for this study (Hofstede, 2010). Therefore, world regions were not a primary focus.

Examining prediction equations of the following form led to a cultural model for product volume consumed:

$$VOL = \beta_0 + \sum\beta_i H_i + \beta_7 URB + \beta_8 PCI + \varepsilon, \text{ where } i = 1 \text{ to } 6, \quad (1)$$

where H_i represents each of Hofstede's six cultural dimensions.

Eventually, interaction effects were examined and their role in prediction equations of the form

$$VOL = \beta_0 + \sum\beta_i H_i + \sum\beta_{ij} H_i H_i + \varepsilon, \text{ where } i = 1 \text{ to } 6, j = 1 \text{ to } 6, \quad (2)$$

where each pair H_iH_i represents a cross-product potentially resulting in a positive interaction effect between two cultural dimensions.

This formula can be extended further to include trios of variables. The objective of designating a model for volume consumed, potentially including interactions among Hofstede's Cultural Dimensions, was met by presenting models and discussing preferences for model selection to maximize efficiency of the prediction process.

The dependent variable represented by VOL was the per-person-volume of The Coca-Cola Company's beverages consumed in each country annually. The brands appearing in Table 1 below, and some smaller brands, were measured for 32 different countries (The Coca-Cola Company, 2010) which also were measured using Hofstede's Cultural Dimensions (Hofstede, Hofstede, and Minkov, 2010). This dependent variable, VOL, represents a measure of national receptivity to the company's products.

The independent variables used to predict VOL fall into two categories: cultural dimensions and societal norms. The cultural dimensions used were described in detail by Hofstede (2010) to include Power Distance Index (PDI), Individuality (IDV), Masculinity (MAS), Uncertainty Avoidance Index (UAI),

Long Term Orientation (LTO), and Indulgence Versus Restraint (IVR). These dimensions have been routinely maintained, and are available for 76 countries (PDI, IDV, MAS, and UAI) or 93 countries (LTO and IVR) depending on the publication edition in which each dimension first appeared.

Table 1: A List of the Coca-Cola Company's Largest Beverage Brands

Sparkling Beverages		Still Beverages	
	Juices and Juice Drinks	Coffees and Teas	Waters
Coca-Cola	Minute Maid	Nestea Teas	Ciel
Sprite			
Diet Coke / Coca-Cola Light	Simply	Georgia coffees	Dasani
	Dobriy	Sokenbicha teas	Bonaqua /Bonaqa
	del Valle	Leao / Matte Leao	Ice Dew
Coca-Cola Zero / Coke Zero	Cappy	Teas	Kinley
Schweppes		Dogadan teas	Glaceau Smartwater
Thums Up			
Fresca	Energy Drinks	Other Still Beverages	Sports Drinks
Barq's			
Lift	Burn	Glaceau Vitamin Water	Powerade
Pop			
Inca Kola	Relentless	FUZE	Aquarius
Kuat	NOS		
	Full Throttle		

This table shows the Coca-Cola company's largest brands.

The societal norm measures including urbanization (URB), and Per Capita Income (PCI), were available for 205 countries. URB represents the percentage of total population living in areas defined as urban, as reported to the United Nations. PCI represents per capita income calculated using gross domestic product converted to international dollars using purchasing power parity (PPP) ratings. Data were reported in constant 2005 international dollars.

In order to construct a complete dataset to be used in analyses, only the 32 countries with measures for each of the dependent and independent variables were studied. The Coca-Cola Company distributed two or more brand names within each of the 32 countries.

The first research question of interest was, "Are national measures of cultural dimensions, urbanization, and economic success statistically significant predictors of a nation's receptivity to beverage categories?"

A model using seven of the eight independent variables (without IVR) explained 61.35% of the variability in national consumption of The Coca-Cola Company's products ($F = 3.85$, $p < 0.05$). All of the correlations between independent variables and VOL were relatively low with one notable exception: Urbanization, URB, was significantly correlated with product volume, VOL, ($r = 0.7048$, $p < 0.0001$), as seen in Table 2 below. The literature indicated that urbanization contributed to mass distribution of beverage products (Bhushan, 2001), although no empirical evidence was provided. Therefore, this correlation came as no surprise, but did help to quantify and formalize the relationship between urbanization and volume consumed.

Could it be that urbanization dominates culture when predicting beverage consumption? Or that an "urban culture" exists to explain variability in the volume consumed of The Coca-Cola Company's beverages? In fact, urbanization alone accounted for 49.67% of the variability among countries' product consumption, and the model was statistically significant ($p > 0.0001$). Both the intercept and the coefficient for URB were statistically significant with $p = 0.0154$ and $p < 0.0001$ respectively.

At this point, one could be satisfied that URB dominates the prediction of VOL and decide that no further study is worthwhile. However, with at least 11.68% (61.35 minus 49.67) of product consumption

explained by other variables in the full model of the first equation, and *possibly more* due to interactions between dependent variables or the addition of IVR, this question was pursued further.

Table 2: Correlations between Cultural Dimensions and the Dependent Variable, VOL

VOL	(PDI) Power Distance Index	(IDV) Individualism	(MAS) Masculinity	(UAI) Uncertainty Avoidance Index	(LTO) Long-Term Orientation	(URB) Urbanization	(PCI) Per Capita Income
Correlation Coefficient	-0.2547	0.2928	0.0985	0.3382	-0.0445	0.7048	0.3134
Probability	0.1595	0.1039	0.5917	0.0583	0.8328	<0.0001	0.0807

This table shows the correlations between Hofstede's Cultural Dimensions and Product Volume Consumed.

The equation listed below is a first model for cultural receptivity in that it predicts volume of product consumed using *only* Hofstede's Cultural Dimensions as predictors:

VOL = -612.86097 + 6.02334(INV) + 0.51502(LTO) - 1.23483(MAS) + 3.49094(PD) + 6.04430(UA) (3)

The ANOVA in Table 3 below indicates that 45.97% of the variability in product consumption was explained by Hofstede's cultural dimensions alone. This brings into question the dominance of URB for predicting VOL.

The model was statistically significant, and parameter estimates for IDV and UAI were also statistically significant. A model that successfully predicts 46% of variability in consumption of The Coca-Cola Company's beverage products using only cultural dimensions has been identified.

The analyses of this research question established several new pieces of evidence:

1. URB was significant, accounting for 49.67% of the variability in VOL.
2. Hofstede's Cultural Dimensions alone explained *at least* 45.97% of the variability in product volume, and possibly more when interactions are considered.
3. These equations could likely be improved and refined by modifying the regression model and applying statistical techniques.

These results successfully led to a second research question: "Do interaction effects exist between cultural dimensions, thereby improving prediction models of the same form when predicting receptivity?"

Regressions on many possible variations of the equations given above were conducted using one, two, three, four, five, and six predictor variables. Typically the contributions of predictor variables may overlap and therefore the model's overall effectiveness is less than the sum of its parts. However, it is possible for variables to interact in such a way that the overall effect is *greater* than the sum of its parts.

For example, IDV alone explained 9% of the variability observed in VOL, and UAI explained 11% of that variability. One might expect that these two variables together predict no more than 20% of the variability observed in VOL. Surprisingly, the model with both IDV and UAI entered as predictors of VOL yielded an R^2 of 0.27, explaining 27% of the variability in VOL. This synergetic relationship is indicative of an interaction effect. There also appeared to be a rather strong interaction effect between LTO, IDV, and UAI. These three variables combined to increase R^2 by 0.21, from a sum of 20% added individually to a total of 41% when entered into the model as a trio.

Table 3: Linear Regression Results Using Hofstede's First Five Cultural Dimensions as the Lone Predictors

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	5	336,147	67,229	3.23	0.028**
Error	19	395,041	20,792		
Corrected Total	24	731,188			
Root MSE	144.193	R-Square	0.4597		
Dependent Mean	207.36	Adj R-Sq	0.3175		
Coeff Var	69.5376				
Variable	Parameter Estimate	Standard Error	t Value	Pr > |t|	
Intercept	-612.8610	318.4419	-1.92	0.0694*	
PDI	3.4909	2.8768	1.21	0.2398	
IDV	6.0233	2.1000	2.87	0.0098***	
MAS	-1.2348	2.4986	-0.49	0.6268	
UAI	6.0443	1.7296	3.49	0.0024***	
LTO	0.5150	1.3232	0.39	0.7014	

This table shows the Analysis of Variance when Hofstede's Cultural Dimensions are the lone predictors of Product Volume Consumed.

Of the 62 possible combinations of six independent variables, 11 combinations displayed a positive change in R^2 greater than the sum of individual variable contributions. These synergetic relationships resulted in increases to the R^2 statistic ranging from 1% to 21%. Table 4 displays each significant model's terms, predictor variables entered, and R^2 increase achieved due to interaction effects between each combination of variables. Although other interactions may exist and be useful, in this case two of the strongest interaction effects were pursued using cross-products of predictor variables.

Table 4: Selected Models from a Comprehensive Search for Interactions

Predictor variables	**Model's R-square**	**Statistical Significance**	**Change in R^2 due to interaction**
IDV	9%	No	n/a
MAS	1%	No	n/a
UAI	11%	No	n/a
LTO	0%	No	n/a
URB	50%	$p < 0.05$	n/a
PDI, UAI	20%	$P < 0.05$	+3
IDV, UAI	27%	$p < 0.05$	+7
PDI, IDV, UAI	27%	$p < 0.05$	+1
IDV, MAS, UAI	27%	$p < 0.05$	+6
IDV, UAI, LTO	41%	$p < 0.05$	+21
IDV, MAS, UAI, LTO	42%	$p < 0.05$	+21
PDI, IDV, UAI, LTO	45%	$p < 0.05$	+19
PDI, IDV, UAI, LTO, PCI	45%	$p < 0.05$	+9
PDI, IDV, MAS, UAI, LTO	46%	$p < 0.05$	+19
LTO, URB	54%	$p < 0.05$	+4
MAS, LTO, URB	54%	$p < 0.05$	+3

This table shows possible models from a comprehensive search for interactions.

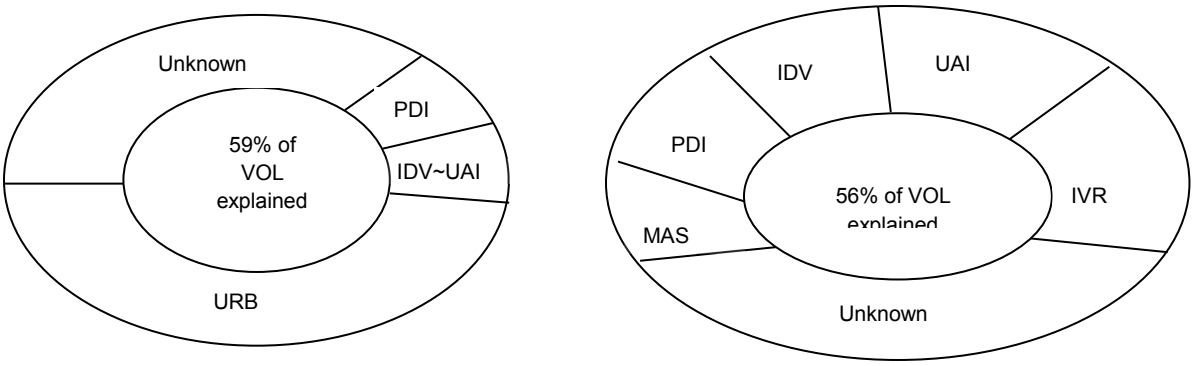
The existence of interaction effects among Hofstede's cultural dimensions led to third research question: "What parsimonious model could be determined to predict volume consumed?"

Initially, the most powerful and relatively simple variable for predicting product consumption was Urbanization, as URB alone predicted about 50% of the variability in VOL. However, an R^2 statistic of 0.61 was obtained when all variables were included in the regression model. Hopefully, a regression model with fewer variables could yield a similar R^2 and therefore be a more efficient way to predict VOL.

In fact, the addition of IVR was a huge improvement of the predictive model. The model was more highly significant, statistically speaking; had three statistically significant predictors instead of only two;

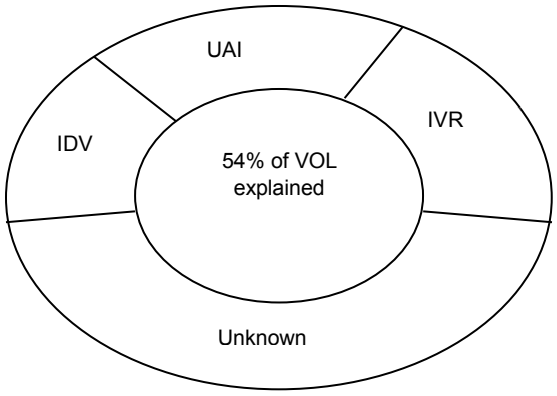
and improved R^2 by 10 percentage points, an increase in predictive power of 21% from 0.4597 to 0.5582. Furthermore, prediction power increased while the number of variables in the model was reduced.

Figure 1: Models for Volume Consumed With and Without Urbanization as a Predictor



This figure shows the effect of urbanization as a predictor.

Figure 2: A Three-variable Model for Volume Consumed



This figure shows the three-variable model for volume consumed.

CONCLUSIONS

This study has taken a broad view of the relationships between cultural dimensions and the products of one company, in one industry, and in only a few of the world's countries. However, there is enough material contained within the above models, equations, and results to encourage further study of these, and other, relationships. Only some of the many potential findings, examples, and implications are given here.

Overall, analyses conducted for this study revealed some surprising results. First and foremost was the discovery that Hofstede's first five cultural dimensions *alone* predicted nearly half, 46%, of the variability observed in national consumption of The Coca-Cola Company's beverages. With the addition of IVR, the predictive power jumped to 63%. This information should be of particular interest to both The Coca-Cola Company and their competitors, but also to any multi-national company, marketing practitioners, marketing researchers, and behavioralists. This research validates Hofstede's original work for use in consumer behavior, at least at the national level, as well as for its well-recognized usefulness in studying organizational behavior.

Secondarily, the belief that urbanization was a factor in product consumption (Bhushan, 2001) was upheld. Urbanization appears to be a key factor in the distribution and consumption of products offered internationally by The Coca-Cola Company. However, it is also clear that Hofstede's cultural dimensions enhance the understanding of these relationships, and that Hofstede's dimension of Indulgence versus Restraint was at least as valuable as Urbanization.

Furthermore, interaction effects were discovered between Hofstede's cultural dimensions. In this case, Hofstede's Individuality measure appeared to interact with his Uncertainty Avoidance Index to predict product consumption. This finding alone uncovers the potential for nine more paired variables based on Hofstede's five cultural dimensions, and 14 more when using IVR. These potential interactions may facilitate research in any behavioral setting.

A case was supported for developing predictive equations for marketing purposes. Marketing is a field that is data rich, but much of the available information is not used to its fullest purpose. Opportunities abound for the marketing researcher to glean information from the many sources of data, and produce meaningful models that enhance our understanding of human interactions. This understanding continues to evolve with new developments such as Hofstede, Hofstede, and Minkov's (2010) recent presentation of the cultural dimension Indulgence versus Restraint.

Finally, it is reasonable to conclude that the evolution of tastes takes place differently in each country, and that cultural variables are at least partially, if not largely, responsible for these patterns. Beverage choices, and the evolution thereof, are dependent on the measurable cultural and societal variables researched for this study. Hofstede's cultural dimensions can and should also be used to measure beverage categories within companies, new product introductions, and to predict future directions of the global beverage market.

Taras, Kirkman, and Steel (2010) alluded to the predictive power of Hofstede's Cultural Dimensions, but concrete business examples of predictive equations and interactions between dimensions are scarce. Therefore, the practical implications of this 32-nation study should be clear for market researchers, beverage companies, and any other multinational company. Theoretical implications are clear for researchers in psychology, sociology, consumer behavior, and other fields: interaction effects between cultural dimensions deserve further study, and recently introduced IVR may be a powerful idea for better understanding culture in the context of behaviors.

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THE DETERMINANTS OF ECOTOURISM BEHAVIORAL INTENTIONS

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ABSTRACT

With the recent promotion of ecotourism in Taiwan, one strategy for developing sustainable ecotourism is to increase the competitiveness of tourism through experiential marketing and superior service quality. This study examines the effects between experiential marketing and service quality of ecotourism and tourists' behavioral intentions. The results show that experiential marketing, and service quality of ecotourism were positively correlated with tourists' behavioral intentions; experiential marketing and service quality had a positive influence on tourists' behavioral intentions; the perceptions of affective experiences or feel of tourist clusters segmented by ecotourism service quality differed significantly; and according to marital status of the demographic variables, tourists' perceptions of experiential marketing, service quality, and behavioral intentions differed significantly. These findings indicate that biodiversity ecotourism could provide optimal experiential marketing and prompt tourists who are satisfied with the service quality to return for another ecotourism experience. Tourism management could better plan the development of ecotourism by the results of this study.

JEL: M1, M10

KEYWORD: Ecotourism, Experiential Marketing, Service Quality, Tourists' Behavior Intentions

INTRODUCTION

Tourism is considered the most promising industry of the twenty-first century and is crucial to economic development. With greater tourism and service quality expectations, tourism service providers might adjust their management styles to increase competitiveness and conquer the challenge of emerging demands. In the National Development Plan outlined by the authorities in Taiwan, the doubling tourist arrivals plan was one of the ten priority investments. In the year 2011, tourism policies promoted the implementation of pilot projects for tourism excellence and tour Taiwan and experience the centennial, which were geared toward "international tourism, better quality of domestic tourism, and more foreign exchange earnings," introducing Taiwan to foreign tourists. Tourism service providers face numerous competitors and specific laws and regulations amidst an ever-changing business environment (Annual Tourism Market Profile, 2011; Survey of People Tourism, 2011; The Doubling Tourist Arrivals Plan, 2007). Since the 1970s, increasing ecological and environmental protection awareness, combined with the transformation of consumer market, has led to a new mode of tourism, which combines ecological conservation, environmental education, and cultural experiences.

This type of tourism differs from traditional recreational activities (Taiwan Sustainable Eco-Tourism Association, 2002). In 2007, ecotourism accounted for 7% of the international tourism market, increasing rapidly at an annual rate of 10% to 30% (Lin, 2007). To reduce the environmental impact of recreational activities, to encourage local residents to participate, and to conserve natural and cultural resources, the Tourism Bureau in Taiwan is promoting the ecotourism policies that focus on "local, ecological, and diversified tourism." In 2000, the Plan to Boost Tourism in Taiwan in the 21st Century included ecotourism as one of the development focuses of the tourism industry.Inspired by the environmental planning and development strategies of the United Nations and World Tourism Organization, Lin(2007) assigned the period between 1990 and 1999 into the development stage of ecotourism in Taiwan, 2000

onwards as the peak, and 2002 as the "Year of Ecotourism." Lin(2007) anticipated that the promotion of ecotourism and development of experiential ecotourism would lead to a culture and knowledge-based experience economy after 2010. A few studies examined ecotourism issues. Chaminuka, Groeneveld, Selomane & van Ierland (2012) investigated the ecotourism potential of rural communities near the Kruger National Park in South Africa. Olson (2012) explored two unique ecotourism projects in the Sierra of Manantlán Biosphere Reserve in west central Mexico by using anthropological methods. Buckley (2009) studied what outcomes ecotourism has completed in regard to environmental issues.

This study also presented an analytic framework to classify four types of mechanism, and the barriers to assessing environmental records of the ecotourism were analyzed such as problems of definition, the use of eco-labels, and the range of inclusion within any analysis. According to a report by the World Tourism Organization in 2000, understanding tourists' expectations and providing high-quality services that meet their expectations and needs is crucial to maintain the advantage ecotourism has on the tourism market (Parasuraman, Zeithaml & Berry, 1988). In addition to service quality, ecotourism also emphasizes "experience" and "education," enabling consumers to enjoy the positive emotions through recreational experiences. Therefore, understanding consumers' feelings, demands, and experiences, as well as the environment and ecology, is essential. Pine & Gilmore(1998) found that when a company's products or service increasingly resemble those of its competitors, it should emphasize enhancing the customers' experience. Therefore, creating diverse ecotourism experiences through experiential marketing can increase potential tourists' motivation to tourism, and is vital for enhancing tourists' behavioral intentions.With ecotourism flourishing in Taiwan, the tourism industry might consider how to use diverse experiences and service qualities to increase tourists' motivation to revisit instead of only one-time visits.

This study investigates the combined effects of experiential marketing and service quality on tourists' behavioral intentions. By examining the tourists visiting ecotourism attractions in Taiwan, this study explores whether experiential marketing increases tourists' perception of service quality and subsequently enhances their behavioral intentions. This study also analyzes the relative importance of various factors of experiential marketing. Considering the essential dimensions, we might provide implications for improving industry marketing strategies to increase efficiency and boost tourists' behavioral intentions. The results of this study also provide a reference for ecotourism management to improve their management strategies. The remainder of this paper as follows. We align our work with the relevant literature in section 2. The research methodology and empirical results are illustrated in sections 3 and 4, respectively. Finally, conclusions and implications are drawn in Section 5.

LITERATURE REVIEW

Ecotourism: Hetzer(1965) proposed that traditional tourism be replaced with "ecological tourism." Additionally, Hetzer(1965) also identified four core principles of ecotourism, namely, minimizing the environmental impact, respecting and minimizing the impact on local culture, maximizing the economic benefits for local residents, and maximizing tourist satisfaction. Ceballos-Lascurain(1983) used the term "ecotourism" when advocating the conservation of the northern Yucatan wetland, a American flamingo habitat. To persuade developers to terminate construction of a pier, Ceballos-Lascurain(1983) highlighted that conserving the wetland would attract tourists for bird watching, stimulating local economic activities.

They contended that ecotourism is a method for minimizing the impact of tourism on the local culture and environment while maximizing economic benefits and tourist satisfaction. Examining ecotourism-related products and activities, Jaafar & Maideen(2012) discussed the economic sustainability of chalets on four Malaysian islands and other small islands in the area. To increase the sustainability of tourism to the islands, they proposed a best-fit business model for small- and medium-sized island chalets, explaining how a small local business community operates on an island. With ecological sustainability as the starting point, ecotourism is a mode of tourism that emphasizes the careful selection of recreation sites, the

nature-loving cultivation, respect for local residents' life and culture, and the sharing of benefits with local residents.

Experiential Marketing

Schmitt(1999) developed a conceptual framework for managing customer experience, which was extended into strategic experiential modules. He also identified five different types of experiences or strategic experiential modules including sensory experiences or sense, affective experiences or feel, creative cognitive experiences or think, physical experiences and entire lifestyles or act, and social-identity experiences or relate; the sum of which comprises one strategic experiential module. Depending on the project goals or demands, these five experience forms could be implemented independently or with other forms. On the basis of the strategic modules of experiential marketing proposed by Schmitt (1999), we developed measurement dimensions for experiential marketing in ecotourism, namely, sense, feel, think, act, and relate experiences.

Service Quality: The American Marketing Association defines a service as "activities, benefits, or satisfactions that are offered for sale or provided in connection with the sale of goods." A service could be provided in three classifications: as intangible benefits or products that can be sold independent of other properties, such as legal services; intangible activities provided by tangible properties, such as transport and aviation; and intangible services related to purchases, such as after-sales service (Alexander, 1960).

For customers, assessing service quality is more difficult than assessing product quality because services are often intangible, inseparable, heterogeneous, and transient. Because production and consumption occur simultaneously, other external factors must be considered to assess service quality (Schiffman & Kanuk, 2000). Additionally, Lovelock (2001) suggested that for customers, adding services to products increased their perceived utility and value. Parasuraman *et al.*(1988) defined service quality as the disparity between consumers' anticipation and cognitive perceptions of a service, meaning service quality = cognitive perceptions of service – anticipation of a service. Their study also proposed five factors of service quality: reliability, responsiveness, assurance, empathy, and tangibles, introducing the well-known Service Quality (SERVQUAL) scale. By modifying Maryam's (2003) Ecology Service Quality (ECOSERV) scale, we measured ecotourists' quality expectations of the services offered by service providers in ecotourism. Originally comprising six dimensions and 29 questions, the scale includes dimensions such as ecotangibles, reliability, responsiveness, assurance, empathy, and tangibles. Combining ecotangibles and tangibles into one dimension, the modified scale contains five dimensions that measure service quality in ecotourism: ecotangibles, reliability, responsiveness, assurance, and empathy. These dimensions are employed in this study to measure service quality.

Tourists' Behavioral Intentions

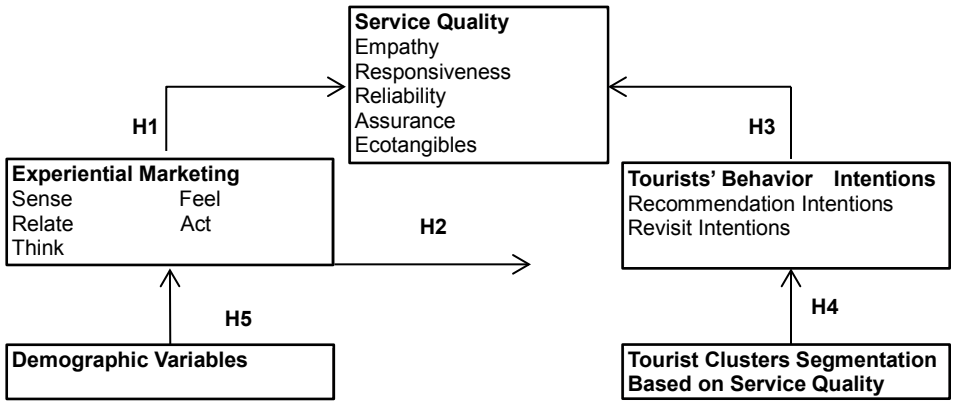
Tourists' behavioral intentions are typically generated after the tourism process. In the tourism industry, this is referred to as tourists' behavioral intentions. Parasuraman, Zeithaml & Berry(1985) concluded that consumers' behavioral intentions comprise repurchase intentions and likelihood of recommending the product/service to others through positive word of mouth. Bigne, Sanchez & Sanchez(2001) proposed that tourists' behavioral intentions are an important indicator of their perceptions and satisfaction of a tourism destination. In the literature on tourism and recreation, "revisit intentions" are equivalent to "repurchasing intentions" in product and service marketing. Most of the studies employed consumers' revisit intentions and willingness to recommend as measurement factors of tourists' behavioral intentions and tourist loyalty. Kotler (2003) argued that customers experience to some extent of satisfaction or dissatisfaction with the service provided, and this psychological change influences their subsequent behavior. In other words, satisfied customers are more likely to have stronger revisit intentions. Bigne *et al.*(2001) divided tourists' behavioral intentions into two dimensions: revisit intentions and recommendation intentions,

where revisit intentions refers to the possibility of tourists revisiting the ecotourism destinations, and recommendation intentions refers to the likelihood of tourists recommending their experience to others. Based on the studies summarized above, we adopted the two factors proposed by Bigne *et al.*(2001) to measure behavioral intentions in ecotourism, namely, revisit intentions, which refers to the likelihood of tourists revisiting the ecotourism destination, and recommendation intentions, which refers to the likelihood of tourists recommending the trip to others.

AN ANALYTIC FRAMEWORK AND METHODOLOGY

This study examines the effects among experiential marketing and service quality, and tourists' behavioral intentions, and tourists' perceptions on them in ecotourism and proposed the following hypotheses. The research framework of this study is shown in figure 1.

Figure 1: Research Framework



This figure shows the research framework of the effects among experiential marketing and service quality, and tourists' behavioral intentions, and tourists' perceptions on them.

RESEARCH HYPOTHESIS

The Effect of Experiential Marketing on Service Quality: Examining performance, customer value, and service quality, Hume, Sullivan Mort & Winzar (2004) found that a significantly positive correlation exists between experience and service quality. Investigating high school students participating in camps, Wei (2005) also found a significantly positive correlation between experience and service quality. From the perspective of experiential marketing and using cross-strait cultural exchange trips as an example, Kao & Huang (2006) found a significant relationship between experience and service quality. Thus, it could be concluded that to promote service quality, educational institutes and other non-profit organizations should design ecotourism tours that could satisfy and inspire the tourists and motivate them to consider and experience ecotourism. Experiential marketing has a significantly positive influence on service quality, indicating that tourists' participation in experiential marketing activities in ecotourism generates the effect of positive perceptions on service quality in ecotourism destinations. Accordingly, Hypothesis 1 is established as follows:

Hypothesis 1 (H1): Experiential marketing has a significantly positive effect on service quality. The Effect of Experiential Marketing on Tourists' Behavioral Intentions Examining customers' emotions and behaviors in business environments, Mehrabian & Russel(1974) found that customers' attitudes based on their emotional response to the experience would affect their subsequent behavior. Boulding, Kalra, Richard & Zeithaml(1993) concluded that customers' assessment and feelings after experiencing experiential marketing affects their future attitudes, consumer orientation, and likelihood of positive

recommendations. Therefore, experiential marketing is related to tourists' behavioral intentions. In other words, the service tourists experience in consumption settings affects their subsequent revisit intentions through their satisfaction level from the products or services. Thus, experiential marketing influences and is positively correlated to tourists' behavioral intentions. When tourists possess positive perceptions of experiential marketing in ecotourism, their behavioral intentions toward that specific ecotourism site increases. Therefore, Hypothesis 2 is proposed as follows:

Hypothesis 2 (H2): Experiential marketing has a significantly positive effect on tourists' behavioral intentions. The Effect of Service Quality on Tourists' Behavioral Intentions After examining the influence of service quality on consumer behavior, Parasuraman, Zeithaml & Berry (1996) stated that excellent service quality enhances consumers' behavioral intentions, including their repurchase intentions, recommendation intentions, and loyalty. Butcher, Sparks & O'Callaghan (2002) also concluded that a good service directly influences tourists' recommendation intentions. Regarding long-term consumer relationships, we explored customer loyalty, relationship marketing, service quality, and customer satisfaction; which proved the necessary cause-and-effect relationship between service quality, customer satisfaction, and behavioral intentions (Thorsten, Gwinner & Gremler, 2002). Service quality influences and is positively correlated with tourists' behavioral intentions; therefore, the higher the ecotourism service quality experienced by tourists, the stronger their behavioral intentions toward that particular ecotourism site. Accordingly, Hypothesis 3 is constructed as follows:

Hypothesis 3 (H3): Service quality has a significantly positive effect on tourists' behavioral intentions. Differences in the Perceptions of Experiential Marketing and Behavioral Intentions among Tourists Clusters Segmented by Service Quality Chih, Yang & Ho (2007) classified viewers (browser) into three clusters according to their differing expectations of service quality in relation to news websites: tolerant customers, regular customers, and strict and picky customers. These clusters show significantly perceptive differences in customer satisfaction and loyalty, with strict and picky customers providing low scores for all the service dimensions. Therefore, increased service quality is crucial to ensure that customers are satisfied, use the service again, and recommend the service to others. Wang(2010) used consumers' service quality expectations for market segmentation. The results showed that customers in various clusters differed in their satisfaction with TV shopping channels. Thus, we can conclude that the perceptions on customers' satisfaction and loyalty differ significantly among various clusters segmented based on service quality, which indicates that service quality could be employed to segment tourist clusters to examine the different perceptions on experiential marketing and tourists' behavioral intentions among them. Therefore, Hypothesis 4 is proposed as follows:

Hypothesis 4 (H4): The perceptions of experiential marketing and behavioral intentions differ significantly between tourist clusters segmented by service quality. Differences in Tourists' Perceptions of Experiential Marketing, Service Quality, and Behavioral Intentions According to Demographic Variables This study investigates whether tourists with varying demographic variables have significantly different perceptions of experiential marketing, service quality, and tourism behavioral intentions. Caruana & Msida(2002) documented that different demographic variables had different influences on consumers' perceptions of service quality and other related factors. Investigating Taiwan's leisure industry, Orth(2005) found that consumers' perceptions of service quality differed according to various demographic variables and residential areas. Therefore, we can infer that the perceptions of experiential marketing, service quality, and behavioral intentions of tourists with various demographic variables differ significantly. Therefore, Hypothesis 5 is proposed as follows:

Hypothesis 5 (H5): The perceptions of experiential marketing, service quality, and behavioral intentions of tourists with various demographic variables differ significantly.

DATA ANALYSIS METHODS

The data analyses were performed on SPSS 12.0 and AMOS 5.0. The methods adopted included reliability analysis, the t-test analysis, correlation analysis, factor analysis, linear structural relation model, cluster analysis, and single-factor analysis of variance.

EMPIRICAL RESULTS

The questionnaires of this study were distributed at various ecotourism sites including the northern area, the central area, the southern area, and the eastern area in Taiwan. The data were collected for the period 1/3/ 2012 until 5/28/2012.

Reliability Analysis: This study was based on data from the questionnaire titled "The Determinants of Ecotourism Behavioral Intentions" Ruling out copies with incomplete answers or too many unanswered questions, out of the 610 questionnaires responded, 566 were acceptable, with an acceptable response rate of 92.79%. In the reliability analysis, the reliability values of all main dimensions were 0.7 (or more), with the overall reliability coefficient at 0.943, which shows high-level stability of the reliability of questionnaires administered in this study. The correlation coefficient between revised items and overall items in this study was 0.5 or more. Therefore, the data gathered with the questionnaire adopted in this study demonstrate high level of stability and consistency, enabling subsequent analysis results to be more significant.

The t Test Analysis: This study adopted the *t*-test analysis to show the degree of satisfaction (agreement) analyzed by each question of the questionnaire. In the areas of tourists experiential marketing, service quality, and tourism behavioral intentions, for all questions with p=0.000 less than the level of significance of α= 0.001. The results show that for questions on experiential marketing, service quality, and tourism behavioral intentions, most participants selected the options satisfied (agreed) or very satisfied (very agreed). Therefore, we can conclude that questions on experiential marketing, service quality and tourism behavioral intentions have reached the "satisfy" ("agree") or above consensus level.

Correlation Analysis: Using correlation analysis, we assessed whether a significantly positive correlation exists between experiential marketing, service quality, and tourists' behavioral intentions. Pearson's correlation analysis method was employed to analyze the correlation between experiential marketing, service quality, and tourists' behavioral intentions, as shown in Table 1. The results show that a significantly positive correlation exists between experiential marketing, service quality, and tourists' behavioral intentions.

Table 1: Correlation Analysis between Experimental Marketing, Service Quality, and Tourists' Behavioral Intentions

Dimensions			Experimental Marketing	Service Quality	Tourists' Behavioral Intentions
Experimental Marketing	Pearson Coefficient	Correlation	1		
	Sample size		566		
Service Quality	Pearson Coefficient	Correlation	0.569***	1	
	Sample size		566	566	
Tourists' Behavioral Intentions	Pearson Coefficient	Correlation	0.598***	0.689***	1
	Sample size		566	566	566

*This table shows *** indicates significance at the 0.1 percent level.*

Factor Analysis

Dimensions of Experiential Marketing: To analyze experiential marketing, we extracted and categorized 20 questions on experiential marketing into five dimensions based on their similarity through factor analysis. These five dimensions were sensory experiences or sense, social-identity experiences or relate, creative cognitive experiences or think, affective experiences or feel, and physical experiences and entire lifestyles or act. The eigenvalues for these dimensions were all greater than 1 at 4.317, 3.227, 2.421, 1.857, and 1.467, respectively, indicating that the clustering was appropriate. The factor loadings of the experiential marketing variables were all greater than 0.4, indicating that more characteristics can be measured for common dimensions (Tabachnick & Fidell, 2007). The cumulative explanatory variance was 66.445%, which is greater than 60%, indicating that the common dimensions were reliable. For communality, the explanatory ability of the dimensions extracted from different variables must exceed 0.5. The communality of the dimensions of experiential marketing was greater than 0.5, indicating that the extracted dimensions had significantly explanatory ability.

Dimensions of Service Quality: To examine the dimensions of service quality, we extracted and categorized 20 questions on service quality into five dimensions based on their similarity by factor analysis. These factors were empathy, responsiveness, reliability, assurance, and ecotangibles. The eigenvalues of these dimensions were all greater than 1 at 2.642, 2.631, 2.633, 2.288, and 2.823, respectively, indicating that the clustering was appropriate. The factor loadings of the service quality variables were all greater than 0.4, indicating that more characteristics can be measured for common dimensions (Tabachnick & Fidell, 2007). The cumulative explanatory variance was 61.049%, which is greater than 60%, indicating that the common dimensions were reliable. For communality, the explanatory ability of the dimensions extracted from different variables must exceed 0.5. The communality of the dimensions of service quality was greater than 0.5, indicating that the extracted dimensions possessed significantly explanatory ability.

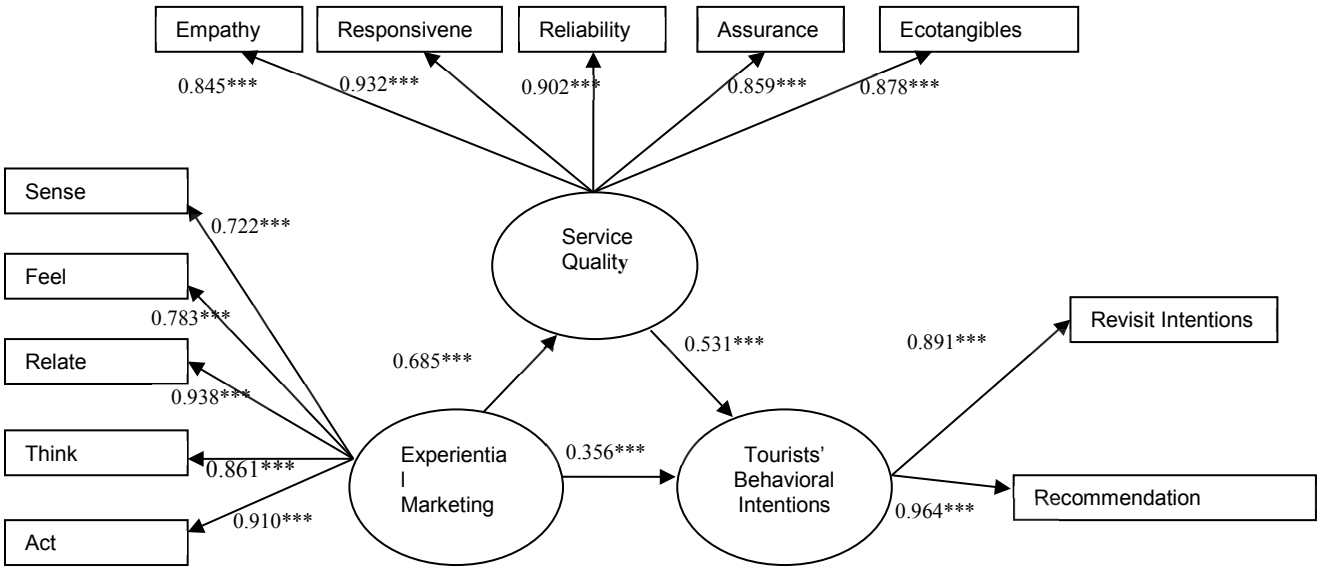
Dimensions of Tourists' Behavioral Intentions: To analyze tourists' behavioral intentions, we adopted the principal component method of factor analysis to extract the dimensions and categorized tourists' behavioral intentions into two dimensions, namely, recommendation intentions and revisit intentions. The eigenvalues of the dimensions were both greater than 1 at 2.128 and 1.611, indicating that the clustering was appropriate. The factor loadings of tourists' behavioral intentions variables were all greater than 0.4, indicating that more characteristics can be measured for common dimensions (Tabachnick & Fidell, 2007). The cumulative explanatory variance was 62.308%, which is greater than 60%, indicating that the common dimensions were reliable. For communality, the explanatory ability of the dimensions extracted from different variables must exceed 0.5. The communality of the dimensions of tourists' behavioral intentions were greater than 0.5. Based on the dimensions extracted, we can conclude that the dimensions of tourists' behavioral intentions possessed acceptable explanation ability.

Linear Structural Relation Model

A linear structural relation model (Structural Equation Modeling; SEM) is created to examine whether the path coefficient of the variables was significant. The goodness-of-fit test was conducted on the factors of experiential marketing, service quality, and tourists' behavioral intentions. For assessment indices of the goodness-of-fit of the overall model, chi-square/ degree of freedom (χ^2/df) value of this study was 1.391, which means that it had considerable explanatory abilities. Moreover, goodness-of-fit index (GFI) 0.916, adjusted goodness-of-fit index (AGFI) 0.901, normed fit index (NFI) 0.924, and comparative fit index (CFI) 0.977 were obtained from this study, which means that they were acceptable values greater than 0.9(inclusion; the lowest standard value). Root mean square residual (RMR) value was 0.023, within the acceptable level, and root mean square of approximation (RMSEA) value was 0.026, which is also within an acceptable level. Results show that the overall structure of the model employed in this study possessed

good fit, with a level of significance of α = 0.001. The standardized regression coefficient of tourists' perceptions of experiential marketing related to service quality was 0.685, with a *p*-value less than significance level of α = 0.001. The results show that a positive and direct correlation exists between the two variables. Higher satisfaction of experiential marketing increases consumers' satisfaction with service quality. The standardized regression coefficient of experiential marketing related to tourists' behavioral intentions was 0.356, with a *p*-value below the level of significance α = 0.001. This finding shows that a positive and direct correlation exists between the two variables. Higher satisfaction of experiential marketing increases tourists' behavioral intentions. The standardized regression coefficient of service quality related to tourists' behavioral intentions was 0.531, with the *p*-value below the level of significance of α = 0.001. The findings show that a positive and direct influence exists between the two variables. Higher satisfaction of service quality increases tourists' behavioral intentions. Overall, the results support Hypotheses 1, 2, and 3. The path analysis of the goodness-of-fit of the overall model is displayed in Figure 2.

Figure 2: The Path Analysis of the Goodness-of-Fit Structure of the Overall Model



*This figure shows the regression estimates of the equation: $Y_1=0.685X_1$ (Y_1: service quality; X_1: experiential marketing; the standardized regression coefficient was 0.685); the regression estimates of the equation: $Y_2=0.356X_1$ (Y_2: tourists' behavioral intentions; the standardized regression coefficient was 0.356); the regression estimates of the equation: $Y_2=0.531Y_1$ (the standardized regression coefficient was 0.531). *** indicates significance at the 0.1 percent level.*

Cluster Analysis

Wu (2001) pointed out that K ─ Means cluster analysis should be used when the number of observations is more than the expected number or the data files is large (usually more than 200 observations). The sample size of this study was 566, and K ─ Means cluster analysis of non-hierarchical clustering was adopted because the sample size was more than 200. The analytical result indicates that three clusters was more appropriate than two, four, five and six clusters formed by the cluster analysis because they (three clusters) had the highest overall forecasting accuracy rate of 97.9%. Accordingly, the tourists were classified as three clusters based on the five dimensions of service quality of the tourism by using the cluster analysis in this study. The findings of this cluster analysis show that the average satisfaction level of the cluster 3 for service quality was the highest than that of other clusters, which means the tourists for

cluster 3 had the highest evaluation on service quality, and therefore, this cluster including 96 tourists was called as "easily satisfied". The average satisfaction level of the cluster 1 for service quality was the lowest than that of other clusters, which means the tourists for cluster 1 had the lowest evaluation on service quality, and therefore, this cluster including 188 tourists was called as "strict harshness", and the average satisfaction level of the cluster 2 for service quality was median, which means the tourists for cluster 2 had a middle evaluation on service quality, and therefore, this cluster including 282 tourists was called as "general feeling". The mean of the satisfaction level of each dimension of service quality for three clusters segmented according to service quality by cluster analysis is shown in Table 2.

Table 2: The Mean of the Satisfaction Level of Each Dimension of Service Quality for Three Clusters

Dimensions of service quality	Clusters		
	Cluster 1(n=188) Strict harshness	Cluster 2(n=282) General feeling	Cluster 3(n=96) Easily satisfied
Empathy	3.15	3.82	4.58
Responsiveness	3.15	3.87	4.61
Reliability	3.10	3.76	4.56
Assurance	3.36	3.83	4.66
Ecotangibles	3.27	3.80	4.55

This table shows the mean of the satisfaction level of each dimension of service quality for three clusters segmented according to service quality by cluster analysis.

Single-Factor Analysis of Variance

Marital Status of the Demographic Variables versus Experiential Marketing, Service Quality, and Tourists' Behavioral Intentions Regarding the analysis of variance of the marital status of demographic variables related to experiential marketing, the *p*-value was 0.000, less than a level of significance of $\alpha = 0.001$, which means that people with different marital statuses differed significantly regarding their perceptions of experiential marketing. Scheffe's multiple comparison tests were also adopted to determine whether the married (with children) and single participants had significantly higher levels of satisfaction of experiential marketing in ecotourism compared to that of married (with no child) participants. Regarding the analysis of variance of the marital status related to service quality, the *p*-value was 0.005, which is less than a level of significance of $\alpha = 0.01$, indicating that participants with varying marital statuses had significantly different perceptions of service quality. Scheffe's multiple comparison tests were further conducted to determine whether the married (with no child) and single participants had significantly higher levels of satisfaction of service quality in ecotourism compared to that of the married (with children) participants. Regarding the analysis of variance of marital status related to tourists' behavioral intentions, the *p*-value was 0.002, which is less than a level of significance of $\alpha = 0.01$, indicating that participants with differing marital statuses had significantly different perceptions of tourists' behavioral intentions. Scheffe's multiple comparison tests were further conducted to determine whether the married (with children) and single participants had a significantly higher level of agreement with tourists' behavioral intentions compared to that of the married (with no child) participants.

Tourist Clusters Segmented According to Service Quality versus Experiential Marketing Regarding analysis of variance of the tourist clusters segmented based on the service quality on "affective experiences or feel", the *p*-value was 0.000, which is less than a level of significance of $\alpha = 0.001$, indicating that the participants in the three clusters had significantly different perceptions of affective experiences or feel. Results from the Scheffe's multiple comparison tests show that the participants in Cluster 3 were the most satisfied. They expressed a significantly higher level of satisfaction with affective experiences or feel in ecotourism compared to that of Cluster 2, who had ordinary feelings; whereas, the participants in Cluster 1 were strict and harsh (the lowest satisfied). The single-factor analysis of variance of tourist clusters segmented according to service quality on experiential marketing is shown in Table 3.

Tourist Clusters Segmented by Service Quality versus Tourists' Behavioral Intentions Before conducting single-factor analysis of variance, we examined the variance homogeneity of the population. With a level of significance of α=0.05, both the *p*-values of revisit intentions and recommendation intentions were 0.000, less than α = 0.05, which violates the assumption of homogeneity variance among the population, indicated that it is unsuitable for analysis of variance. Moreover, we also found that age, educational level, occupation, place of residence, and average monthly income of the demographic variables had no significant influence on the participants' perceptions of experiential marketing, service quality, and tourists' behavioral intentions. The only except was marital status, which significantly influenced the participants' perceptions of experiential marketing, service quality, and tourists' behavioral intentions. Therefore, Hypothesis 5 is partly supported. On another note, tourist clusters segmented by service quality demonstrate significantly different perceptions of affective experiences or feel, which partly supports Hypothesis 4.

Table 3: Single-Factor Analysis of Variance of Tourist Clusters Segmented According to Service Quality on Experiential Marketing

Dimensions	Homogeneity test	*F* value	*p* value	Scheffe's multiple comparison tests
Sense	0.004	—	—	—
Relate	0.002	—	—	—
Think	0.038	—	—	—
Feel	0.317	118.149	0.000***	Cluster 3>Cluster 2>Cluster 1
Act	0.002	—	—	—

*This table shows *** indicates significance at the 0.1 percent level.*

The Results of Research Hypothesis Tests

The results of the proposed hypothesis tests are listed in Table 4.

Table 4: Results of Research Hypothesis Tests

	Hypotheses	Results
H1	Experiential marketing has a significantly positive effect on service quality.	Supported
H2	Experiential marketing has a significantly positive effect on tourists' behavioral intentions.	Supported
H3	Service quality has a significantly positive effect on tourists' behavioral intentions.	Supported
H4	The perceptions of experiential marketing and behavioral intentions differ significantly between tourist clusters segmented by service quality.	Partially supported
H5	The perceptions of experiential marketing, service quality, and behavioral intentions of tourists with various demographic variables differ significantly.	Partially supported

This table shows summary statistic results of research hypothesis tests.

CONCLUSION AND IMPLICATION

By exploring tourists visiting ecotourism attractions in Taiwan, the objective of this study is to examine the effects among experiential marketing, service quality, and tourists' behavioral intentions. We further argued whether tourists' perceptions of experiential marketing, service quality, and behavioral intentions differed significantly according to their clusters segmented by service quality and demographic variables. The findings of this study are summarized as follows: (1)Through the t-test analysis, for questions regarding tourists' perceptions of experiential marketing based on our findings, service quality, and behavioral intentions, the answers we received were primarily "satisfied/agree" or above. In the survey, the statement of experiential marketing that received the highest satisfaction rating was "The natural air and fragrance of this ecotourism site is refreshing and comfortable." The statement of service quality that received the highest satisfaction rating from tourists was "This ecotourism site provides an attractive and fascinating natural and cultural landscape." The statement that most participants agreed influenced their tourism behavior intentions was "I would be willing to revisit the new facilities, activities, or services

provided at this ecotourism site"; (2)Through linear structural relation model, experiential marketing had a significantly positive and direct influence on service quality and tourists' behavioral intentions, indicating that higher satisfaction with experiential marketing had a greater influence on tourists' satisfaction with service quality and agreement with their behavioral intentions.

We also found that service quality had a significantly positive and direct influence on tourists' behavioral intentions; thus, higher satisfaction with service quality had a greater influence on tourists' agreement with their behavioral intentions. Therefore, the results support Hypotheses 1, 2, and 3; (3) Through single-factor analysis of variance, regarding the influence of various tourist clusters segmented based on service quality on experiential marketing and tourists' behavioral intentions, the results show that significant differences existed in tourists' perceptions of the affective experiences or feel in experiential marketing, with the participants in Cluster 3 expressing a higher level of satisfaction toward affective experiences or feel than that of Clusters 2 and 1. Moreover, participants with different marital statuses had significantly different perceptions of experiential marketing, service quality, and tourists' behavior intentions. Although the satisfaction of experiential marketing and tourists' behavior intentions of the married (with children) and single participants were significantly higher than that of the married (with no child) participants, the satisfaction of service quality expressed by the married (with no child) and single participants was significantly higher than that expressed by the married (with children) participants. Finally, age, educational level, occupation, place of residence, and average monthly income of the demographic variables had no significant influence on tourists' perceptions of experiential marketing, service quality, and tourists' behavior intentions. Therefore, the results partly support Hypotheses 4 and 5.

The ecotourism industry should focus their attention on the determinants of affecting tourists' behavioral intentions in order to enhance the competitive advantage of the ecotourism industry. The entrance of the tickets sold at ecotourism location with the description of drawings could attract tourists to experience different kinds of leisure facilities by tourism actions to promote the tourists' recognition for the ecotourism due to experiential marketing would have significantly a positive influence on service quality. Unique facilities and related services could be provided to strengthen the interaction between tourists and service personnel to promote the tourists' recognition and behavioral intentions for the ecotourism through the use of facilities and services to explain the process. The ecotourism industry could strengthen the experience environment of customer relationship because social-identity experiences or relate of experiential marketing would have the most effect on tourists' behavioral intentions.

They should create and provide an easy and comfortable tourism environment, or establish tourist member club or friendship association to allow tourists to have a sense of belonging and activation of its social activities. The leisure activities of sensory experiences or sense and affective experiences or feel should be designed to induce tourists' emotions and feelings in order to win the hearts of tourists. However, creative cognitive experiences or think must be utilized carefully; otherwise it would make the opposite effect on tourists' behavioral intentions. In experiential marketing, the most important strategic service factor should enhance affective experiences or feel so that it could induce tourists to have strong feelings through the "face to face" interaction with service personnel in the ecotourism process. The ecotourism industry should also provide customized double package tours to married tourists with no child to promote tourists' revisit or recommendation intentions by the implementation of experiential marketing strategy, for example, the personal service staff could be provided to increase their ecotourism intentions. In addition, for the analytical results of the marriage on service quality, service quality should be improved to meet the service needs of the married tourists with children such as the supply of nursery services, safety trails of children trolleys, and the safety chairs for children in the restaurants.

This study has a limitation in collecting the data of the questionnaires by the convenient sampling method due to limited time, labor and cost. The result of this study also could not show the perceptions of all ecotourism tourists in other countries because it only investigated the tourists for the domestic ecotourism

in Taiwan. Another limitation of this study shows that some tourists took a long time to fill out the questionnaires to produce an unserious attitude to do these because of a questionnaire which had many items. In a future research, we plan to explore other types of ecotourism such as adventure tourism and wildlife tourism to understand whether or not differences in tourists for a different type of ecotourism options in order to further enhance the value of the research. Moreover, we are going to use other service quality scale to examine whether or not there is a significant impact and difference in experience marketing and tourists' behavioral intentions for various service quality measurements. Another interesting issue would examine other interference variables such as relationship marketing and customer value on whether or not they would affect experiential marketing, service quality, and tourists' behavioral intentions.

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BUDGETARY PARTICIPATION AND PROCEDURAL JUSTICE: EVIDENCE FROM STRETCH BUDGET CONDITION

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ABSTRACT

This study examines the role of group value element of procedural fairness in explaining how individuals take into account fairness conditions in making judgment regarding budgeting process. Furthermore, the study extends prior research in procedural fairness by observing the individual behavior in a stretch budget condition. College students serve as subjects in an experiment. Manipulations of control and group value are randomly assigned to the participants. Two dependent variables, procedural justice judgments and budget commitment, are measured. The results show that supplying subordinates with information regarding group value enhances procedural justice judgments and budget commitment. Using a stretch budget condition, the study shows that procedural justice has a mediating effect in the relations between group value and budget commitment. Moreover, the study finds that in the stretch budget condition, group value has a negative relation with budget commitment, suggesting that budgetary participation creates a behavioral problem. The study provides empirical evidence that group value along with control element of procedural fairness improve procedural justice judgments to the level beyond that produced by each variable alone. The inclusion of group value judgments fills the gap that previous budgetary participation research produces.

JEL: M20

KEYWORDS: Budgetary Participation, Stretch Budget, Group Value, Procedural Justice, Budget Commitment

INTRODUCTION

Budget is probably the most widely used management tool in the functioning of an organization. Researchers have been spending a great deal of attention in the research area of budget and budgeting. As a subset of the area, budgetary participation in the budgeting process has been a fascinating research topic for behavioral accounting researchers in the past half of a century (for examples, Leach-Lopez, Stammerjohan, and McNair 2007; Breaux, Finn, and Jones III, 2011). Research has found negative as well as positive elements associated with the presence of participative budgeting and the empirical literature has also demonstrated its effects as being either advantageous or dysfunctional to organizations (e.g. Krishnan, Marinich, and Shields, 2012).

Brown, Evans, and Moser (2009) assert that most of experiments in participative budgeting area rely on agency theory for their predictions. They argue that economic models, that assume purely rational, self-interested behavior of individuals, can serve as benchmarks against which to measure actual behavior in budgeting. Moreover, the general findings of the experimental research are, at least potentially, consistent with agency theory. Nevertheless, they point out that previous studies note instances for which the experimental results are inconsistent with the agency theory predictions.

Body of literature documents that studies in participative budgeting require alternative theories and models to further explain how actual behavior deviate from what agency theory predicts. Research shows that the inconsistencies with the agency theories expectations are the results of aspects other than economic reasons that come into play in participative budgeting settings (Shields and Shields, 1998). Psychological variables, such as motivational factors (Chong and Johnson, 2007; Wong-On-Wing, Guo,

and Lui, 2010), attitude (Yuen, 2007), and moral judgments (Hobson, Mellon, and Stevens, 2011) have provided a significant contribution and insight into managerial behavior. Therefore, continuous effort to combine different perspectives to further explore the research area is worthwhile and constitutes a challenging endeavor.

Research has recognized the importance of procedural justice in budgetary participation setting (e.g. Magner et al., 2006; Libby, 1999; Lindquist, 1995). Procedural justice theory suggests that people are concerned with how fair the procedures are, both in terms of formal budgetary procedures fairness as well as budgetary procedures implementation fairness. Research indicates that managers often have a stronger reaction toward the fairness of the organization's budgetary procedures than that toward the favorability or fairness of their unit's budget (Konovsky, 2000). One way to create a fair environment is to provide people the opportunity to participate in a budgeting decision process. Participative budgeting is more likely to result in favorable behavior since people perceive the budgeting process as just (Libby, 1999).
While studies reporting reactions to fair budgetary procedures has demonstrated solid results, the literature has not yet provided conclusive evidence whether the reactions are the results of antecedents explained by self-interest theory or by other model of procedural justice theory. Hence, the present study investigates further managerial behavior deviations from economic models. Specifically, the study examines the role of procedural fairness, particularly the "soft side" (i.e. group value) of procedural justice elements, in explaining how individuals take into account fairness conditions in making judgment regarding budgeting process. Moreover, this study extends prior research in procedural fairness by observing the individual behavior in a stretch budget condition. Stretch budget is an exceptionally ambitious budget not likely to be achieved without making fundamental changes in the way a job is done. Stretch budget overlaps unfair budget to a considerable extent. People are much more likely to view stretch budget as unfair. Research suggests that stretch budget may create behavioral problems that can affect budget commitment (Marginson and Ogden, 2005).

This paper reports the results of an experiment that examines the effects of group value and control elements of procedural justice on procedural justice judgments and budget commitment in a stretch budget condition. The use of an experimental design is necessary to provide the clarity of causal inference gained by being able to manipulate antecedents to procedural justice. It is important since the study attempts to highlight a critical link between the budgetary participation and procedural justice literature.

The results show that supplying subjects with information regarding group value enhances the control effects. Nevertheless, the study still portrays the role of outcome justice judgments in a particular condition. Using a stretch budget condition, the study offers some empirical evidence regarding behavioral problems that stretch budget principle carries. The study focuses on investigating the impact of unmet expectation of a perceived fair budgeting process.

The research is important in several substances. The study provides empirical evidence that group value along with economic elements of procedural fairness enhance procedural justice judgments to the level beyond that produced by each variable alone. The study presents insight into the relationship between budgetary participation and procedural justice judgments by adding some explanations about the role of group value. The inclusion of group value judgments fills the gap that previous budgetary participation research produces.

The remainder of this paper is organized as follows. In the next section I provide theoretical background of procedural justice and budgetary participation. Based on the synthesis, I propose research hypotheses, followed by a discussion of my experimental method for testing the research hypotheses. Next, the results of the study are presented, discussed, and interpreted. In the final section, I draw conclusions and introduce an avenue for future research.

LITERATURE REVIEW

Procedural Justice Judgments

In this study, procedural justice is defined as the extent to which the participative budgeting process, which includes the distribution of control and social relationships, is judged to be fair by subordinates. The study is intended to test two existing theories in procedural justice: self-interest theory or control (Thibaut and Walker, 1975) and group value theory (Lind and Tyler, 1988).

Self-interest theory of procedural justice (Thibaut and Walker, 1975) asserts that procedures that vest process and decision control in those affected by the outcome of the procedures are more likely to generate favorable outcomes. The theory also posits that people may be willing to take a long-term focus when evaluating their economic gains and forego immediate, short-term benefits from an exchange relationship if they believe that advantageous outcomes will be forthcoming in the future. On the other hand, if the procedure is perceived as unfair, individuals will not have assurance about their long-term benefits. This may lead people to believe that the outcome is negative and to care mostly about short-term outcomes.

Lind and Tyler (1988) argue that self-interest theory does not capture the full dimension of procedural justice. They posit that even when individuals do not have direct control over procedures in a process, giving them information that can confirm their high status and self-respect in the process can lead to their higher judgments of procedural justice. Their theory, the group value model, postulates that in addition to economic benefits, individuals value psychological rewards in an economic relationship. The basic assumption of the model is that people are predisposed to belong to social groups and that they are very attentive to signs and symbols that communicate information about their position within groups.

A serious limitation of Thibaut and Walker's theory is that even when it is about procedural justice, the theory evaluates procedures in terms of the outcomes they produce. Also, the theory assumes that human needs consist mainly of material or economic needs. While the prediction that possession of control leads to fairer outcome perception is valid, the perception of procedural justice should not depend on the outcome (distributive) justice judgment (Lind and Tyler, 1988). Further, human needs also include factors beyond short-term and long-term economic benefits.

The group value model assumes that people are concerned about their long-term social relationship and do not view the relationship as a one-shot deal (Tyler, 1994). This leads the people to be concerned with three factors: the neutrality of the decision-making procedure, trust in the groups, and evidence about social standing or status. If neutrality exists, then the decision-maker is free from bias. People perceive the decision-makers as neutral if they create a level playing field for all. Trust refers to the degree to which people believe that the decision-maker intends to act in a fair manner. Standing is the position that individuals possess in a group as the result of how the group treats them. Being treated with respect and dignity implicitly informs one that she is a valued organizational member and furnishes a source of self-validation. Conversely, failing to treat employees fairly suggests that the employee is not supported by the organization and its representatives.

Participation in Budgeting

Budgetary participation generally refers to the extent to which subordinates participate in preparing the budget and influencing the budget goals (Milani, 1975). Shields and Shields (1998, p. 49) define the construct as "the process in which a manager is involved with and has influence on the determination of his or her budget". Both definitions involve two dimensions of participation: the opportunity to provide input in budgeting (i.e. voice) and the ability to influence the final budget (i.e. choice). Voice, which

relates to process control, and choice, which entails decision control, have positive effects on subordinates' attitude and behavior (Lindquist, 1995; Libby, 1999). Moreover, theoretical models and empirical research in participation in decision-making suggest that more participation is preferable to less (Leach-Lopez, et al., 2007).

A number of studies have examined the antecedents and consequences of participative budgeting. Task uncertainty (Chong and Johnson, 2007), work attitude and need for the value of achievement (Yuen, 2007) are among the antecedents, while job-relevant information (Chong and Johnson, 2007; Leach-Lopez, et al., 2007), budget goal commitment (Breaux et al., 2011; Sandalgaard, Bukh, and Poulsen, 2011; Chong and Johnson, 2007), job satisfaction (Leach-Lopez, et al., 2007), job performance (Breaux, et al., 2011; Yuen, 2007; Leach-Lopez, et al., 2007; Leach-Lopez, Stammerjohan, and Lee, 2009) are among the consequences. Virtually, all of the studies agree on the positive effects of participative budgeting.

Recent research in budgeting shows that the effectiveness of budgetary participation is also influenced by the perception of justice regarding the budgeting process (e.g. Magner et al., 2006; Zainuddin and Isa, 2011). Hence, procedural justice theory and research have the ability to explain some of the complexity seen in participation effects by offering a finer understanding of the psychology of different types of participation. However, none of the research investigates the effects of group value judgments.

Budget Commitment

Task goal theory (Locke and Latham, 1990) holds that human action is directed by conscious goals and intentions. The theory posits that individuals commit to the specific goals. Budget commitment, defined here as subordinates' attachment to or determination to attain the budget, is a motivational force that can energize subordinates to exert their best effort. Since budget commitment has important consequences, then attention must also be directed at factors that affect budget commitment.

Justice and budgeting research demonstrate that procedural justice judgments have strong effects on attitudes about institutions and authorities, such as organizational commitment (Sholihin and Pike, 2009). In this context, budget commitment can be likened to organizational commitment since both constructs represent an institutional evaluation. Folger and Konovsky (1989) find that procedural justice sustains employees' commitment that goes beyond the simple exchange of labor for salary. Cobb and Frey (1996) find that subordinates of supervisors who enact procedurally fair behavior are more satisfied with and committed to their supervisors.

However, what would happen if people, who were previously given the experience of a just budgeting process, eventually faced with an unfair budget? The current study measures procedural justice judgments before a stretch budget decision takes effect. Acting as subordinates in the budgeting process, the individuals are expected to exhibit dissatisfaction of the process when the stretch budget is enacted. The study expects an adverse effect of the stretch budget on budget commitment once the subordinates realize that the budgeting process does not produce satisfactory outcomes.

As suggested by referent cognition theory (RCT), when the final budget turns out to be difficult to achieve, the subordinates will not value the participation opportunity and they will reevaluate their group value. RCT predicts resentment as a form of hostile feelings toward a party responsible for one's own unfavorable outcomes (Folger and Martin, 1986). The person receiving the unfavorable outcomes believes that the responsible party has acted inappropriately and that the party should have behaved otherwise so that the outcomes would have been more favorable. Referent cognition theory suggests that the decision of administering a stretch budget will lower procedural justice judgments which were initially high. Additionally, prior research suggests that when subordinates learn that their initial

procedural justice judgments do not positively relate to favorable outcomes, they will be frustrated and disappointed (Lindquist, 1995).

Effects of Self-Interest and Group Value

The extant literature in budgeting that considers procedural justice (Lindquist, 1995; Libby, 1999; Fisher, Frederickson, and Peffer, 2002) agrees on the importance of voice and choice. Self-interest theory suggests that providing voice and choice opportunity provides individuals with a sense of control of the budgeting process and/or the final decision. In turn, higher process and decision control perceptions lead to higher levels of procedural justice judgments.

Procedural justice theory predicts that individuals will be more satisfied with a decision outcome as well as the decision procedures when given the opportunity to present information to the decision maker because the opportunity promotes their self-interest. Voice has the power to convey the reasons behind the choice and choice can increase the individuals' sense of power. Based on this line of reasoning, the following hypothesis is offered.

Hypothesis 1: Control treatment will have a positive effect on procedural justice judgments.

In this study, I test the relation between group value judgments and procedural justice perceptions. As discussed, the group value model emphasizes a human psychological need for a sense of membership to a group and the decision maker's recognition of one's group membership. Concern about group membership leads individuals to attend to three non-control issues: the trust in the decision maker, the neutrality of the decision-making procedures, and the individuals' status in the group.

The group value model posits that psychological factors beyond those determinants suggested by self-interest theory (i.e. control) should have effects on procedural justice perceptions (Lind and Tyler, 1988). Group value theory suggests that individuals appreciate psychological (and not only economic) rewards of their exchange relationships.

The theory suggests that even when subordinates do not have process and decision control, the budgetary participation process may convey to the subordinates that their involvement and membership in the work group are recognized. The process that delivers such information to the subordinates can confirm their high status and self-respect. The fulfillment of the individuals' psychological needs lead to their higher judgments of procedural justice. Based upon the argument of the group value model, the following hypothesis is offered:

Hypothesis 2: Group value treatment in the budgeting process will lead to higher procedural justice judgments.

A contingency view that considers psychological uncertainty might help to provide a better explanation regarding the role of self-interest. Such a view would argue that, in order to induce higher procedural fairness judgments, self-interest should be contingent upon the levels of group value perception. The group value model suggests that voice and choice have value regardless of their ability to influence the outcome. Specifically, subordinates value the opportunity to give input and vote because they perceive the opportunity as recognition of group membership.

The group value model suggests that members of a group subordinate their self-interest to ensure the viability of their group and their relationship with the decision maker. As stated earlier, they emphasize trust in the decision maker, the neutrality of budgeting procedures, and their status in the group. The psychological need fulfillment along with the possession of control resulted from voice and choice will

enhance the budgeting procedural justice judgments. Based on the line of arguments, I proposed the following hypothesis.

Hypothesis 3: There is a significant interaction effect of control and group value on procedural justice judgments.

Stretch Budget and Budget Commitment

Prior research suggests that providing a participation opportunity to subordinates in a decision process benefits an organization as a means of lowering subordinates' dissatisfaction and increasing organizational commitment (Fisher et al., 2002). When participation is solicited from the subordinates in the budgeting process, the subordinates will expect that the final budget will benefit them. If the budget turns out to be too difficult to achieve, then the subordinates will not value the participation opportunity as much as they did. This situation will lead to a frustration effect in the case of an unfavorable decision outcome. The effect occurs when the subordinates eventually learn that their participation does not affect the decision outcome. The subordinates are disappointed and frustrated because their expectation regarding the decision outcome is not met. The frustration and disappointment can hurt their commitment with the decision outcome (i.e. the final budget). The line of reasoning leads to the following hypothesis.

Hypothesis 4: In a stretch budget condition, control treatment in the budgeting process will have a negative relation with budget commitment.

The group value model posits that individuals always seek information regarding their status in a group. The information that confirms their high status in the group creates the subordinates' feelings of pride in their group and perceived respect by the group. These feelings of respect and pride should in turn lead to greater internalization of the group's value, norms, and decisions. In the stretch budget case, however, the fact that the organization or the supervisor administering the impossible-to-achieve budget may create subordinate frustration that, in turn, can make them question their status in the organization as well as the trustworthiness of the superior. When the subordinates perceive that their status is lower than they thought and that they can no longer trust their supervisor, their commitment to the final budget deteriorates. Based on the previous argument, I propose the following hypothesis:

Hypothesis 5: In a stretch budget condition, a group value treatment in the budgeting process will have a negative relation with budget commitment.

Fairness heuristic theory (Lind, Kray, and Thompson, 2001) suggests that the subordinates will use their procedural justice judgments as cognitive shortcuts to arriving at decisions about the extent to which they commit to the final budget. The theory predicts that when subordinates perceive fairness in budgeting procedures as the result of having control and high group value, they will perceive themselves as having more investment in the organization. Being confident that in the long run their interests will be recognized through the budgeting process motivates the subordinates to comply with the final budget.
In the stretch budget condition, the subordinates face the reality that their initial procedural fairness judgments do not positively correlate with the outcome favorability. Given that the subordinates are goal-seeking individuals, the receipt of the stretch budget decision threatens their goal attainment. When making sense of the unfair budget, the subordinates seek to understand the causes. Lindquist (1995) find that when unfair budgets are imposed to subjects who previously have a choice opportunity, the subjects are less satisfied with the budgets and tasks.

An important implication of this reasoning is that the receipt of the unfair budget elicits the adjustment process of procedural justice judgments. The final budget will not receive as much commitment as it used to when the procedural fairness judgments decline.

Hypothesis 6: In a stretch budget condition, procedural justice judgments will have a negative relation with budget commitment.

The current study investigates whether procedural justice judgments mediate the effects of subordinates' possession of control and group value condition on budget commitment. The study examines not only differences in budget commitment means resulting from manipulations of control and group value, but also the covariance structure of perceived procedural justice and budget commitment measures. The study proposes a finer explanation to the relation between budgetary participation and budget commitment beyond prior research findings.

The self-interest theory (Thibaut and Walker, 1975) posits that procedural justice judgments are enhanced by decision-making procedures that allow those affected by a decision the opportunity to participate in the decision-making. Prior studies show that providing a participation opportunity (i.e. voice and choice) in a budgeting process gives individuals a sense of control of the process and the final decision, which leads to higher perceived procedural fairness (e.g. Lindquist, 1995).

The group value model (Lind and Tyler, 1988) suggests that budgeting procedures can be seen as just for reasons that have nothing to do with control possession. Subordinates who value their group membership, high status, and self-respect will judge the budgeting process as fair as long as the procedures fulfill their psychological needs.

Subjects who are exposed to control and group value conditions should judge the budgeting process fairness as high. They will expect the final budget to be able to provide them with the highest benefit possible. However, if the final budget determined by the superior is likely to be unachievable or unfair (i.e. stretch budget), the subordinates will rescrutinize the budgeting procedures. The subordinates will perceive that the budgeting process fails to fulfill their expectations. In this situation, they begin to realize that they do not really have the control power in the budgeting process, and thus, their process and decision control become unrealistic. Moreover, as suggested by the group value theory, the subordinates will question whether the superiors care about their psychological needs and whether their relationship still matters.

Referent cognition theory (Folger and Martin, 1986) suggests that the unmet expectation can transform subordinates' initial high procedural justice judgments into negative effects on their commitment to the final budget. The subordinates will believe that the superior should have acted differently in the process so that the budget would have been more favorable to the subordinates. Stated differently, subordinates who have control and group value conditions are the ones who suffer the most when the stretch budget is set. Based on the arguments, I offer the following hypotheses.

Hypothesis 7a: Given the stretch budget decision, the procedural justice judgments will mediate the negative effect of control on budget commitment.

Hypothesis 7b : Given the stretch budget decision, the procedural justice judgments will mediate the negative effect of group value condition on budget commitment.

DATA AND METHODOLOGY

Subjects

The experiment was conducted in the second semester of 2002. Sixty-one college students participated in the study. Their participation was solicited through the Research Experience Program (REP) administered

by Gatton College of Business and Economics, University of Kentucky. The students were were offered a partial credit in courses and an opportunity to win one of four two-hundred-dollar cash prizes. The use of the student subjects was considered appropriate since the experimental task involves symbol-decoding activities and basic budgeting decisions, which the students could learn in a few minutes.

Design

The study employs a 2 X 2 between-subjects experimental design. The independent variables are the types of procedural justice: control and group value conditions. Control is manipulated by giving the participants an opportunity to express their thoughts (voice) about the initial (150-symbol) final budget that the supervisor wanted to assign and by providing the participants a right to vote (choice) for the final budget. The group value condition is manipulated by supplying the participants with information regarding (1) the importance of integrity and honor to the supervisor, (2) the supervisor's assertion on the neutrality of the budgeting process, and (3) the high status that the participants have in the budgeting process and overall study.

Two dependent variables are measured in the study. I measure procedural justice judgments using a 5-point scale for which the participants respond to a question asking how fair the procedure is used to determine the final budget (Libby, 1999). The subjects' commitment to the budget is measured by a measure (in 5-point scale) developed by Klein et al. (2001).

Materials and Procedures

The participants signed up to the study at a website maintained by the Research Experience Program. The website informed the participants regarding appointment date and time, the study location, as well as general instructions. There were multiple appointment dates available.
After a brief introduction, I distributed a participation consent form and a set of study materials and instructed the participants to read them. Four versions of study material were randomly distributed to the participants. The subjects were to complete the experiment in the presence of the researcher and returned the specific forms to the researcher upon completion. The experiment required approximately 45 minutes to complete.

The case study was developed based on that of Libby (1999). I did two pilot tests with two different types of audiences: faculty and students. In the case study, the participants acted as subordinates in a budgeting process and the researcher acts as their superior. The subjects' main job was to decode a number of symbols under the supervision of the superior. The superior told the subordinates that they got paid in raffle tickets. The tickets were used to determine four $200 cash prize winners.

The superior explained the reward scheme and conducted two three-minute practice sessions. Then, the manipulations were administered. Following this, manipulation checks for control and group value conditions were made and the participants' procedural justice judgments were measured. Then, the superior set the final budget (stretch budget condition). After measuring subjects' budget commitment, I had the subjects completed a demographic questionnaire. Finally, the compensation was distributed after a debriefing session.

RESULTS AND DISCUSSION

Manipulation Checks and Descriptive Statistics

To check the control manipulation, I ask participants to provide judgments about the extent to which "they are able to give their thoughts about the final budget" and "they are given the opportunity to express

their opinion about the budget that the manager wanted to assign" (for voice element) and "the manager depends on them in making the final budget decision" and "the participants have an influence over the final budget decision" (for choice element). In the group value condition, the study measures the participants' responses to the manipulation by asking the participants the extent to which "the manager deals in a truthful manner, the manager is aware of participants' rights, and the participants realize their position in the study."

Participants who receive the control condition indicate a mean (standard deviation) control of 4.10 (0.66), compared with 1.77 (0.77) for no-control condition. The difference in mean is statistically significant ($p<0.00$). Subjects in group value conditions indicate group value judgments of 3.70 (0.70) while those in no-group value conditions indicate 2.50 (0.73). The difference in mean is statistically significant ($p<0.00$).

The participants consist of 26 female and 35 male students, with the age average of 21.0 years. They had worked, on average, 25.1 and 6.4 months of part-time and full-time jobs, respectively. Table 1 below presents descriptive statistics for every experimental treatment condition.

Table 1: Mean (Standard Deviation) of Procedural Justice Judgment and *Budget Commitment* by Experimental Condition

		Control Element		
		Control	**No Control**	**Marginal**
Group Value Element	Group Value	4.33 (0.62) *1.33 (0.33)* n=15	2.67 (0.62) *2.38 (0.77)* n=15	3.5 (1.04) *1.85 (0.79)* n=30
	No Group Value	2.73 (0.80) *2.39 (0.81)* n=15	1.81 (0.54) *2.83 (0.45)* n=16	2.26 (0.82) *2.62 (0.68)* n=31
	Marginal	3.53 (1.07) *1.86 (0.81)* n=30	2.23 (0.72) *2.38 (0.75)* n=31	2.87 (1.12) *2.24 (0.82)* n=61

Hypotheses Tests: Procedural Justice Judgments

I expect that individuals' procedural justice judgments (PJJ) will be significantly affected by control (H1) and group value condition (H1), and by the interaction between the two conditions (H3). Table 1 presents the cell means and standard deviations for the participants' PJJ. On the basis of both self-interest theory and the group value model, I predict that the highest level of PJJ is produced by the interaction of control and group value while the control group produces the lowest PJJ level. As seen in Table 1, the pattern of means confirms the predictions. The control/group value cell produces the PJJ level of 4.33 while the no control/no group value cell produces 1.81. The control-only and group value-only conditions produce the levels of PJJ of 2.73 and 2.67, respectively. The main effects of the independent variables also suggest that providing control and group value conditions creates higher PJJ than denying the conditions (3.53 vs. 2.23 for control vs. no-control and 3.5 vs. 2.26 for group value vs. no-group value).

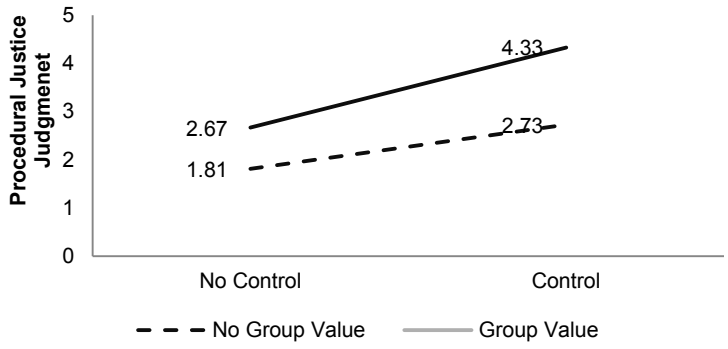
Table 2 presents the results of analysis of variance for PJJ. The analysis reveals significant main effects of control ($F = 60.48$, $p < 0.00$) and group value ($F = 54.41$, $p < 0.00$) on the measure of procedural justice, supporting Hypotheses 1 and 2. The results show significant interaction effects of control and group value ($F = 5.03$, $p < 0.05$), providing support for Hypothesis 3. Figure 1 displays the interaction effects of control and group value on procedural justice judgments.

Table 2: Analysis of Variance for Procedural Justice Judgments

Effect	DF	Type III SS	Mean Square	F-Value	Prob
Control	1	25.505	25.505	60.481	0.000***
Group Value	1	22.945	22.945	54.408	0.000***
Control*Group Value	1	2.119	2.119	5.025	0.029**
Error	57	24.037	0.422	-	-

***significant at α =5%*
****significant at α =1%*

Figure 1: Interactions of Control and Group Value on Procedural Justice Judgments



Hypotheses Tests: Budget Commitment

The remaining hypotheses in the stretch budget condition predict that control (H4), group value (H5), and procedural justice judgment (H6) will be negatively related to budget commitment (BC). The subsequent hypotheses predict that PJJ will mediate the relationships between control (H7a) and group value (H7b) and BC. Table 1 above presents the cell means and standard deviations for the participants' BC.

Based on the study's two main theories, I predict that the lowest level of BC is produced by the interaction of control and group value while the no control/no group value cell has the highest BC level. As seen in Table 1, the pattern of means confirms the predictions. The control/group value cell produces the BC level of 1.33 while the no control/no group value cell produces 2.83. The control-only and group value-only conditions produce the levels of BC of 2.39 and 2.38, respectively. The main effects of the independent variables also suggest that providing control and group value conditions creates lower BC than denying the conditions (1.86 vs. 2.38 for control vs. no-control and 1.85 vs. 2.62 for group value vs. no-group value).

Path analysis is used to test the remaining hypotheses. Path analysis entails the use of multiple regressions in relation to explicitly formulated causal models (see Table 3). The analysis provides the tests of linkages in the models (Baron and Kenny, 1986). Figure 2 presents the path model that makes explicit the likely causal linkages among variables in this study.

Table 3: Regression on Procedural Justice Judgments

	B	**S.E**	**T**	**Sig**
Control	1.288	0.172	7.487	0.000***
Group Value	1.221	0.172	7.099	0.000***

***significant at α = 1%

Values for path coefficients are estimated using regression and correlation analysis. The path coefficient is the standardized regression coefficient. The complete structural equations for the two endogenous variables are:

$$PJJ = 0.1228\,C + 0.1221G \times 30C + 0.591 \quad (1)$$

$$BC = -0.404C\text{-}0.437G\text{-}0.262PJJ + 0.727 \quad (2)$$

Figure 2: Path Coefficients – Stretch Budget Condition

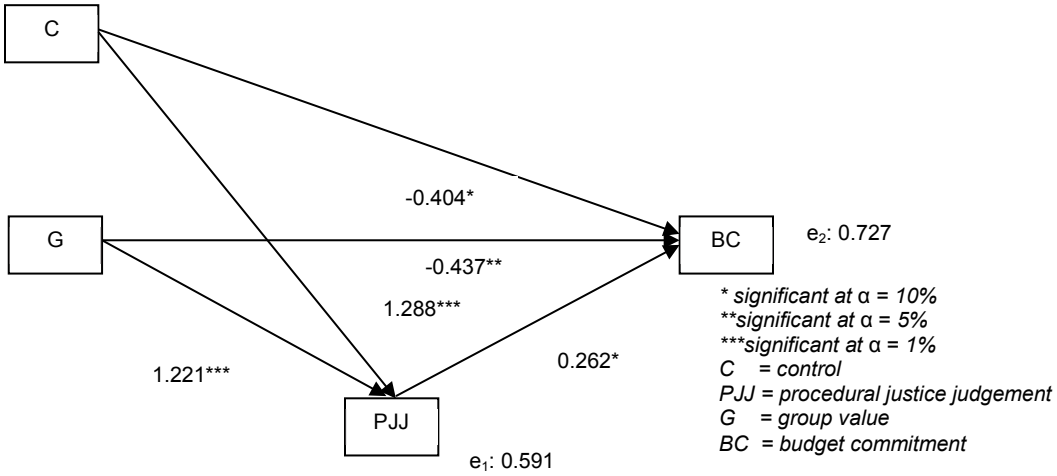


Figure 2 above illustrates the path coefficients in the path model with significant path coefficients shown in bold. Path coefficients of PJJ/C and PJJ/G are significant at $p < 0.01$. Path coefficients of BC/G and BC/PJJ are significant at $p < 0.05$ while path BC/C is moderately significant ($p < 0.1$). The results show control and group value affects PJJ directly. This is consistent with the findings of the previous analysis of variance (for Hypotheses 1 & 2). The results demonstrate that path BC/C has a moderately significant coefficient and therefore Hypothesis 4 is partially supported. Path coefficients of BC/G and BC/PJJ are significant and, thus, providing support for Hypotheses 5 and 6.

PJJ will serve as a mediator in the relationships between control and BC (H7a) and between group value and BC (H7b). To examine the relative magnitude of each type of effects, the total effects are decomposed and Sobel tests are performed (Bollen and Stine, 1990). The tests reveal that the mediating effect of PJJ on the relationship between C and BC is significant at $p < 0.05$ (t value = -2.079). Thus, the result supports H7a. Hypothesis 7b is also supported since the tests demonstrate a significant result at $p<0.05$ (t value = -2.068).

Discussion

The results of this study are relevant to the consideration of the importance of both control and non-control components of procedural justice judgments and the judgments' role in explaining the relation between budgetary participation and budget commitment. Specifically, the study examines (1) whether the effects of control on procedural justice judgments are influenced by group value, (2) and whether the procedural justice judgments mediates the relation between budgetary participation and budget commitment.

Overall, this study's results discussed above are as predicted by both self-interest theory and group value model. The findings indicate that self-interest theory and the group value model are reasonably accurate and that self-interest processes and group value processes happen at the same time to produce procedural

fairness judgments. These results are consistent with previous studies in budgeting that consider procedural justice (Lindquist, 1995; Libby, 1999; Fisher et al., 2002).

The results also support the existence of frustration effects when a stretch budget is administered. One possible explanation about why the frustration effects occur is because the individuals believe their participation is solicited only to attract them into accepting the manager's budget decision. In other words, the participants are disappointed because their participation does not affect the final budget. In addition, giving the individuals the group value scenario can increase the frustration effects. As suggested by the group value model, the individuals rescrutinize the manager's concern about their psychological needs. The findings show that individuals perceiving high procedural justice are the ones who are resentful when they experience an undesirable outcome because they have higher expectations about the outcome. A less-than-expected outcome received by the individuals leads to their unfairness perceptions that can result in lower budget commitment.

Altogether, the findings have important implications. First, pseudo participation can lead to frustration and disappointment, which in turn, can decrease budget commitment and other types of organizational commitment. In addition, the frustration can carry over to other decision-making procedures.

Second, procedural justice is an important predictor of budget commitment. Fair procedures prevent budget commitment from deterioration due to frustration with unfair outcomes. However, the research findings do not imply that outcome fairness is unimportant. As both types of justice are related to each other (Lind and Tyler, 1988), a lack of attention to one type of fairness may negatively affect the other one.
Considering the implications above, managers should attend to procedural justice issues as early as possible in the decision-making process, especially in a stretch budget condition. Although research suggests that justification for an unfair outcome can act as a remedy (Libby, 1999), insufficient justification may further compound the damage of the stretch budget effects. In general, managing procedural justice perceptions effectively can decrease the economic costs and therefore, increase the efficiency and effectiveness of management accounting control systems.

CONCLUSION

This study investigates the role of group value in explaining how individuals perceive procedural justice in a budgeting process. The study extends prior research by introducing a stretch budget condition in the process. Since the study aims to provide a clear causal inference among variables, an experiment is deemed necessary. The experiment is able to shed light on the relationships between procedural justice and its antecedents and consequences.

The results show that control and group value elements provide interaction effects on procedural justice judgments. Other primary finding of the study is that stretch budget creates frustration effects. Altogether, the findings show that pseudo participation can lead to disappointment, and in turn, decrease budget commitment.

There are limitations associated with this study that should be identified. First, the subjects were homogenous college students, which may not be similar to those of organizations that differ significantly from the subject pool. In the future, research may address the effect of demographic variables. Second, this study did not examine the procedural justice judgments after introducing the stretch budget. Future research can be directed to refine the procedural justice effects from those of distributive justice. Third, this study did not examine the order of presentation of the two types of justice and their nature. In reality, people might be affected by primary or recency bias in perceiving fairness. This possibility warrants

future research that involves multi periods since individuals may learn different justice patterns when they are exposed to different justice information over a long period of time.

Finally, the study treats stretch budget as an unfair budget. It is possible that the subjects may see a stretch budget as a challenging goal that motivates them to perform better. Future research can be directed to investigate the effects of stretch budget on justice perception.

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HOW CHINA TO U.S. FOREIGN EXCHANGE RATE RELATES TO U.S. INTEREST RATE AND BANK LOANS

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ABSTRACT

This research investigates the interactions of U.S. interest rate, the different types of bank loans at all U.S. commercial banks, production activities and the foreign exchange rate between U.S. and China. This paper uses monthly data from 1981 to 2012 to show that some U.S. bank-loan-related macro-economic indicators are related to exchange rates between U.S. and China. The results demonstrate that U.S. short-term federal funds rate, U.S. manufacturing capacity utilization, and three types of banks loans at all U.S. commercial banks could be good predictors and determinants of the overall exchange rate between these two important international currencies.

JEL: F31, F33

KEYWORDS: Foreign Exchange, Interest Rate, Loans, U.S., China.

INTRODUCTION

The continued strength and vitality of the US economy continues to attract economics forecasters. According to the International Monetary Fund, the U.S. GDP of $15.1 trillion constitutes 22% of the gross world product at market exchange rates and over 19% of the gross world product at purchasing power parity (PPP). Though larger than any other nation's, its national GDP is about 5% smaller than the GDP of the European Union at PPP in 2008. The country ranks ninth in the world in nominal GDP per capita and sixth in GDP per capita at PPP. The U.S. dollar is the world's primary reserve currency. The United States is the largest importer of goods and third largest exporter, though exports per capita are relatively low. In 2010, the total U.S. trade deficit was $635 billion. Canada, China, Mexico, Japan, and Germany are its top trading partners. In 2010, oil was the largest import commodity, while transportation equipment was the country's largest export. China is the largest foreign holder of U.S. public debt.

China has experienced a remarkable period of rapid growth spanning three decades, shifting from a centrally planned to a market based economy with reforms begun in 1978. During this time, it grew at an average rate of about 9.7% per year, with exceptionally strong growth in the period of 2003-2007 averaging about 11% per year. Growth remained strong during the recent global financial crisis, reflecting massive stimulus and strong underlying growth drivers. China became the world's second largest economy in 2010. Increasingly, it is playing an important and influential role in the global economy.

Research about the relation of US interest rates, and other factors with the foreign exchange rates between US and China plays an important role. However, it is difficult to predict the exchange rate movements since there are many short-term and long-term factors and disconnections between the leading macro-economic indicators and the nominal exchange rates (Hellerstein, 2008). This study investigates the interactions of some U.S. indicators in the banking system as a whole, such as interest rates and outstanding bank loans to determine the exchange rate between the U.S. dollar and China Yuan. These two countries are top economic entities in the world and their currencies are most traded in the foreign exchange (Forex) market (Wikipedia, 2012). U.S. and China also are important mutual trading partners with significant imports and exports in goods and services.

The remainder of the article is organized as follows. The next section reviews the literature development of U.S interest rates, the categories of outstanding banks loans at all U.S. commercial banks and the

foreign exchange rate of U.S. and China. It also points out the direction & focused issues of the current research which will contribute to the existing body of literature. Section 3 describes the methodology, data collection procedures and the formation of five hypothesis & final sample. Section 4 discusses the empirical results. Section 5 presents the summary and conclusions focusing on the implications and ideas for further research.

LITERATURE REVIEW

In foreign exchange markets, interest rates are an important factor for the exchange rate. The study on the relationship between interest rates and exchange rates is voluminous. On the theoretical side, it is widely believed that there is a positive correlation between interest rates and exchange rates. Most economics textbooks use demand and supply theory to demonstrate this relationship (Case, Fair and Oster, 2009; Hubbard and O'Brien, 2008). A high interest rate in the U.S. creates demand for dollars from foreign countries. A larger demand for dollars from China will appreciate U.S. dollars and depreciate the Chinese Yuan. A low interest rate in the U.S. relative to China shrinks demand for dollars as investors move toward the Chinese market. A lower demand for dollars depreciates dollars and appreciates Chinese Yuan. Finance textbooks use the interest rate parity (IRP) theory to determine the relationship between interest rate differentials and foreign exchange rate volatility (Crum, Brigham, and Houston, 2005; Ross, Westerfield, and Jordan, 2010). Very loosely, IRP says the forward exchange rate movements counteract nominal interest differentials to equalize expected nominal rates between two countries.

On the empirical side there are some contradictions to the theory. The hypothesis that ex post changes in exchange rates should be positively related to interest differentials with a coefficient of unity (called the unbiasedness hypothesis) has been strongly rejected by most economists. The survey of 75 papers on this subject by Froot and Thaler (1990) finds the average estimate of the coefficient is -0.88. Papers by Mayfield and Murphy (1992), and McCallum (1994) have similar findings.

Recently, several scholars argue there is weak evidence for IRP in the data. Alexius (2001) finds a substantial evidence in favor of the unbiasedness hypothesis by examining 14 long-term bond rates for the 1957-1997 period. Chinn and Meredith (2004 and 2005) test the IPR by using different terms of maturities for G-7 countries. Their results suggest IRP strongly holds with longer-term (5-year and 10-year) bond interest rate data. The unbiasedness coefficient value is positive and much closer to one. The common standpoint on the past papers, no matter the rejection or support of the unbiasedness hypothesis, is the use of short or long-term risk-free government security interest rates as a benchmark.

Unlike the existing studies, this paper adopts a different financial instrument, namely the federal funds rate. The federal funds rate has a direct effect on all other interest rates and it is a current monetary policy tool used by the Federal Open Market Committee (FOMC) to influence the U.S. money supply (Madura, 2006). The U.S. federal funds rate is also the major indicator of liquidity conditions in U.S. banking system as a whole. A high federal funds rate implies a more expensive financing cost and a tough liquidity situation for the banking pipeline in general (Gardner, Mills, and Cooperman, 2005).

Consumer spending, business and aggregate economic activities have long depended heavily on bank loans. Wen (2009) conducts a time-series study to demonstrate that two bank-loan-quality-related ratios may be good predictors and determinants of the overall financial performance measured by return on assets (ROA) in small U.S. banks. On the other side, aggregated U.S. bank loans could also be good indicators of the overall financial health and money supply condition in U.S banking system. The commercial banks, as the key component of U.S. depository institutions, play a significant role in financial intermediation, especially in the implementation of monetary policies (Rose and Marquis, 2008). Furthermore, with the rising of economic globalization and openness of capital markets, banking

activities shall relate to the movement of exchange rates. Hellerstein (2008) suggests that business firms and consumers may have an effect on foreign exchange rate fluctuation.

This paper also focuses on three outstanding bank loan measurements to show U.S. domestic money supply in the banking system as a whole. According to the Federal Deposit Insurance Corporation (FDIC) data, business loans, also called commercial and industrial loans (C&I loan), is the No. 2 holding in all loan portfolios for U.S. commercial banks, second only to real estate loans. Consumer loans are in third place, which is the money directly lent to the individual borrowers (Saunders and Cornett, 2008). I examine whether these three largest loan portfolios at U.S commercial banks have a direct or indirect impact on the foreign exchange rate between U.S. dollars and Chinese Yuan. We expect C&I loans and consumer loans to negatively relate to the change of exchange rates, but real estate loans to positively relate to the exchange rate. With expanding consumer and business expenditures, the demand for Chinese products by American consumers and the activities in Chinese markets by U.S. businesses will increase, which will inevitably increase the demand for Chinese Yuan and depreciate the U.S. dollar. Increasing real estate loans suggest a prosperous real estate market.

The last factor we want to investigate is U.S. manufacturing capacity utilization. Capacity utilization is a ratio of the actual output and the potential output which could be produced with currently installed equipment. It is a good indicator for economic expansion and contraction. Implicitly the capacity utilization is also an indicator of how efficiently the factors of production are being used (Wikipedia, 2012) and a nation's productivity. Due to its economic impact on the global market, U.S. manufacturing capacity utilization will impact foreign exchange rates. However, the study on the correlation of manufacturing capacity utilization and the exchange rate has not received much attention. Most researchers focus on the link between productivity and the exchange rates. The earliest papers on this subject are Balassa (1964) and Canzoneri, Cumby and Diba (1999). All of these pioneer studies confirm a positive relationship between productivity and exchange rates.

Although Balassa-Samuelson's hypothesis is universally accepted as the predictor of exchange rates, Ito, Isard and Symansky (1996) find skeptical evidence on this hypothesis with an examination of the Asia Pacific Economic Cooperation Council (APEC) countries and economies. They find Australia, Canada, New Zealand, Philippines, Indonesia, Thailand, and Malaysia's growth patterns refute the Balassa-Samuelson's hypothesis. A recent paper by Lee and Tang (2007) provides more insights on the time-honored link between productivity and exchange rates. Contrary to the traditional approach of using only one productivity measure, they evaluate both labor productivity and total factor productivity. They find that labor productivity tends to appreciate the exchange rate which is consistent with the traditional view, but total factor productivity depreciates the exchange rate. To examine the exchange rate between the U.S. dollar and Chinese Yuan, I view the total factor productivity, rather than the labor productivity, is more appropriate since trade between the U.S. and China is primarily on capital-intensive goods. Our study is to fill a gap in the literature. Instead of using the productivity rate, we examine the correlation between manufacturing capacity utilization and the exchange rates. As stated earlier, capacity utilization is a good indicator of the overall U.S. economic health conditions.

DATA AND METHODOLOGY

In this research, data is collected from FRED (Federal Reserve Economic Data) electronic database at Federal Reserve Bank of St. Louis. The sample time is from January 1, 1981 to April 1, 2012. The total sample size is 376. The paper tests the following null hypothesis.

H_0: The factor X_i is not related to the foreign exchange rate between U.S. dollar and Chinese Yuan. In which, X_1 = federal funds rate; X_2 = business loans; X_3 = consumer loans; X_4 = real estate loans; X_5 = U.S. manufacturing capacity utilization.

The alternative hypotheses are: Based on the theoretical background discussed above, we propose the following alternative hypotheses:

H_1: U.S. federal funds rate is related to the foreign exchange rate between U.S. dollar and Chinese Yuan.
H_2: The commercial and industrial loans at all U.S. commercial banks are significantly related to the foreign exchange rate between U.S. dollar and Chinese Yuan.
H_3: The consumer (individual) loan at all U.S. commercial banks is significantly related to the foreign exchange rate between U.S. dollar and Chinese Yuan.
H_4: The real estate loan at all U.S. commercial banks is significantly related to the foreign exchange rate between U.S. dollar and Chinese Yuan.
H_5: U.S. manufacturing capacity utilization is negatively related to the foreign exchange rate between U.S. dollar and Chinese Yuan.

Multiple linear regression (MLS) method is applied to test the above five hypotheses. The definitions of variables in this study are consistent with the standards described by FRED (Federal Reserve Economic Data). The dependent variable is the unit of Chinese Yuan in exchange for one U.S. dollar on a monthly basis (EXCHUS) (Y), which is the most common European term quotation in foreign exchange trading (Crum, Brigham, and Houston, 2005).

The five independent variables are followed. The effective federal funds rate (FEDFUNDS) (X_1) is a daily average value on a monthly basis reported by the Federal Reserve System board of governors. The proxy for business loans (BUSLOANS) (X_2) equals the natural log of billions of dollars for commercial and industrial loans at all U.S. commercial banks. The measure of consumer loans (CONSUMER) (X_3) is represented by the natural log of billions of dollars for consumer (individual) loans at all U.S. commercial banks. The indicator of real estate loans (REALLN) (X_4) equals the natural log of billions of dollars for real estate loans at all U.S. commercial banks. The variable for monthly U.S. manufacturing capacity utilization (MCUMFN) (X_5) is expressed as a monthly number in percentage format.

Regression Model:

$$Y = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \beta_4 * X_4 + \beta_5 * X_5 + \mu \quad (1)$$

Estimated multiple regression equation:

$$\hat{Y} = b_0 + b_1 * X_1 + b_2 * X_2 + b_3 * X_3 + b_4 * X_4 + b_5 * X_5 \quad (2)$$

$\hat{Y}$ = the unit of Chinese Yuan in exchange for one U.S. dollar on a monthly basis
b_0 = constant (y-intercept); $b_{1\text{-}5}$ = slope coefficient; μ = error term.
X_1 = the effective federal funds rate to measure the general interest rate environment on a monthly basis
X_2 = the natural log of commercial and industrial loans (in billions of dollars) at all U.S. commercial banks on a monthly basis
X_3 = the natural log of consumer/individual loans (in billions of dollars) at all U.S. commercial banks on a monthly basis
X_4 = the natural log of real estate loans (in billions of dollars) at all U.S. commercial banks on a monthly basis
X_5 = the monthly U.S. manufacturing capacity utilization based on the North American Industry Classification System (NAICS), given in percent format.

EMPIRICAL RESULTS

Table 1 presents the descriptive statistics of six variables. The average value of exchange rate between Chinese Yuan and U.S. dollar is CNY6.112/$. The maximum of exchange rates was reported at CNY8.725/$ in April 1994. The minimum of exchange rates was quoted at CNY1.551/$ in January 1981. The average value of effective federal funds rate (FEDFUNDS) is 5.35%. The highest federal funds rate was 19.1% in June 1981. The lowest federal funds rate was 0.15% in July, October, and December 2011. National Bureau of Economic Research (NBER) reports that U.S. economy enters a recession in December 2007 (Crutsinger, 2008). The decline of the federal funds in recent 2 years rate shows that U.S. economy began to slow down very quickly since the second half of 2007. The Federal Reserve changed its monetary policy accordingly under the impact of the sub-prime lending meltdown and banking crisis. The average value of business loans (BUSLOANS) is $ 822.1 billion. The maximum value of business loans was $1607.8 billion in October 2008. The minimum value of business loans was $ 577.3 billion in January 1981.

The average value of consumer/individual loans (CONSUMER) is $513.5 billion. The maximum value of consumer/individual loans was $1163 billion in April 2010. The minimum value of consumer/individual loans was $ 178.8 billion in January 1981. The average value of real estate loan (REALLN) is $1570.1 billion. The maximum value of real estate loan was $3878.9 billion in May 2009. The minimum value of real estate loan was $ 263.8 billion in January 1981. The average value of monthly U.S. manufacturing capacity utilization (MCUMFN) is 79.4%. The maximum of monthly U.S. manufacturing capacity utilization was reported at 85.2% in January 1989. The minimum of monthly U.S. manufacturing capacity utilization was quoted at 67.3% in June 2009.

Table 1: Descriptive Statistics of Six Variables

	EXCHUS (Y)	FEDFUNDS (X_1)	BUSLOANS(X_2)	CONSUMER(X_3)	REALLN(X_4)	MCUMFN (%)(X_5)
AVERAGE	6.112	5.35	822.1	513.5	1,570.1	79.4
MAX	8.725	19.10	1,607.8	1,163.0	3,878.9	85.2
MIN	1.552	0.07	312.4	178.8	263.8	66.8
MEAN	6.112	5.349	822.14	513.5	1.57	79.44
STD. DEVIATION	2.343	3.715	323.54	242.82	1,164.5	3.837

This table illustrates the summary statistics of six variables. The data is collected from FRED (Federal Reserve Economic Data) at Federal Reserve Bank of St. Louis. The sample time is from January 1, 1981 to April 1, 212. The total sample size is 376. The definitions of variables in this study are consistent with the standards described by FRED. The dependent variable is the unit of Chinese Yuan in exchange for one U.S. dollar on a monthly basis (EXCHUS (Y)). The effective federal funds rate (FEDFUNDS (X_1)) is a daily average value on a monthly basis reported by board of governors of the Federal Reserve System. The business loans (BUSLOANS (X_2)) is the commercial and industrial loans at all U.S. commercial banks, which are reported in billions of dollars. The measure of consumer loan (CONSUMER (X_3)) is represented by the consumer (individual) loans at all U.S. commercial banks, which are reported in billions of dollars. The numbers of real estate loan (REALLN (X_4)) equal to the real estate loans at all U.S. commercial banks, which are reported in billions of dollars. The variable of monthly U.S. manufacturing capacity utilization (MCUMFN (X_5)) is expressed as a monthly number in percentage format.

The empirical results of the regression model are showed in Tables 2 and 3. The regression is estimated with the unit of Chinese Yuan in exchange for one U.S. dollar as the dependent variables. There are five significant independent variables, all of which are significantly related to the dependent variable.
Using t-Test to test five hypotheses, and identify individual significance with rejection rule as follow: Reject H_0 if p-value $\leq \alpha$. At $\alpha = 0.01$, the results as follow:

For the effective federal fund rate (hypothesis H_1), p-value = 0.00 < α, we reject H_0, and the regression coefficient of the effective federal fund rate used to measure the short-term interest rate benchmark (FEDFUNDS) is negative (regression coefficient = -0.377). This result indicates that the effective federal

funds rate in U.S. is negatively related & significant to the foreign exchange rate between U.S. dollar and Chinese Yuan. H_1 forecasts a negative relationship between these two variables. Thus, H_1 is supported.

For the proxy of business loans (BUSLOANS) (hypothesis H_2), p-value = 0.00 < α, we reject H_0, and the regression coefficient of the proxy of business loans is positive (regression coefficient =0.005). This result indicates the effective federal funds rate in U.S. is positively related & significant with the foreign exchange rate between the U.S. dollar and Chinese Yuan. H_2 forecasts a positive relationship between these two variables. Thus, H_2 is supported.

For consumer loans (CONSUMER) (hypothesis H_3), p-value = 0.024 > α, we can't reject H_0, so there is no significant relation between consumer loans and the foreign exchange rate between the U.S. dollar and Chinese Yuan. H_3 is not supported. The fourth independent variable is the indicator of real estate loans (REALLN) (hypothesis H_4). With a p-value = 0.089> α, we can't reject H_0, so there is no significant relation between X_4 and the foreign exchange rates between the U.S. dollar and Chinese Yuan. H_4 is not supported.

The fifth independent variable is the monthly U.S. manufacturing capacity utilization (MCUMFN) (hypothesis H_5). With a p-value = 0.00 < α, we reject H_0, and the regression coefficient = 0.238. This result indicates that monthly U.S. manufacturing capacity utilization is positively related & significant to the foreign exchange rate between U.S. dollar and Chinese Yuan. H_5 is supported. From the above analysis, we have the regression equation as follows:

$$\hat{Y} = -13.362 - 0.377 * X_1 + 0.005 * X_2 + 0.238 * X_5 \quad (3)$$

At α = 0.05, with the same principle and analyses, we have the final regression equation as follows:

$$\hat{Y} = -13.362 - 0.377 * X_1 + 0.005 * X_2 - 0.02 * X_3 + 0.238 * X_5 \quad (4)$$

Table 2: Model Summary

Model	R	R2	Adjusted R2	Std. Error of the Estimate	
1	0.838	0.703	0.699	1.286	
Analysis of Variances					
Source	DF	SS	MS	F	P
Regression	5	1445.8	289.16	174.75	0.00
Residual Error	370	612.22	1.655		
Total	375	2058.02			

This table presents Model summary with predictors including Constant, MCUMFN, FEDFUNDS, BUSLOANS, CONSUMER, and REALLN.

Table 3: Regression Statistics

VARIABLE	COEFFICIENT	T- VALUE
CONSTANT	-13.362	-8.395***
FEDFUNDS (X1)	-0.377	-12.793***
BUSLOANS (X2)	0.005	7.915***
CONSUMER (X3)	-0.002	-2.267**
REALLN (X4)	0.000	-1.061*
MCUMFN(X_5)	0.238	11.744***

*This table illustrates the regression statistics of exchange rate of Chinese Yuan per U.S. dollar (dependent variable EXCHUS (Y)) and five independent variables including FEDFUNDS (X_1), BUSLOANS (X_2), CONSUMER (X_3), REALLN (X_4), and MCUMFN (X_5). A multiple linear regression (MLS) method is applied to test the above five hypotheses. The numbers in the second column are regression coefficients and the numbers in the third column are t-statistics. ***, ** and * indicate significance at the 1, 5 and 10 percent levels respectively.*

CONCLUSION

U.S. and China play important and influential roles in the global economy. Research about the relation of US interest rate and other factors with the foreign exchange rate between US and China is important. This paper shows that some U.S. macro-economic indicators, including U.S. federal funds rate, U.S. manufacturing capacity utilization, three largest loan portfolios at all U.S. commercial banks, could be good predictors and determinants of the foreign exchange rate between the U.S. dollars and Chinese Yuan. The data is collected from FRED (Federal Reserve Economic Data) at Federal Reserve Bank of St. Louis. The sample period is from January 1, 1981 to April 1, 212 with a total sample size of 376. The definitions of variables in this study are consistent with the standards described by FRED. The multiple linear regression (MLS) method is applied to test the specified hypotheses. However, it is difficult to predict accurately the exchange rate movements since there are many short and long-term factors and disconnections between the leading macro-economic indicators and nominal exchange rates. Further research is needed to explore these relationships.

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THE MEASUREMENT OF NEGOTIATING ABILITY: EVIDENCE FROM INDIA

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ABSTRACT

Conflicts are an ever present reality; and, we see that with an increase in psychological maturity at workplaces, conflicts are increasingly being handled through negotiations. While contemporary literature and tools deal with negotiating strategy, tools and techniques, what they miss out on is negotiating "ability". The primary premise of this paper is that behind these tools used in negotiations, is the individual ability to grapple with such interactions. The paper draws from an earlier work on the morphology of dispute handling capability to generate items for negotiating ability. The research was carried out in three phases. In the first phase, thirty incidents of dispute from Mahabharata - an Indian epic about a war transcending human race and its complexities - were outlined and subsequently analyzed to draw insights into negotiating and the capability required to negotiate. In the second phase, thirty exploratory in-depth interviews were carried out with executives to obtain an insight into the concept of negotiating ability using the critical incident technique. In the third phase of the research, findings from the qualitative methods were validated through survey method. The emerging scale along with the sub- scales shows robust psychometric properties and is expected to be useful for academics and practitioners alike.

JEL: M12, M14, M53

KEYWORDS: Negotiation, Negotiating Ability, Scale Development

INTRODUCTION

We live in a volatile world where disputes of varying magnitudes and consequences abound and dispute handling capability appears to be a scarce commodity. It can be argued that disputes, if not handled well, could have far reaching consequences. On the other hand, well-handled disputes can have some positive outcomes as well. Conventional wisdom considers disputes as destructive; however, researchers (Pincus, 1986; Bendersky, 2003) consider them as opportunities to create awareness about problems, bring about organizational change, provide better solutions and improve internal management. Hellman (1993) perhaps brings out the dichotomy succinctly when he suggests that agreement is not necessarily good but then neither is disagreement especially when people disagree for the sake of disagreeing, as a way to assert themselves and to avoid feeling dominated. Researchers (Barker, Tjosvold, and Andrews, 1988; Lippitt, 1982; Schmidt, 1974; Sethi, 1977; Sayeed, 1990; Syeed, 1990; Walton and McKersie, 1965) have also indicated several dispute handling strategies employed by executives at an individual level. Justice research suggests that voice (Batt, Colvin and Keefe, 2002; McCabe and Lewin, 1992), through enhancement of procedural justice (Barry, 2000; Trevino, 1992), and fairness perceptions (Blancero, 1995; Mesch & Dalton, 1989; 1992; Naumann et al., 1995; Schwartz & Moayed, 2001) helps in minimizing and resolving issues causing disputes. Besides, based on the norms of reciprocity, perceived organizational support (Naumann et al., 1995) and the quality of leader member exchange (Cleyman et al., 1995) also assist in keeping dispute-causing issues to a minimum.

While these are a few illustrations of how disputes could be handled, the focus of this study is not to examine these modalities. The focus of this study is on Negotiating Ability behind and beyond these methods premised on the assumption that it is this capability which is critical in choosing and deploying one or more of these methods. The following section reviews the literature on negotiating ability. The

review is followed by a section on research methodology that outlines the three phases in which the research was conducted. The section on results and discussion provides the statistical analysis of the data and provides empirical support for the framework. Finally, the conclusion highlights the implications of the study for the academia and the practitioners, the limitations of the study, and the areas for future research.

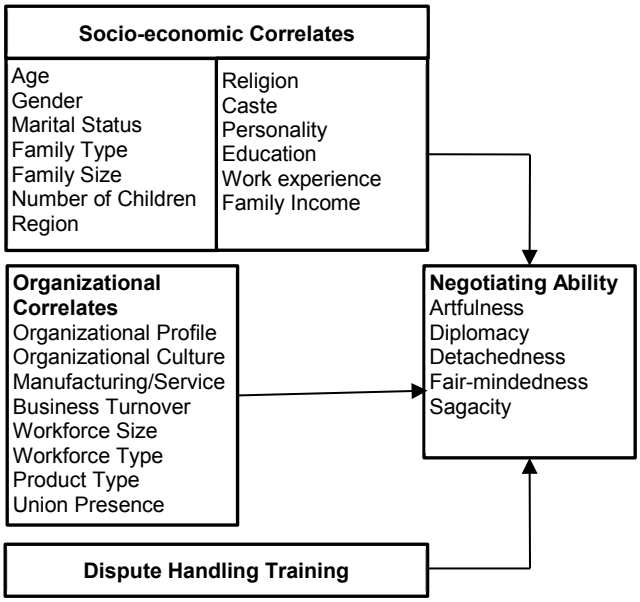
LITERATURE REVIEW

Kumar, Rai & Pati (2009) suggest that works in the field of negotiation could be divided into three areas, viz, negotiating ability, negotiating style and negotiating strategy. While negotiating style is the natural way in which one reacts to an interpersonal situation of conflict, negotiating strategy is the conscious choice a negotiator makes given the dual concerns of substantive and relational goals. While a lot of work has been done on negotiating style (e.g., Adler, 1983; Kumar, Rai & Pati, 2009; McDonald, 1996; Schein, 1985; Weingart, 2007) and negotiating strategy (Ackerman & Eden, 2011; Bard, 1987; Lumineau & Henderson, 2012; Ready & Tessema, 2009), there is no substantive work on negotiating ability. The only relevant literature that one can draw from is the literature on related issues about the ability abilities to manage conflicts and disputes. These include an understanding of the dynamics of interpersonal and intergroup conflict, for which the manager needs the knowledge of arbitration, bargaining, and collaborative problem solving, as well as skills in establishing and managing appropriate procedures for these approaches (Nugent, 2002), reputation and trust (Eden and Ackerman, 1998), refraining from making a fault on a moral issue (Borg, 2000), the ability to listen better and not be judgmental (Hall, 2002), the ability to protect the self esteem of all disputing parties (Shell, 1999), focus on substance and not personalities, commitment to standards of honesty, fairness and trust, commitment to meritocracy, organizational values and norms, personal integrity, and sensitivity to timing (Badaracco and Ellsworth, 1991), patience, endurance and demonstrated integrity and impartiality (Moore, 1996) and the personality traits of being trustworthy, ethical, fair, courteous, personable, tactful, sincere, fair minded, and self controlled (Hall, 1993). Further, these may also include empathy and equality (Lippitt, 1982), ability to see things as they really are (Bottles, 2001), ability to accept differences (Lee, 1998), strong oral and written communication skills (Neslund, 1988), assertive communication, active listening, problem solving skills (Antonioni, 1995), and mutual understanding (Bannon, 2003). However, there is a need to integrate these abilities conceptually in terms of a coherent framework that can explain its morphology and modality.

Rai (2007: 188, 189) suggested that the dispute handling capability manifests itself through five dimensions: Artfulness, which represented "the elements of shrewdness and calculatedness in the context of handling disputes", Diplomacy, which represented "the elements of tact, sensitivity and the ability to look at issues with acutely penetrating mental discernment", Detachedness**,** which represented "the elements of rational thinking and dissociating judgment from desires", Fair-mindedness, which represented "the elements of selflessness and equality in the context of handling disputes", and Sagacity, which represented "the elements of seeking the right path, equanimity, and reliance on own counsel apart from the rule-book". Given the increase in psychological maturity of conflict handlers in the corporate sector, it is likely that these conflicts would be increasingly handled through Negotiation. Consequently, Rai's dimensions of Dispute Handling Capability can be said to be a surrogate representation of Negotiating Ability itself. This Negotiating Ability can be defined as a "set of strengths required to negotiate and handle disputes effectively".

However, there is a need for empirical research to substantiate and measure this Negotiating Ability. The current study, therefore, seeks to determine the morphology of the concept of Negotiating Ability, develop measures for the construct and also to profile the modalities of the phenomenon in relation to some correlates identified through literature. The study tests the model suggested by Rai (2007) (Figure 1).

Figure 1: Negotiating Ability (NA) Conceptual Frame of Reference (Adapted from Rai, 2007)



Model suggested by Ray (2007)and tested in this study

RESEARCH METHODOLOGY

This exploratory-formulative research used a three-phase strategy. The first stage included outlining and analysis of 30 incidents of dispute from Mahabharata, which besides being an Indian epic is an allegorical representation of the universal human situation in all its manifestations, ramifications and intricacies. The broad objective of this phase was to get a grounded view of Negotiating Ability and its correlates from a systematic study of complex characters and incidents of disputes in various contexts that formed a part of this epic and to generate measures for Negotiating Ability. Thirty incidents of dispute were outlined, described and subsequently analyzed to draw insights into dispute handling and the ability required to handle disputes better through negotiation. Two independent post-graduate readers with prior experience in the area of dispute handling coded the description of the incidents and the behavioral patterns observed. They commented on the presence of dispute elements and the behavioral patterns displayed by those involved in the disputes as well. The codings were compared and finalized after a thorough reexamination.

In the second stage, 30 exploratory in-depth interviews with executives from varied backgrounds and demography were conducted to get an insight into the concept of executive dispute handling capability. A semi-structured questionnaire was used. The interviews employed critical incident technique wherein the executives were asked to detail and describe one incident where they were in dispute with someone or if they handled disputes between two or more other parties. Subsequent questions sought information on the way the dispute was handled, and the capability required to handle it. The dispute situations could be at the workplace, or in the social sphere. The description of such an incident included information about when and where it happened (time, location and social context), what actually happened (who said or did what), what the respondent was thinking and feeling at the time, and just after the incident. Next, the respondent was asked to reflect on the incident in terms of why the particular incident stood out, what was going on, what he or she was assuming or taking for granted, and whether he or she could have interpreted this event differently from another point of view. Finally, the respondent was asked to reflect on what he or she had learnt from the incident in the sense that if they considered it had gone well, what

may have helped that to happen, and what were their skills, knowledge or understanding that proved useful. Alternatively, if they considered it had gone badly, they were asked what they could have done differently, what else was going on at the time, and how would they deal with it if it recurred. The in-depth exploratory interviews were carried out at various locations in a city in India and lasted between 30 minutes and one hour. During the interview, clarifications were given to the respondents whenever they were unsure of what exactly was being asked of them. The interviews were recorded on tape with permission from the respondents and subsequently, transcripts of the recordings were made for each interview. The profiles of the respondents, nature of the dispute, intensity of their involvement and success in handling disputes were also analyzed. Two independent post-graduate readers with prior experience in the area of dispute handling coded the text. These codings were compared and finalized after a thorough re-examination.

Finally, in the third stage, survey methodology involving a questionnaire survey was used. The survey instrument was developed using inputs derived from related literature, the 30 incidents from the Mahabharata and the 30 exploratory interviews.

Development of the Negotiating Ability Scale

Based on the survey of literature, the case study of the Mahabharata and the insights from the exploratory interviews, a list of 237 items was identified. For each item, a statement which would capture Negotiating Ability was generated. The content validity was assessed by using 10 raters, seven from academia and three from industry. Besides ensuring that the statements were representative of the domain of Negotiating Ability variable, the raters also provided feedback on the difficulty, comprehension and sufficiency of the items. Inter-rater agreement was sought and items with eighty per cent of raters agreeing were retained. The anchor points of the items were determined and a 5-point Likert scale was developed ranging from 'totally disagree' to 'totally agree'.

Pilot Study of the Negotiating Ability Questionnaire

The content validity exercise of the questionnaire ensured the appropriateness of the items in the given context and their adequacy in capturing the concept of Negotiating Ability. Next, a pilot study was conducted with a sample size of 106. The respondents were selected from organizations across the city of Ahmedabad in India. This was followed by factor analysis to determine if the constructs/dimensions were present in the data as theoretically posited. Items were retained based on factor loading, inter-item correlation, and item-to-total correlation. Reliability of the scale was assessed and the Cronbach Alpha value was found to be 0.9562, much greater than the accepted value of 0.6. Items which seemed repetitive or confusing to the respondents were also either modified or dropped as deemed appropriate. Finally 100 items were retained in the survey instrument for the measurement of Negotiating Ability. These 100 items were then again given to three independent referees to be conceptually segregated into the dimensions of artfulness, diplomacy, detachedness, fair-mindedness and sagacity as explained before. Subsequently, 14 items formed the artfulness subscale, 22 items formed the diplomacy subscale, 26 items formed the detachedness subscale, 17 items formed the fair-mindedness subscale and 21 items formed the sagacity subscale.

Sample for the Survey

Subsequent to scale development, a survey was conducted among executives across the country. Cutting across industries, the respondents came from various domains such as steel, banking, software, educational institutions, insurance, and other manufacturing and service sectors. All respondents were, however, from the executive cadre of their respective organizations and came from various departments. The organizations varied in terms of their location, product, services, workforce, and turnover. In all,

1,000 questionnaires were given out. Of these, 540 received a response (54%), among which 505 were found to be usable. Out of the total number of responses received, 35 questionnaires had several items unanswered, including the dependent variable, and were considered not usable. The respondents included 373 males (73.86%), and varied in terms of age, work experience, marital status, family type and size, number of children, and personality.

RESULTS AND DISCUSSION

Scales

For negotiating ability, the pilot study and the content analysis generated 100 items to measure Negotiating Ability. On completion of the data collection item analysis was redone. The item analysis was done at the subscale level. Inconsistent items were removed and only those items were retained which "hung together" and were significantly correlated with the index scores for each subscale. The final analysis generated 7 items for artfulness, 12 items for diplomacy, 19 items for detachedness, 10 items for fair-mindedness, and 13 items for sagacity. These items in each sub scale were found to be loading on to one factor when subjected to factor analysis indicating that they were indeed measuring the underlying construct. The Cronbach alpha values for the subscales were 0.7137 for artfulness, 0.888 for diplomacy, 0.9078 for detachedness, 0.8353 for fair-mindedness, and 0.8613 for sagacity. While Nunnally (1967) has recommended a value of Cronbach alpha over 0.5 in case of exploratory studies, the high values computed for this study showed the sturdiness of the subscales. Based on literature, exploratory interviews and the incidents from the Mahabharata, several variables were identified as likely correlates of NA. Of these, social correlates like age, gender, marital status, family type (joint or nuclear), family size, number of children, region (in terms of five regions viz. North, South, East, West and Central), religion, caste, education, work experience and family income were measured as a part of the demographic data. Personality type was assessed using a modified version of Myers-Briggs Type Indicator (MBTI). Data on organizational correlates such as organization profile (regional, national or a multinational profile), organization type (manufacturing or services), business turnover, workforce size, workforce type (regional, multicultural or multinational profile), product type (single product, multiproduct or multibusiness organization), and union presence was included in the study. Organizational culture was measured using the 40-item version of the OCP used by Cable and Judge (1997) and derived originally from O'Reilly, Chatman and Caldwell (1991). Finally, dispute handling training was measured in terms of number of days of training received by asking the respondents as to how many days of training on dispute handling had they received in their entire work tenure.

External Validity Issues

The external validity of a study refers to the extent to which findings can be generalized across time, persons and settings (Cook and Campbell, 1979). The external validity of findings would be threatened if the sample were systematically biased, for instance, if the responses on the Negotiating Ability scales had either "very high" or "very low" scores. The standard deviation of the individual items is within acceptable limits. Further, the responses show good distribution on Negotiating Ability subscales since the mean and median are similar, skewness is less than 2 and Kurtosis is less than 5 (Ghiselli, Campbell and Zedeck, 1981). Overall, there does not seem to be an evident bias due to the dependent variable measure used in this study (Refer Table 1).

The 30 exploratory interviews used Critical Incident Technique as explained in the preceding discussion. The interviews were recorded on tape with permission from the interviewees and subsequently transcripts of the interviews were made. These transcripts were then subjected to content analysis. Phrases and words denoting Negotiating Ability and its correlates were gleaned out and their frequency was recorded. Conclusions were drawn based on these results.

Table 1: Descriptive Statistics: Dimensions of Negotiating Ability

		Artfulness	Diplomacy	Detachedness	Fair-mindedness	Sagacity
N	Valid	505	505	505	505	505
	Missing	0	0	0	0	0
Mean		3.7021	3.8089	3.9101	3.9703	3.9570
Median		3.7143	3.9167	3.9474	4.0000	4.0000
Std. Deviation		0.5698	0.6286	0.5708	0.5567	0.5635
Variance		0.3246	0.3952	0.3259	0.3099	0.3175
Skewness		-0.514	-0.692	-0.950	-0.682	-0.717
Std. Error of Skewness		0.109	0.109	0.109	0.109	0.109
Kurtosis		0.971	1.557	1.492	1.057	0.916
Std. Error of Kurtosis		0.217	0.217	0.217	0.217	0.217
Range		3.29	3.75	3.05	3.10	3.08
Minimum		1.71	1.25	1.95	1.90	1.92
Maximum		5.00	5.00	5.00	5.00	5.00

Similarly, the incidents of dispute taken from the Mahabharata were subjected to content analysis after the incidents were outlined and described in details. Phrases and words that explained the understanding of negotiating ability, its dimensions and its correlates were noted down and their frequency was recorded. Conclusions were drawn based on these results.

The survey data was subjected predominantly to correlational analysis where the independent variables were continuous or dichotomous and comparison of means where the independent variables were categorical. Interpretations were made based on these results. Descriptive Statistics have been generated for the five conceptual dimensions of Negotiating Ability as shown in Table 1. These statistics show the sample distributions on these variables as well as the frequency distributions of each of these. Further, correlational analysis was done for the five dimensions of Negotiating Ability. Wherever the proposed correlates were categorical, their means vis-à-vis Negotiating Ability were determined and the independent samples T test procedure for comparison of means between groups divided in twos was carried out. These correlations indicate the strength and the direction of relationship between the independent variables viz. socio-economic correlates, organizational correlates and dispute handling training, and the dependent variables, viz. the five dimensions of Negotiating Ability.

Socio-economic Correlates

The significance of the correlations between the socio-economic correlates of the various dimensions of Negotiating Ability and the dimensions of Negotiating Ability (dependent variable) is outlined in Table 2 below. These are the socio-economic variables which were either continuous or dichotomous in nature.

Table 2: Comparison of Socio-economic Correlates

Dimension Variable	**Artfulness**	**Diplomacy**	**Detachedness**	**Fair-mindedness**	**Sagacity**
Age	0.290 (S)	0.340 (S)	0.372 (S)	0.356 (S)	0.357 (S)
Gender	0.092 (S)	-0.002 (N)	0.060 (N)	0.091 (S)	0.100 (S)
Marital Status	0.091 (S)	0.139 (S)	0.170 (S)	0.127 (S)	0.086 (N)
Family Type	0.032 (N)	0.011 (N)	-0.038 (N)	0.081 (N)	0.020 (N)
Family Size	0.055(N)	-0.016 (N)	-0.037(N)	-0.023 (N)	0.033 (N)
Number of Children	0.070 (N)	0.102 (S)	0.088(S)	0.108 (S)	0.079 (N)
Work Experience	0.266 (N)	0.299 (S)	0.324 (S)	0.333 (S)	0.331 (S)

Socio-economic variables were either continuous or dichotomous in nature. Age and work experience are significantly correlated with all the dimensions of NA. Gender is a correlate of artfulness, fair-mindedness and sagacity dimensions.

As can be seen from the table, age and work experience are significantly correlated with all the dimensions of NA. Gender is a correlate of artfulness, fair-mindedness and sagacity dimensions. Marital

Status is significantly correlated with Artfulness, Diplomacy, Detachedness, and Fair-mindedness. Family type and family size do not correlate with any dimension while number of children is correlated with Diplomacy, Detachedness and Fair-mindedness. The comparison of the means for other categorical independent variables (highest) has been shown in Table 3 below.

Table 3: Comparison of Means for Socio-economic Correlates

Dimension Variable	Artfulness	Diplomacy	Detachedness	Fair-mindedness	Sagacity
Region	West	North	South	North	South
Religion	Sikhism	Sikhism	Sikhism	Hinduism	Sikhism
Caste	Brahmin	Brahmin	Brahmin	Brahmin	Brahmin
Personality Type	IIFP	IIFP	ESTP	IIFP	IIFP
Education	Graduate	Graduate	Graduate	Graduate	Graduate
Family Income	Higher	Higher	Higher	Higher	Higher

Table 3 shows a comparison of the means for other categorical independent variables (highest.)

The region-wise analysis indicates that while the West has the highest mean for artfulness, the South has the highest mean for detachedness and sagacity. The North has the highest mean for diplomacy, and fair-mindedness. In religion, Hinduism has the highest mean for the Fair-mindedness dimension and Sikhism for all other dimensions. For Caste, Brahmins have the highest mean across all Negotiating Ability dimensions. For the personality type, ESTP type has the highest mean for detachedness while IIFP has the highest mean for all other dimensions. As can be seen from the table, in Education, Graduates have significantly higher means than others across all Negotiating Ability dimensions. For family income, higher income group has the highest mean for all the dimensions.

Organizational Correlates

The significance of the correlations between the organizational correlates of Negotiating Ability and the dimensions of Negotiating Ability (dependent variable) is outlined in Table 4 below. These are the organizational level variables which were either continuous or dichotomous in nature.

Table 4: Comparison of Organizational Correlates

Dimension Variable	Artfulness	Diplomacy	Detachedness	Fair-mindedness	Sagacity
Organizational Culture	0.516 (S)	0.467 (S)	0.565 (S)	0.474 (S)	0.546 (S)
Manufacturing or Services	-0.043 (N)	0.074 (N)	0.044 (N)	0.053 (N)	0.021 (N)
Business Turnover	-0.060 (N)	-0.039 (N)	-0.068 (N)	-0.062 (N)	-0.070 (N)
Workforce Size	-0.046 (N)	0.085 (N)	0.007 (N)	-0.014 (N)	0.022 (N)
Union Presence	-0.091 (S)	-0.007 (N)	-0.082 (N)	0.008 (N)	-0.059 (N)

Table 4 outlines the significance of the correlations between the organizational correlates of Negotiating Ability and the dimensions of Negotiating Ability (dependent variable)

As can be seen from the table, organizational culture is a significant correlate of all dimensions of Negotiating Ability. Union Presence is a significant correlate of the artfulness dimension. None of the other organizational level variables significantly determine any dimension of Negotiating Ability. The comparison of the means for other categorical independent variables (highest) has been shown in Table 5 below. For the organizational profile, multinationals have the highest mean for all dimensions of Negotiating Ability. For the workforce type, multinational workforce has the highest mean for all the dimensions. As can be seen from the table, for the product type, multi-business has the highest mean for the artfulness and sagacity dimensions of Negotiating Ability, while multi-product has the highest mean for the other dimensions.

Table 5: Comparison of Means for Organizational Correlates

Dimension Variable	Artfulness	Diplomacy	Detachedness	Fair-mindedness	Sagacity
Organizational Profile	Multinational	Multinational	Multinational	Multinational	Multinational
Workforce Type	Multinational	Multinational	Multinational	Multinational	Multinational
Product Type	Multi Business	Multi Product	Multi Product	Multi Product	Multi Business

Table 5 shows that product type, multi-business has the highest mean for the artfulness and sagacity dimensions of Negotiating Ability, while multi-product has the highest mean for the other dimensions.

Dispute Handling Training

The significance of the correlation between Dispute Handling Training and the various dimensions of Negotiating Ability (dependent variable) has been outlined in Table 6 below.

Table 6: Comparison of Dispute Handling Training

Dimension Variable	Artfulness	Diplomacy	Detachedness	Fair-mindedness	Sagacity
Training	0.205 (S)	0.204 (S)	0.276 (S)	0.217 (S)	0.223 (S)

Table 6 shows that training has a significant correlation with all the dimensions of Negotiating Ability.

As is evident from the table, training has a significant correlation with all the dimensions of Negotiating Ability. The data analysis has thrown up some interesting results. Results suggest that the sample for this study shows good distribution on the construct of Negotiating Ability dimensions. Further, the results also indicate the strength and the direction of the relationship of socio-economic correlates, organizational correlates, and dispute handling training with the dimensions of Negotiating Ability. While the strength of these relationships varies from weak correlations to strong correlations, the significance of the relationship varies between not significant to very significant.

Dimension Level Analysis

Age and work experience are significantly correlated with all Negotiating Ability dimensions. The results for age and work experience are consistent with the findings in phase 1 and phase 2 of the study where these two variables have high frequencies in the content analyses. One of the variables that came up for discussion during the exploratory interviews was past experience of handling disputes. However, this could not be measured during the survey for the want of an objective way of measurement. Prior handling of disputes would both add to the experience and provide hands-on training. Thus, it could be a significant correlate of Negotiating Ability. Perhaps, this variable gets reflected in age and work experience also because it would be reasonable to assume that with the advancement in age and work experience, one would have handled more disputes in all spheres of life including those in the domestic and social space. Another argument can be provided from the Mahabharata itself. Mahabharata reveals that power in its various manifestations could also be a significant determination of dispute handling capability. One such element of power is the amount of leverage that the executive has and will use to drive his actions through. This could be based on official position (authority), self-acquired respect and mastery (prestige), proximity to powerful people (referent power) and handle on resources (resource power). Each of these could be a correlate of Negotiating Ability. It is plausible that with increasing age and work experience, an executive would have a higher amount of leverage within the organization. This, in turn, would lead to greater Negotiating Ability.

Marital status is also significantly correlated to Negotiating Ability such that married people have been found to have higher Negotiating Ability than unmarried one. One explanation for this could be that marriage is understood to bring greater responsibilities and decision-making opportunities to people. This

enables a person to hone his or her skills related to handling day-to-day domestic issues. Moreover, married people experience a lot of work-family conflict as compared to unmarried people since they spend comparatively a larger amount of time in family activities (Burke, 1988; Greenhaus and Beutell, 1985). As prior experience has a high frequency in connection with determining Negotiating Ability, it stands to reason that married people would have a higher Negotiating Ability than unmarried people. Similar argument can be given for the positive relationship between number of children and Negotiating Ability. The number of children is significantly correlated with diplomacy, detachedness and fair-mindedness dimensions as well as the overall construct. Since more children would indicate more chances of disputes (among them) at the domestic front as well as disputes arising out of higher demands on their parent's time (Greenhaus and Kopelman, 1981), people with more children are likely to have more experience of dispute handling. Moreover, they are likely to inculcate the ability to be diplomatic, unbiased and fair-minded while dealing with children. Consistent with the findings of the in-depth interview, therefore, the number of children is positively associated with Negotiating Ability dimensions.

The results for gender are consistent both with the content analysis of incidents from the Mahabharata and the previous literature. Gender is a significant correlate of artfulness, fair-mindedness and sagacity dimensions of Negotiating Ability. The correlation with some specific dimensions of Negotiating Ability is in line with earlier studies (e.g., Nicotera and Rancer, 1994) which suggest that women are generally more nurturing and tentative in nature as compared to men. Their nurturing nature would dampen their artfulness abilities while the tentative demeanour would affect their fair-mindedness and sagacity capabilities to handle disputes. Family size and family type have not been found to be significantly related to Negotiating Ability dimensions. This may look to be inconsistent with the fact that large families are likely to produce higher incidences of work-family conflict (Greenhaus and Beutell,1985), however, one needs to take a closer look at these two dimensions together. A closer look at the data reveals that the family size is greater in Joint families. This is logical since a joint family would include people other than the immediate family and in most cases, parents (of the respondents). In such families, domestic pressures get dispersed over a larger cross-section of people and demands of time from children and spouse are perhaps met by other family members. This contradicting effect probably cancels the independent effect that these two dimensions may have otherwise had.

Region was one of the dimensions identified by the interviewees for determining Negotiating Ability. The argument offered was that different regions in India had various cultures and their associated peculiarities. Given Nugent's (2002) framework that suggested that culture and cultural differences, including national culture, would impact and influence the conflict and managerial intervention possibilities in a significant way, it was likely that cultural peculiarities of different regions of India would have differential effects on Negotiating Ability. For region-wise analysis, the West has the highest mean for artfulness, the South has the highest mean for detachedness and sagacity. The North has the highest mean for diplomacy, and fair-mindedness. However, except for the South, none of the differences were significant. This could be explained perhaps with two arguments. First, the instrument required respondents to indicate their state of domicile. However, the respondent may choose to work in some other state and over a prolonged work duration and residence, the effect of home state peculiarities may get diluted or modified. Second, the states have been put into the region bracket from purely a geographical perspective. For instance the states of Delhi, Himachal Pradesh, Jammu & Kashmir, Punjab, Uttar Pradesh and Uttaranchal were included in North while the states of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu were included in South. The states of Bihar, Jharkhand, Assam, Orissa, and West Bengal were included in East while those of Gujarat, Maharashtra and Rajasthan were included in west. The states of Chhattisgarh and Madhya Pradesh formed the region of Central India. Going by conventional knowledge, one can argue for instance that there would be cultural differences within the eastern states of Assam, West Bengal, Bihar and Orissa. The same argument can be extended to other regions and their states as well. Given that it was in fact the culture that should have determined the classification of these regions and not their

geographical location, perhaps, the insignificant differences in determination of Negotiating Ability region wise stand explained.

The cultural perspective can be extended to religion as well. Religion has a significant effect on the thinking, attitude and behavior of its constituents (Rai, 2005). Studies (e.g., Weaver and Agle, 2002) point out that research has established that religiosity is related to personality, cognition, stress coping mechanisms, overall health, marital patterns, political behavior, voting behavior, use of illicit or illegal substances, and business ethics. In religion, Hinduism has the highest mean for the Fair-mindedness dimension and Sikhism for all other dimensions. The results for Sikhs and Parsees have to be addressed with caution given their small sample sizes of 5 and 2 respectively.

Since the sample size for religions other than Hindus is small, for discussion purposes the study would combine all other religions into the others category and then see the variation between the majority and the other religions in India. Religion has a significant correlation with the various dimensions of Negotiating Ability (except Artfulness). Although both Hindu and Muslim societies are collectivistic (Kanekar and Merchant, 2001), the Hindu philosophy basically talks about action with a sense of detachment and selflessness where the fruits of the action are subservient to the goal of common good and fundamental duties of the human beings (Rai, 2005) and can be said to assist Negotiating Ability building. The nuances of cultural differences are also manifested in Castes in the Indian context. The Indian social system still suffers from an inflexible caste system (Mehta and Kapoor, 1998) where caste has been a determining dimension in education, work and employment as well. Earlier classified into occupational groups with Brahmins representing the class involved with learning and teaching, Kshatriyas the warrior class, Vaishyas as the trading class and Shudras as those doing the menial work, the caste divisions are determined by birth today. So, a Brahmin's child is a Brahmin and so on and so forth. In India, caste is a dominant dimension determining social stratification that leads eventually to social reproduction. In this study, Brahmins have the highest means across all Negotiating Ability dimensions.

For personality type, the personality type IIFP has significantly higher correlations with all other dimensions except detachedness. The people of IIFP type tend to be quiet, reserved, deeply passionate, sensitive, dedicated to those close to them, creative, original, imaginative, curious and flexible. They have deep beliefs and tend to live in harmony with their values. A look at the instrument to measure Negotiating Ability would show that all these characteristics are an integral part of Negotiating Ability. On the other hand, the other types have one or more characteristics which could adversely impact their Negotiating Ability. While EIFJ personality types are passionately opinionated, EIFP personality types are disorganized. EITJ are outspoken while EITP are irreverent. ESFJ are easily hurt and conventional while ESFP are impulsive and unpredictable. While ESTJ are sceptical, ESTP are casual and at times, impulsive. ISFJ are uncompromising and easily offended while ISFP are sensitive to criticism. ISTJ are not diplomatic while ISTP are impulsive. IITJ are reserved, IIFJ are reserved, while IITP are casual and unpredictable. The results are in line with extremely high scores given to personality type as a correlate of Negotiating Ability both in the interviews and the analysis of Mahabharata dispute incidents. They are also consistent with reference to previous studies (e.g., Song et al, 2000) who suggest personality, environmental and structural characteristics as correlates of these capabilities.

Perhaps the most surprising result is that of the independent comparison of means of the various categories of education with Negotiating Ability dimensions. Although the proposition that education would have an impact on Negotiating Ability is brought out by the high frequency of acceptance in the content analysis of interview data, it is the detailed analysis that is surprising. The finding that MBAs and Post Graduates have significantly higher correlations with Negotiating Ability as compared to CAs can be explained in terms of management being a professional course with specific subjects targeted towards understanding of disputes, dispute handling, negotiations etc. Management Education broadens background for general management, broadens thinking about other areas of business, helps in updating

and rethinking of management problems and techniques, and broadens base of knowledge for decision-making (Crotty, 1974). The significant growth effects of attending MBA programs have been found to include awareness of wider business problems, and knowledge of other functional areas in terms of professional growth; analytical and management skills in terms of analytical growth; acceptance of other points of view in terms of ethical growth; and broadened thinking and confidence in own ability in terms of personal growth. Since all these attributes are likely to contribute towards better handling of disputes at workplace, it is plausible that management education results in higher Negotiating Ability. However, it is tough to explain how graduates seem to have a higher Negotiating Ability as compared to CAs and Engineers. One reason could be that some respondents filled up graduate as their level of education even though it is likely that they had an engineering degree, or some other professional degree like a management graduation or a graduation in computer applications etc. Second, the sample size of CAs is only 15 as compared to 132 graduates, 152 MBAs and 95 post graduates. This difference in numbers would likely make data a little skewed. For family income, the higher income group has significantly higher correlations with all Negotiating Ability dimensions. The fact that lower income group only had 4 respondents explains its exclusion from the significance list.

Amongst the organizational level variables, organizational culture has the greatest impact on all Negotiating Ability dimensions. In fact, the Pearson Correlation values suggest a very strong impact. This is in line with the high score culture receives in the interview data analysis as well as previous literature. Organizational culture has proved to be a significant determinant of the dispute handling approaches (Chew and Lim, 1995; Chiu, Wong and Kobinsky, 1998; Liao and Tsai, 2002; Morris et al, 1998; Samantara, 2003), and it is therefore likely that it would be a significant correlate of executive dispute handling capability. This is also supported by Nugent (2002) whose framework suggests that culture and cultural differences, including organizational culture, would impact and influence the conflict and managerial intervention possibilities in a significant way. The finding that workforce size, business turnover and the type of organization in terms of manufacturing or service providing needs to be studied in greater details. Results indicate that the type of organization, in terms of being a manufacturing or service organization, does not have a significant correlation with Negotiating Ability. However, the sign of the relationship indicates that respondents from manufacturing organizations have higher Negotiating Ability scores than those from service organizations. On the other hand, respondents from non-unionized organizations seem to have higher Negotiating Ability than those from unionized organizations. Further analysis reveals that manufacturing organizations are more likely to be unionized. This would imply that perhaps executives from manufacturing organizations which are non-unionized have a better Negotiating Ability than others. Studies (Benson, 2000) have indicated that employees in unionized workplaces were found to have significantly more voice mechanisms present than in non-unionized workplaces. In India, historically, the trade unions have played the role of an agent of social and economic changes, protecting and enhancing the interest of its members and trying to squeeze more and more out of managements through bargaining or conflict. To achieve this, they have resorted to several means ranging from collective bargaining and representation to strikes and disruptive activities. A corollary of this fact is that executives have to deal with the unions in unionized workplaces for most incidents of disputes and since union management interface happens through specific people in the organization, only those individuals are likely to have had previous experiences of handling disputes. On the other hand, in non-unionized workplaces, all executives need to handle disputes in their own work areas and thus, with increasing experience, they are likely to improve their Negotiating Ability.

For organizational profile, multinationals have a significantly higher correlation with Negotiating Ability dimensions as compared to National level organizations and Regional organizations. It is likely that multinationals attract more talented and qualified people as compared to national and regional organizations. Moreover, the quality of work and training would be superior in multinationals. Also, they are likely to be bigger organizations and since all these dimensions help achieve better Negotiating ability, a combination of these can explain this result. By the same argument, the results for

organizational workforce type can be explained. For organizational workforce, although organizations with a multinational workforce have the highest mean, they are not significantly different from organizations with a multicultural workforce or regional workforce in relation to their Negotiating Ability. This could be because of the small number (30) of the organizations with a regional workforce profile. For Product Type, Multi-business organizations and multi-product organizations have significantly higher correlations with Negotiating Ability dimensions in comparison to Single product organizations. Multi-business has the highest mean for the artfulness and sagacity dimensions of Negotiating Ability, while multi-product has the highest mean for the other dimensions. This stands to reason since single product organizations are likely to be small organizations where instances of disputes itself may be low. Training on dispute handling seems to have a strong correlation with all Negotiating Ability dimensions. This is in line with previous researches which have found training to be an effective tool; this is also echoed by the analysis of the interview results, which show a very high frequency for training as a correlate of Negotiating Ability.

CONCLUSION

This research has significant implications both for the academia and the practitioners since it has developed a robust instrument to measure Negotiating Ability through its conceptual dimensions. The study has operationalized the concept of Negotiating Ability, and, the fact that the sample for the survey came from all across the country gives it a high generalizability. Moreover, the study has used both qualitative and quantitative approaches and the results of both indicate a common culmination of findings. This further increases the robustness of the results. Although the study is based in India, the concept of negotiation transcends borders. The Negotiating Ability scale is blind to the causes or peculiarities of disputes and thus can be said to be universal in nature. The practitioners stand to benefit from this study too. Handling disputes is a primary job of all managers irrespective of their work area and responsibility. Managers encounter disputes not only in a formal manner but in latent forms every day of their work life. This study will provide them with a better understanding of the concept of dispute handling and provide them with an instrument to diagnose their Negotiating Ability. The significant finding that Negotiating Ability is not necessarily something that a person is born with, but is an attribute that could be honed through training gives them a chance to improve their capabilities in terms of handling disputes. Similarly, other findings that age, work experience, and personality type may be significant correlates of Negotiating Ability, would enable organizations to choose personnel for negotiations and bargaining in the event of disputes. This study would also help organizations to design their mentoring and coaching programmes with an aim to instill these capabilities in their executives.

The study suffers from the following limitations: The information on Negotiating Ability was self reported and is thus liable to be affected by social desirability and self-enhancement effects. This problem was, however, addressed by giving the respondents a limited time to respond, and by convincing them of the confidentiality of the process. While this may have limited the problem to some extent, it could not have completely eliminated it. Future studies may use Negotiating Ability data reported by colleagues, or superiors, or subordinates, or a combination of these for the individual targets. One important variable which came through the interviews in Phase 1 was past experiences of dispute handling. This variable could not be measured in this study due to lack of an objective measure which could have indicated both the extent and the quality of past experiences. In future, researchers may try to bolster their survey data with short interviews of the respondents which could indicate the extent and quality of their previous experiences. Future research may also test this instrument across different contexts and cultures.

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STRATEGIC INVOLVEMENT OF TRAINING PROFESSIONALS IN THE FIRM'S BUSINESS STRATEGIES: EVIDENCE FROM THE U.S.

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ABSTRACT

The problem of this study is to investigate the extent to which training professionals employed in US-based global and local companies are strategically integrated in their companies' business strategies. The t-test analysis of data obtained from an online survey of training professionals shows that there is not a statistically significant difference in the involvement of training professionals, who are employed in US-based global and local companies, in their firms' differentiation, cost leadership, focus, market penetration, and market development strategies. However, the same analysis shows a statistically significant difference in the involvement of training professionals in their respective firms' product/service development, and diversification strategies.

JEL: M53, L1

KEYWORDS: Training, Business Strategies, Training Professionals

INTRODUCTION

Many studies have documented the positive impact of training on the firm's performance and competitiveness (Akhtar, Ding, & Ge, 2008; Arthur, 1994; Barney & Wright, 1998; Bartel, 1994; Cutcher-Gershenfeld, 1991; Gerhart & Milkovich, 1990; Huselid, 1995; Huselid & Becker, 1996; Ichiniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995; Sum, 2009, 2010; Wright, Gardner & Moynihan, 2003). In addition, several studies have investigated the strategic integration of training in the firm's business strategies. For instance, Sum (2011a) examines whether integration of training in the firm's business strategies increases the impact of training on the firm's competitiveness and reveals a statistically significant positive regression coefficient, $b = .554$, $t(97) = 6.25$, $p < .001$. Another study compares the level of strategic involvement of training professionals employed in small, medium, large firms; the results show a statistically significant difference in the involvement of training professionals in their respective firms' growth strategies (Sum, 2011b). McClelland (1994) suggests that companies that "integrate strategic management development into competitive strategy formulation process will find that they have a greater degree of flexibility in the allocation and efficient usage of their managerial talents while becoming effectively proactive to constantly changing market conditions" (p. 12). Nathan and Stanleigh (1991) encourage training managers to formulate and develop a strategic plan to align their training activities with the company's strategy.

Strategic integration of training has been reported in the literature; however, few studies have examined the extent to which trainers or training professionals employed in global and local companies are strategically integrated in the firm's business strategies. Therefore, it is the problem of this study to investigate the extent to which training professionals employed in US-based global and local companies are strategically integrated in their companies' business strategies. The purpose of this study is to further our understanding of the strategic role of training professionals employed in global and local firms in the United States. The current study is intended to answer the following research questions.

Questions 1: To what extent are training professionals employed in US-based global and local companies strategically involved in their firms' business strategies?

Questions 2: Is the level of strategic involvement of training professionals employed in US-based global companies statistically and significantly different from those employed in US-based local firms?

The current study is warranted because no prior study has looked into this issue before. The findings of this study will provide important information and implication related to the strategic involvement of training professionals employed in US-based global and local companies. The results of this study will add information to the current literature. The paper is organized as follows. The second section provides a review of the literature. The third section provides information about the data and method. The results and conclusion are discussed in the fourth and fifth sections, respectively.

LITERATURE REVIEW

Theoretical and empirical work in organizational studies and strategic human resource management has vindicated the role of human resources in generating sustained competitive advantage for a company. Barney (1986, 1991, 1995) theoretically establishes that firms can gain a sustained competitive advantage by creating value in a way that is rare and impossible for the rivals to copy perfectly. The resource-based view of the firm argues that other sources, except human capital, of sustained competitive advantage can be easily copied by the rivals. In this sense, the resource-based view of the firm views people (human resources) as sources of sustained competitive advantage which are difficult for competitors to imitate (Barney, 1991). Porter (2000) believes firms in the knowledge-based economy become more and more dependent on the skills and knowledge of their people to create a sustained competitive advantage in the industry. One way to ensure that employees or organizations have appropriate skills and knowledge to compete is through training. A lot of studies have shown that training has positive effects on the firm's performance and competitiveness (Akhtar, Ding, & Ge, 2008; Arthur, 1994; Barney & Wright, 1998; Bartel, 1994; Cutcher-Gershenfeld, 1991; Gerhart & Milkovich, 1990; Huselid, 1995; Huselid & Becker, 1996; Ichiniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995; Sum, 2009, 2010; Wright, Gardner & Moynihan, 2003).

In addition, firms can grow and stay competitive with right strategies. For example, Ansoff (1957) introduces the Ansoff Product-Market Growth Matrix. The matrix allows firms to grow through offering existing and/or new products/services, in existing and/or new markets. This Matrix contains four key strategies; they are market penetration, market development, product/service development and diversification strategies. Market penetration is a strategy to obtain growth by aggressively penetrating the market in order to increase the market share. The market development is a growth strategy by selling existing products in newly developed markets. Product development strategy is to generate growth through the development new products/services for the existing markets. A diversification strategy is to develop new products/services for new markets (Ansoff, 1957). Furthermore, three generic strategies are introduced by Porter (1980) namely cost leadership strategy, differentiation strategy, and focus strategy. Cost leadership strategy is to maintain or achieve low cost in the market or industry. Differentiation strategy is develop products or offer services with unique attributes perceived or valued by customers to be better or different from the same or similar products offered by the rivalry in the industry. The focus strategy is to concentrate on a narrow or broad market segment and to either attempt to be a cost leader or differentiate itself in that market segment.

Hendry, and Pettigrew (1989) and Hendry (1991) look at the function of training as part of the broader human resource strategies of a range of firms in the UK and develop a framework allowing training to become a response in the competitive markets. McClelland (1994) also suggests that human resource managers who are in charge of the design and implementation of the management development and

training need to "focus on the corporate vision and long-term growth strategies" (p. 9). These authors (Baker and Wooden, 1995; Bartel, 1994; Billet and Cooper, 1997; Catts 1996; Coopers & Lybrand 1994; Dockery, Koshy, Stromback, Ying, 1997; Ichiniowski, Shaw, and Prennushi 1996; Kay, Fonda, and Hayes, 1992) discuss the integration of training in the firm's business strategies.

DATA AND METHOD

The design of the present study followed a non-experimental descriptive study using online survey method for data collection. The online survey method was utilized to collect necessary data to answer the questions posed in the present study. The target population identified in the present study was training professionals who interacted on the American Society for Training and Development (ASTD) discussion board located at http://community.astd.org and networked on Twitter, Facebook, and Linkedin. The training professionals were identified as trainers, training specialists, training managers, training administrators, training supervisors, training directors, and training consultants. The present study utilized a convenience sample due to the fact that training professionals who interacted on the American Society for Training and Development (ASTD) discussion board located at http://community.astd.org and networked on Twitter, Facebook, and Linkedin were conveniently accessible and technologically savvy.

A total number of 450 invitations soliciting participation in the survey were initiated at about 3:45 PM CST on September 15, 2009, on the ASTD discussion board located at http://community.astd.org, Twitter, Facebook, and Linkedin. Specifically, eight invitations were posted on the ASTD discussion board. Twenty-six invitations were posted on ASTD Chapters' Twitter pages, and 269 invitations were sent to training professionals on Linkedin. Finally, 147 invitations were sent to training professionals on Facebook. A reminder was initiated at around 7:30 AM EST on September 22, 2009. The invitation was a short message electronically posted in the ASTD's online forum and ASTD chapters' and members' Twitter pages and sent to ASTD chapters and members on Facebook and Linkedin soliciting participation in the study. There were 111 responses in total. However, several responses contained some missing data. For instance, several responses contained missing data on some questionnaire items and had complete data on other items. Therefore, although several responses contained missing data, they were still included in the statistical analysis. The response rate was estimated at 23.77% -- total number of valid responses (111) divided by total number of invitations (450) multiplied by 100 -- [(111/450)*100 = 24.66%]. While the response rate of 23.77% was considered acceptable since the average estimate of response rate for online surveys is between 20% and 30% (Hamilton, 2003) the results were subject to non-response bias (due to lower response rate). As a result, the comparison of the mean rating of each item of the first 20 responses and the latest 20 responses was performed using the independent samples t-test. The mean ratings of each item of the first 20 responses and latest 20 responses were not statistically different at the .05 level. This implied that the first 20 responses and latest 20 responses were similar and did not show any systematic differences that might cause any major concerns or red flags.

The online questionnaire was developed by the researcher. The questionnaire consists of five sections. The first section asks respondents to provide demographic data. The second section asks respondents to indicate types of training provided in their firms. The third section asks respondents to indicate training delivery formats adopted by their firms. The items found in the second and third sections are adopted from the 2008 industry report and exclusive analysis of the U.S. training industry (Bersin & Associates, 2008). The fourth section asks respondents to provide general information related to their firms. The fifth section of the instrument asks respondents if they are aware of the integration of training in their firms' business strategies. If they answer "yes", then they are asked to rate (5=Strongly Agree, 4=Agree, 3=Neither agree nor disagree, 2=Disagree, and 1=Strongly Disagree) their involvement in the integration of training in the firm's strategies. The extensive review of literature, input from the panel of experts, and feedback from participants in the pilot study were sufficient in establishing the data collection instrument

validity. As for the reliability of the instrument, the calculation of the Cronbach's α (alpha) for the fifth section is estimated at .930; this value is higher than the acceptable value of 0.700.

RESULTS

A total of 111 responses were received (only 107 responses were usable); 48 (43.2%) and 63 (56.8%) are male and female, respectively. The largest age groups are 41-50 (34 or 30.6%) and 51-60 (30 or 27%) years old. In addition, 49 (44.1%) of the participants identify themselves as national members, and 48 of the participants are members of the ASTD's local chapters in 20 different U.S. states. Twenty-eight (25.2%) of the participants are training managers; 19 (17.1%) are training consultants; 17 (15.3%) are training directors; 16 (14.4%) are training specialists; 12 (10.8) are trainers; 8 (7.2%) are human resource managers; 5 (4.5%) are instructional design managers; and 6 (5.4%) are business owners. Forty-five (40.5%) of the participants indicate that they have worked for their current firms for more than 5 years. Finally, 56 (50.5%) of the participants hold Master's degrees; 13 (11.79%) hold doctoral degrees. The participants' firms are grouped into three broad industries – service, retailing, and manufacturing. Seventy-four (66.7%) firms are service providers; 25 (22.5) are manufacturers; and 10 (9%) are retailers. The firms are categorized into three groups: small (100 or less employees), medium (101-1000 employees), and large (1001 or more employees). A large number of participants are employed in large-size firms (61 or 55%), 26 (23.4%) are employed in small-size firms, and 20 (18%) are employed in medium-size firms. Finally, 58 (52.3%) participants' firms are engaged in global operations.

The results are presented in Table 1. Twenty-eight (25.2%) of the 111 participants were very highly involved in the integration of training in their firms' differentiation strategy, and 26 (23.4 %) of all the participants were moderately involved in the integration of training in their firms' cost leadership strategy. Seven (6.3%) of the participants indicated that they had a very low involvement in the integration of training in the firms' focus strategy. Likewise, 6 (5.4%) of the participants reported a low involvement in the integration of training in their firms' market penetration strategy. Furthermore, 26 (23.4%) participants reported very high involvement in the integration of training in their firms' product/service development. In addition, 20 (18%) participants moderately rated their involvement in the integration of training in their firms' market development strategy. Nineteen (17.1%) of the participants reported that their involvement in the integration of training in their firms' diversification was low. Moreover, based on the highest rating of 5, the mean ratings of the participants' involvement in the integration of training in their firms' business strategies were 3.59 (differentiation), 3.24 (cost leadership), 3.53 (focus), 3.45 (market penetration), 3.46 (product/service development), 3.25 (market development), and 2.86 (diversification).

As shown in Table 2, there is not a statistically significant difference in the involvement of training professionals, who are employed in US-based global and local companies, in their firms' differentiation, cost leadership, focus, market penetration, and market development strategies. However, the same analysis shows a statistically significant difference in the involvement of training professionals in their respective firms' product development (significant at 10% level) and diversification (Significant at 5% level) strategies.

CONCLUSION

The current study examines the extent to which training professionals employed in US-based global and local companies are strategically integrated in their companies' business strategies. The purpose of this study is to further our understanding of the strategic role of training professionals employed in global and local firms in the United States. The t-test analysis of data obtained from an online survey of training professionals shows that there is not a statistically significant difference in the involvement of training professionals, who are employed in US-based global and local companies, in their firms' differentiation,

cost leadership, focus, market penetration, and market development strategies. However, the same analysis shows a statistically significant difference in the involvement of training professionals in their respective firms' product development and diversification strategies.

Table 1: Strategic Involvement of Training Professionals Employed in US-Based Global and Local Companies

Strategies	5 (Very High)		4 (High)		3 (Moderate)		2 (Low)		1 (Very Low)		No Response		Total		Mean
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
S1	28	25.2	23	20.7	23	20.7	11	09.9	07	06.3	19	17.1	111	100	3.59
S2	18	16.2	17	15.3	26	23.4	13	11.7	10	09.0	27	24.3	111	100	3.24
S3	23	20.7	18	16.2	23	20.7	08	07.2	07	06.3	32	28.8	111	100	3.53
S4	19	17.1	16	14.4	22	19.8	06	05.4	08	07.2	40	36.0	111	100	3.45
S5	26	23.4	15	13.5	14	12.6	17	15.3	07	06.3	32	28.3	111	100	3.46
S6	16	14.4	12	10.8	20	18.0	13	11.7	07	06.3	43	38.7	111	100	3.25
S7	14	12.6	09	08.1	17	15.3	19	17.1	14	12.6	38	34.2	111	100	2.86
Cronbach's α (alpha) = 0.930															

This table shows the numbers of participants, employed in US-based global and local companies, who self-reported their level of involvement in their company's various business strategies. The last column of this table shows the average level of involvement in each business strategy as reported by all the participants. The last row of this table provides information related to the Cronbach's alpha. S1 = Differentiation Strategy; S2 = Cost Leadership Strategy S3 = Focus Strategy; S4 = Market Penetration Strategy; S5 = Product/Service Development Strategy; S6 = Market Development Strategy; S7 = Diversification Strategy

Table 2: Difference in the Strategic Involvement of Training Professionals Employed in the US-Based Global Companies and Those Employed in the US-Based Local Companies

Strategy	N	Mean	Mean Difference	*df*	*t*	*p-value*
Differentiation			0.09	89	-0.327	0.372
Global Companies	51	3.55				
Local Companies	41	3.63				
Cost Leadership			0.15	76	0.513	0.304
Global Companies	46	3.3				
Local Companies	38	3.15				
Focus			0.21	65	-0.719	0.237
Global Companies	47	3.44				
Local Companies	32	3.65				
Market Penetration			0.38	58	-1.21	0.115
Global Companies	43	3.3				
Local Companies	28	3.68				
Product/Service Development			0.43	76	- 1.451*	0.075
Global Companies	45	3.27				
Local Companies	34	3.7				
Market Development			0.27	66	-0.867	0.194
Global Companies	38	3.13				
Local Companies	30	3.4				
Diversification			0.63	64	-1.954**	0.027
Global Companies	43	2.6				
Local Companies	30	3.23				

*This table shows the t-test results of the level of involvement of participants employed in the US-based global and local companies. * Significant at 10% level; ** Significant at 5% level*

The results of this study provide evidence of the strategic involvement of training professionals employed in companies in the United States, which is a knowledge-based economy. This implies that training plays an important role for firms operating and competing in the knowledge-based economy. The US-based local firms, as reported in this study, have a higher level of strategic integration of training professionals in two (product development and diversification strategies) of their firms' growth strategies than the US-based global companies. This implies that training plays a key role in companies, operating and competing in the knowledge-based economy, that are focusing on growing and expanding their local market shares.

A future research should replicate this study with a large sample size. Another future research is to identify factors that explain why the involvement of training professionals, who are employed in US-based local firms, with their firms' product/service development and diversification strategies is statistically and significantly greater than the involvement of those training professionals who are employed in US-based global firms.

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Business Education & Accreditation publishes high-quality articles in all areas of business education, curriculum, educational methods, educational administration, advances in educational technology and accreditation. Theoretical, empirical and applied manuscripts are welcome for publication consideration.

All papers submitted to the Journal are double-blind reviewed. BEA is is listed in Cabell's and Ulrich's Periodicals Directory. The Journal is distributed in print, through EBSCO*Host,* ProQuest ABI/Inform and SSRN.

The journal acceptance rate is between 15 and 25 percent.

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Accounting and Taxation (AT)

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