IJMMR

International Journal of Management and Marketing Research

VOLUME 4 NUMBER 2 2011

CONTENTS

THE ROLE OF FAMILY TIES FOR THE OPTIMAL DESIGN OF HUMAN CAPITAL CONTRACTS

Caroline Flammer, Kean University

ABSTRACT

This paper studies the problem of financing a child's primary education when the parent is faced with credit constraints, contracting with minors is not possible and the legal enforceability of contracts is limited – a profound problem in many developing countries. It presents a model in which the empathy of agents towards their kinship ("family ties") is endogenized and self-enforcement of contracts is guaranteed through the interlinkage of credit markets – first a market for education credits, then a market for personal credits such as microcredits. We analyze the impact of increased mobility and anonymity observed in developing societies on the optimal contract design and allow for imperfect information. The main results are as follows: a decrease in information flow (regarding traceability of the whereabouts as well as borrowers' credit history) causes the interest rate of the education credit to always decrease, while the effect on the interest rate of the microcredit is ambiguous. The latter falls if the parent's empathy towards its child is independent of the child's empathy. Furthermore, we find that family ties not only represent an insurance for the family members against financial distress but can also dampen the negative effect of limited enforcement on the lender's payoff.

JEL: D64; D86; I22; O12; O16

KEYWORDS: Enforcement, Microfinance, Credit Markets, Education, Human Capital, Empathy.

INTRODUCTION

A profound problem of many developing countries is that access to primary education as well as (legal) enforceability of contracts are limited. This paper addresses both issues and designs a contract that is self-enforcing and promises to improve access to primary education without relying on traditional collateral or contracting with minors.

Even today, children from poor families often have limited or no access to primary education, not so much because of direct costs like school fees but mostly because of insurmountable indirect costs. These costs include, for example, tuition fees, school materials, uniforms, transportation and lost earnings. Instead of attending school on a daily basis, children typically work in order to make a living. The lack of means makes borrowing vital in order to pursue an education. However, poor families hardly qualify for credits from conventional banks due to a lack of (traditional) collateral and eligible guarantors.

The only remedy is often seen in microfinance, which neither relies on traditional collateral nor legal enforceability of contracts but on alternative mechanisms in order to guarantee the self-enforcement of contracts. For example, social pressure as well as the threat of confiscating personal belongings is used in order to enhance compliance. The belongings might be of only little market value but their subjective value, which is most decisive, can be excessively high. A further highly effective instrument is dynamic lending, i.e. the promise of a continuing business connection for complying borrowers, where credit is increased over time (for an overview of instruments, see, e.g., Armendàriz de Aghion and Morduch, 2004, 2005; Ledgerwood, 1999; Morduch, 1999).

Microfinance institutions (MFIs) provide a wide range of services to individuals – or groups of individuals – in order to support and consequently help them out of poverty. The best-known service is

providing credit to poor households and small enterprises, the so-called microcredit. However, the common practice of microfinance institutions has not focused on education so far. Up to now, microfinancing has only linked microcredits with education insofar as some MFIs provide financial together with educational services at periodically conducted meetings (see, e.g., Dunford, 2001, 2003; Dunford and Denman, 2001; MkNelly and McCord, 2001, 2002, 2003).

In practice, various forms of education financing schemes exist. Nevertheless, the focus of government practices has been mainly on supply-sided financing schemes attempting to improve the supply of education (e.g., the quality of education, performance of students) and not the access to education for children from poor backgrounds. This deficiency of supply-sided financing schemes has been (at least partly) remedied by demand-sided financing schemes which can be divided into cost-recovering and non cost-recovering financing of education depending on whether it is the student herself, as the main beneficiary of education, or others – such as the government, and hence the tax-payers – who ultimately pay for education.

Demand-sided financing schemes have received increasing attention in recent years in practice as well as in the academic literature. However, existent demand-sided financing schemes are either financially not sustainable or have only been concerned with improving access to *higher* education. Hence, there exists a gap not only in policy implementation but also in academic literature regarding the sustainable financing of primary education in developing countries.

An inherent feature of cost-recovering financing of primary education is that the main beneficiary is minor and therefore not allowed to contract. This paper contributes to the current literature by introducing a "three-person relationship" where the lender closes an "education contract" with the parent instead. Precisely, this education contract comprises, on one hand, a microcredit for the contracting partner's own production. On the other hand, it includes an investment into the education of the borrower's child. While some interest is paid on the former, the latter is interest-free and does not have to be paid back.

Contracting partners are only the investor and the borrower, while the child is not bound to do anything. However, it is assumed that the child shows some gratitude to his parent for becoming educated and escaping extreme poverty. This gratitude is expressed through a monetary transfer to the parent in the future. The empathy of the parent towards his child, in turn, is induced by the anticipated gratitude of the child. (Note that the parent's and child's decision-makings are formalized as optimization problems in which altruism is not exogenously imposed but arises as a response to (anticipated) actions.) This paper focuses on the case when the lender disposes of the absolute bargaining power. Consequently, it is the lender who determines the optimal contract design, which crucially depends on the parent's empathy, while the child optimizes his transfer on the basis of his own empathy.

The self-enforcement of the education contract is guaranteed by introducing an interlinkage between the market for education financing and the successive credit market (e.g., microcredit, mortgage, etc.). The threat of having no (or only limited) access to the credit market enhances the borrower's compliance with the education contract. As experience with interlinkages between the markets of land, labor and credit shows, this feature allows for investment in countries where (legal) contract enforcement is limited.

One key contribution of this paper is the analysis of the effect of increased mobility and anonymity in developing societies on the optimal terms of the interlinked contracts depending on the strength of family ties. We find that a worsening in contract enforcement always leads to a decrease in the interest rate on the education credit while the effect on the interest rate of the microcredit in the second phase is ambiguous. Nevertheless, we find that a decrease in information flow causes the interest rate to fall if the parent's caring for its child is independent of the child's gratitude. A further finding is that a deterioration

in contract enforcement causes the interest rate on the microcredit to decrease less when family ties are tight than when family members are only concerned about their own welfare. If, however, the child's gratefulness exceeds a rational level – that is when the child attaches greater importance to the welfare of his parent than his own – then a worsening of contract enforcement has the opposite effect. In this case, an increase in mobility and anonymity leads to a stronger decrease in the interest rate of the microcredit when family ties are tight than when the parent is more individualistic.

The main contribution of this paper is that – even in countries where i) a legal system guaranteeing the enforcement of contracts is missing, and ii) information flow (regarding traceability of the whereabouts as well as borrowers' credit history) is limited – the enforcement of "education contracts" is possible. In other words, this financing scheme potentially represents an alternative approach for sustainably financing primary education, without relying on the legal enforceability of contracts, traditional collateral or contracting with minors. It must be noted, however, that even though "education contracts" are self-enforcing regardless of information flow, the latter determines the contract design and might prevent the closing of a contract in the first place. Precisely, as information flow worsens and consequently interest rates fall, the lender becomes less willing to close a contract at all. To the best of our knowledge, this is the first paper that establishes these results (and actually addresses the issue of sustainable financing of education in developing countries altogether).

The rest of this paper is organized as follows. In Section 2, we briefly discuss the relevant literature. In Section 3, a theoretical model is presented and its implications are discussed. In Section 4, we analyze the effect of a worsening in contract enforcement (e.g., due to a decrease in information flow). Section 5 summarizes the main findings and concludes.

LITERATURE REVIEW

In academic research, the literature on education financing schemes is ample. But, just as in practice, demand-sided financing has been neglected for a long time, even though it can be traced back to the pioneering work of Milton Friedman (1955, 1962) in which he gave a potential response to the capital market's problem of financing (higher) education. Research on demand-sided financing include, e.g., Ziderman and Albrecht (1991, 1992, 1995), Chapman (1997, 2005), Barr (2001, 2004, 2005), Palacios (2004), Johnstone (2004, 2005), Barr and Crawford (2005), and Chapman and Ryan (2005). However, all of these articles focus on the financing of *higher education*, not primary education.

We know of only a few articles that examine the financing of primary education in developing countries, and they all focus on *public funding* (see Mookherjee and Ray (2008), and the references therein). To the best of our knowledge, private funding has not yet been addressed in the literature.

The idea of interlinking markets to circumvent the problem of limited collateral, limited incentives, or strategic default is not novel (see, e.g., Braverman and Stiglitz, 1982; Bell and Srinivasan, 1989). However, previous literature has only focused on interlinked agreements under the (implicit) assumption of immobile village societies, where information flow regarding past misdemeanors is assumed to be perfect, and therefore the agent's possibility of "default and run" ruled out. But, as Ghosh and Ray (2001) claim, mobility and anonymity are rising in developing societies and may initially lead to a decrease in information flow as the development of the country proceeds.

The articles closest in spirit to this paper are Genicot and Ray (2006), Stark and Falk (1998) as well as Flammer (2009). The former analyzes the effects of an improvement in contract enforcement on the terms of the credit contract and equilibrium payoffs depending on the agents' bargaining power. Stark and Falk (1998) develop a model in which the recipient's empathy is induced by gratitude for the donation (while the donor feels no empathy at all) in order to illustrate the interlacement of motives of altruism and

exchange. Finally, Flammer (2009) introduces an interlinkage between the market for higher education financing and the successive credit market.

THE MODEL

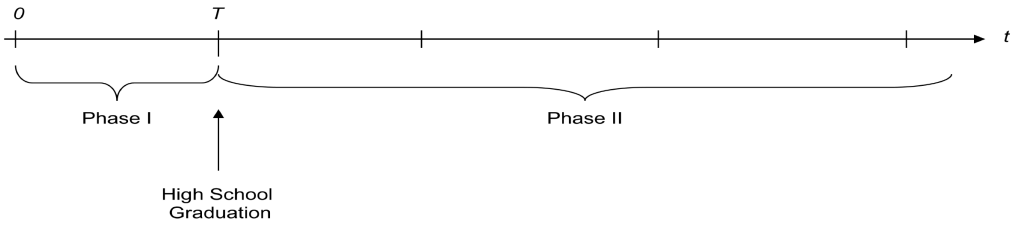
In the following, a model is introduced which endogenizes the mutual empathy of the agents (within a family), and the agents' decisions are formalized as the outcome of optimization problems. Then, we study the effect of a worsening of contract enforcement on the optimal contract design depending on the strength of family ties.

Basic Setup

We consider a repeated relationship between a risk-neutral principal and a risk-averse agent in a credit market with enforcement constraints. We further assume that the principal disposes of the absolute bargaining power and only grants credits to a borrower with proper (or no) credit history. In the following discussion, having a "proper credit history" means either of the following: 1) the agent has never been granted a credit, 2) he has complied with past contracts, or 3) a past default is not known to the principal. In other words, the principal disposes of no negative information regarding the agent's compliance with any potential past contracts. The availability of such credit history is restricted and crucially depends on the information technology as well as the mobility of agents. As past failures to comply with the agreement are only partially observed by other lenders, a defaulter may escape punishment and contract with other, uninformed lenders in future periods. For simplicity, suppose that contracts do not chronologically overlap. (This setting is most closely related to that described in Genicot and Ray (2006) who assume that every agent is a potential defaulter in an economy with imperfect information flow.)

The time frame is presented in Figure 1. The first phase represents the time until the child's maturity, which coincides with the graduation from high school. The second phase marks the time the child is on the job market and earns income. For simplicity and without loss of generality, we make the following assumptions: first, the child does not add to the household's income in the first phase; it either goes to school or stays home without earning any income. Second, we assume that the first phase only lasts one period while the second phase lasts indefinitely.

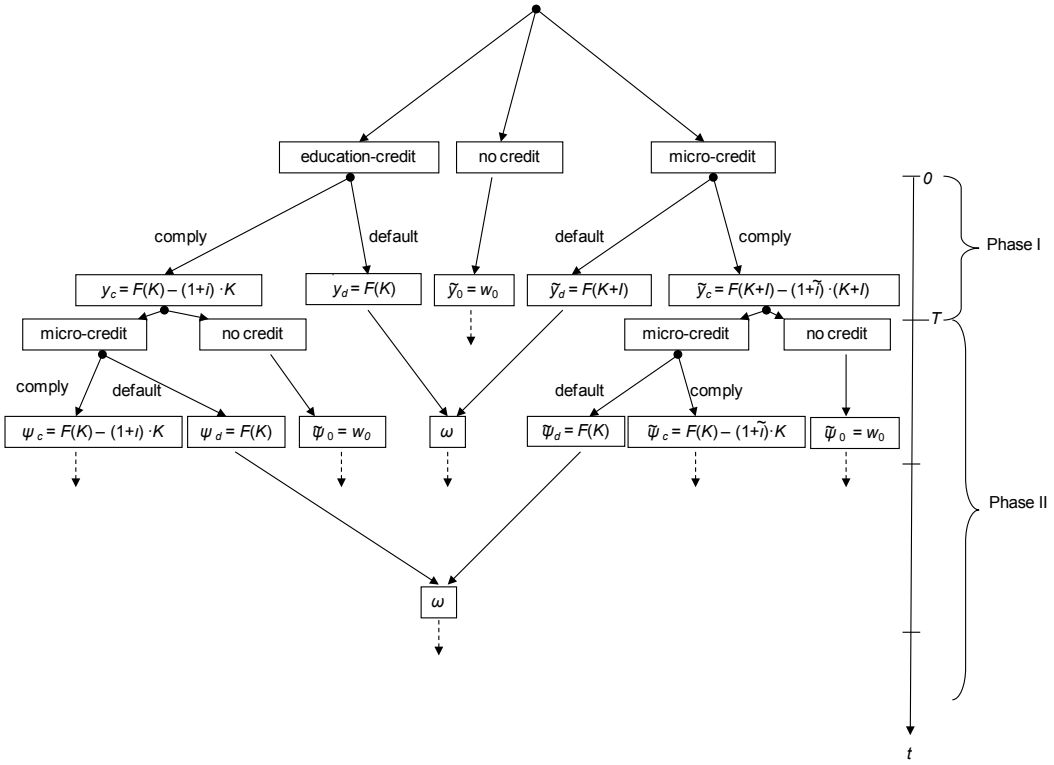
Figure 2: Timeline



This figure shows the time frame. The first phase represents the time until the child's maturity, which coincides with the graduation from high school. The second phase marks the time the child is on the job market and earns income.

Throughout the two phases, the potential borrower has different decisions to make. These decisions (partially) depend on the borrower's periodical pre-transfer incomes from the different choices. These are illustrated in Figure 2 and discussed in the following. Note that the dotted arrows in Figure 2 indicate that the agent obtains the same periodical pre-transfer income in future periods.

Figure 2: Periodical Pre-Transfer Income of the Borrower



This figure shows the decision tree of the borrower and the corresponding periodical pre-transfer incomes. As illustrated, in the first phase, the principal potentially offers two kinds of contracts: an education contract and a credit contract. If the borrower complies with the terms of contract, the lender offers him further credits in subsequent periods. However, if the borrower defaults, then he needs to find a different lender – who is uninformed about his past delinquency – in order to obtain further credit. Consequently, he obtains a continuation income ω.

In the first phase, the principal potentially offers two kinds of contracts: an education contract and a "credit contract". (Note that both contracts are, strictly speaking, credit contracts. However, in order to distinguish them from one another, we call one education contract and the other credit contract.) The former comprises the following: on one hand, the lender grants the borrower a credit *C* of amount *K* at some interest rate *i*. The borrower uses this credit for the production of some good.

Let us assume that the borrower needs a fixed amount of money in order to produce that good. Therefore, *K* is held constant while the interest rate *i* is a decision variable. Let us denote the production function as *F(C)*, where $F_C>0$ and $F_{CC} < 0$. On the other hand, the lender also "invests" the amount *I* into the education of the borrower's child. For simplicity, we assume that the investor cooperates with the school directly, i.e. he does not give the education money to the borrower. This feature prevents the risk that the borrower peculates the education money and uses it for his own purposes instead.

In addition, it is reasonable to assume that this feature also improves the enforcement of the education contract since the lender can credibly uphold the threat that the student only obtains his high school diploma if the borrower complies with the contract, i.e. if the latter repays the amount $(1 + i) \cdot K$. It is important to note that even though the amount of investment in education is not paid back, it is not a donation since the cost is borne by the parent.

If the borrower complies, his periodical pre-transfer income in the first phase is

$$y_c = F(K) - (1 + i) \cdot K. \qquad (1)$$

Compliance with the education contract leads to two outcomes: first of all, the student obtains his high school diploma which increases his market value on the job market and therefore his wage. Formally, we consider the following wage structure for the student:

$$w = \begin{cases} \underline{w} \text{ if child } \textit{without} \text{ diploma} \\ \overline{w} \text{ if child } \textit{with} \text{ diploma} \end{cases}, \tag{2}$$

where $\underline{w} < \overline{w}$. Second, the relationship between the lender and borrower is continued in the second phase. Henceforth, the borrower is eligible for microcredits of the amount K at some interest rate ι. Consequently, if the borrower also complies in the second phase, his periodical pre-transfer income in the second phase is (in each period – remember that the second phase entails an infinite number of periods)

$$\psi_c = F(K) - (1 + \iota) \cdot K. \tag{3}$$

Otherwise, that is if the borrower complies with the education contract but reneges on his credit arrangement in the second phase, the agent enjoys the entire production outcome in the second period, i.e.

$$\psi_d = F(K). \tag{4}$$

However, from the third period onwards, he only obtains some continuation income ω. This continuation income depends on the (legal) enforceability of contracts, punishments and sanctions as well as the availability of the borrower's credit history, where ω is certainly highest in societies in which mobility and anonymity are high and consequently the chance of detection lower. Furthermore, the continuation income also depends on the potential alternative periodical pre-transfer income $\tilde{\psi}_c$ which is derived below, see (8), where the former logically cannot exceed the value of the latter, i.e. $\omega \leq \tilde{\psi}_c$. The continuation income is the income a defaulting borrower can expect when trying to close a microcredit contract (in amount of K at interest rate $\tilde{\iota}$) with an uninformed lender.

If the borrower defaults on the education contract, then the consequences are as follows: on one hand, the relationship is ended and the agent enjoys the production outcome in the first period, i.e.

$$y_d = F(K), \tag{5}$$

but from the second period onwards, he only obtains the continuation income ω. On the other hand, misdemeanor leads the school to prevent the student's graduation. As a result, the student's market value is the same as without education, i.e. $w = \underline{w}$.

The second type of contract the lender potentially offers in the first phase is a credit contract in amount of $\tilde{C}$, where

$$\tilde{C} = K + I, \tag{6}$$

at an interest rate $\tilde{\iota}$. The assumption that the credit amount the lender grants to the borrower is equivalent to the amount he would lend in case of closing an education contract is made for tractability and without loss of generality. Again, the interest rate $\tilde{\iota}$ is a decision variable while the amount of credit $\tilde{C}$ is constant. With the credit contract, and in contrast to the education contract, the entire amount $\tilde{C}$ must be

compounded and repaid. In addition, the child remains uneducated and therefore gets wage $\underline{w}$ throughout its life.

If the borrower complies with this contract, then his periodical pre-transfer income in the first phase is

$$\tilde{y}_c = F(K+I) - (1+\tilde{\imath}) \cdot (K+I). \tag{7}$$

The relationship continues but the terms of contract change in the subsequent phase. Specifically, in the second phase, a credit contract in amount of K at interest rate $\tilde{\imath}$ is designed which yields a periodical pre-transfer income of

$$\tilde{\psi}_c = F(K) - (1+\tilde{\imath}) \cdot K \tag{8}$$

in case of compliance. This same contract is renewed again and again as long as the borrower repays.
In case that the borrower complies with the credit contract in the first phase but defaults on the microcredit contract in the second period, the borrower enjoys

$$\tilde{\psi}_d = F(K) \tag{9}$$

in the second period. In the subsequent periods, however, he only gets the continuation income ω.
If, in contrast, the borrower already defaults on the credit contract in the first period, then his periodical pre-transfer income in the first phase is

$$\tilde{y}_d = F(K+I). \tag{10}$$

And, from the second period onwards, he only enjoys the continuation income ω.
So far, not closing a contract (of any kind) has not been addressed. In the following, we assume that the non-borrower's pre-transfer income in the first phase is

$$\tilde{y}_0 = w_0, \tag{11}$$

where w_0 is the total wage the non-borrower earns if he does not increase his production by entering into a credit relationship. Now, if the parent does not take up a credit in the second phase – regardless of whether he has done so in the first phase – then he is in the same financial situation as in the first phase. Therefore, the non-borrower's pre-transfer income in the second phase is

$$\tilde{\psi}_0 = w_0. \tag{12}$$

So far, we have looked at the parent's pre-transfer income. This, however, is unlikely to be the parent's only income in developing countries, where a social welfare provision is missing. The absence of a social welfare provision has the following important consequences:

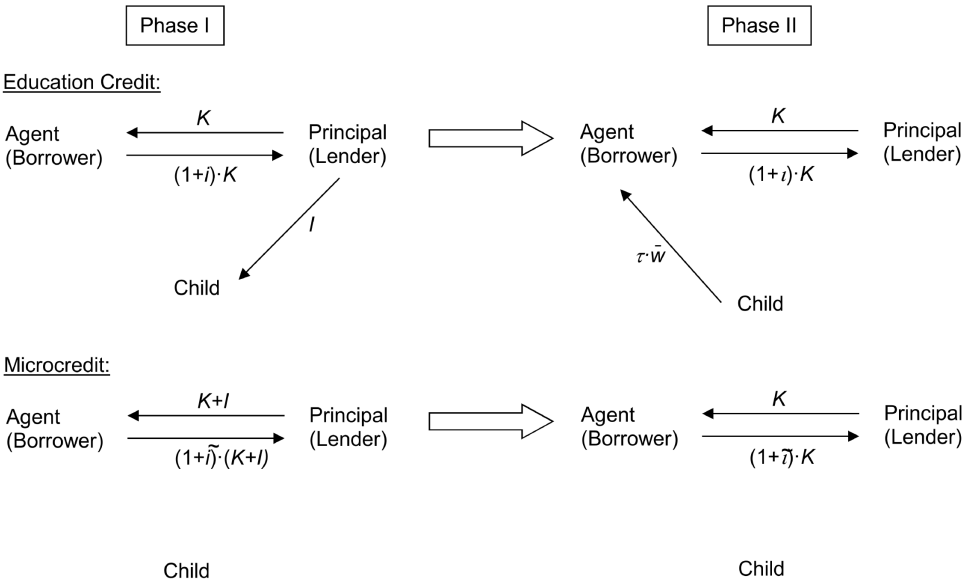
First of all, poor (especially senior) citizens are heavily reliant on monetary transfers from their children. These transfers – which are denoted by $\tau \cdot \overline{w}$ in Figure 3 below – are likely to be higher when the child is

educated and earns a higher income. Thus, the investment into a child's education can be viewed as an investment into the child's as well as one's own future.

Second, family ties are strengthened. That is, the child's empathy towards his parent is induced by his gratefulness for becoming educated and escaping extreme poverty. He cares for the parent's well-being and therefore financially supports his parent. Note, an uneducated child has no reason for being grateful and therefore will not financially support his parent (compare Figure 3 where no transfer is made in case of a pure credit contract). The empathy of the parent towards his child, in turn, is induced by the child's anticipated gratitude for his upbringing. It follows that the more grateful a child is, the more the child (financially) cares for his parent. The parent therefore cares more for his child's well-being. As a consequence, he is more willing to take out a loan and endure hardship in order to finance the child's education. This, in turn, increases the child's appreciation, and so forth.

The above described relationship and monetary transactions between the lender, borrower (parent) and the child are pictured in Figure 3 (for the case of compliance) and further discussed in the subsequent sections.

Figure 3: Monetary Transactions



This figure shows the relationship and monetary transactions between the lender, borrower and the child in phases I and II for both the education credit and the microcredit.

In the following, we first formalize the child's empathy towards his parent which arises from its gratitude for becoming educated and escaping poverty. Then, we derive the optimal transfer he makes to his parent. Finally, we formalize the parent's empathy towards his child and determine the optimal contract design of the education credit as well as the microcredit.

Child's Empathy and Decision

The parent's act of sending the child to school does not (officially) bind the child in any way, but it instills gratitude and consequently induces empathy. As a result, the child feels obliged to help his parent if the latter suffers financial distress. Let us consider the following empathy function which depends on the child's as well as the parent's pre-transfer income:

$$\beta = \begin{cases} 0 & if\ w - \psi\ \leq 0 \\ b(w,\psi) & if\ w - \psi > 0\ , \end{cases} \tag{13}$$

where $\psi \in \{\psi_c, \psi_d,\ \tilde{\psi}_c, \tilde{\psi}_d, \tilde{\psi}_0, \omega\}$, $\underline{w} \leq \psi$, $0 \leq b(w,\psi) \leq 1$, and $\frac{\partial b}{\partial w} \geq 0$, $\frac{\partial b}{\partial \psi} \leq 0$. Note that ψ is the set of the different potential periodical pre-transfer incomes of the borrower in the second phase.

In the following, we elaborate on the intuition behind the conditions listed above. We start with the condition $\underline{w} \leq \psi$. Arguably, it is reasonable to assume that an uneducated child can at most earn as much as his parent earns in the second phase. The economic intuition behind this assumption is that a parent – who might be uneducated himself – has the option to take up a credit and improve his periodic income whereas this option is not given to the child. Thus, provided that an uneducated child would earn as much as an uneducated and non-contracting parent, the income of the uneducated child is always (weakly) lower than that of the parent in the second phase. The next condition, i.e. $0 \leq b(w,\psi) \leq 1$, imposes that the child's empathy is bounded between zero and one. Thus, the child could basically care more for his parent's well-being than for his own. According to the last two conditions ($\frac{\partial b}{\partial w} \geq 0$ and $\frac{\partial b}{\partial \psi} \leq 0$), the child's empathy is increasing in his own wage and decreasing in the parent's periodical pre-transfer income (in the second phase). To put it differently, the child's empathy is a function of the difference in pre-transfer incomes.

The formalization in (13) assumes that the child is not backward-looking. This means that the child only takes the current financial distress of the parent into account but not past situations of financial distress. Furthermore, it states that empathy only arises if the child is financially better off than the parent. The economic intuition for this is as follows: a person with a low income is likely to have difficulties to make ends meet. It follows that this person has enough trouble to take care of his own family (offsprings) and has therefore to be "selfish" enough. In other words, he has no free resources to spare, especially not for someone who is financially better off.

Furthermore, we impose that a child only feels sympathy for someone who keeps his agreements and does not default. In other words, only if the parent is a "good citizen" and causes no (financial) harm to other persons does the child's empathy arise. This assumption is made for simplicity and without loss of generality. However, it is plausible to assume that education not only imparts knowledge but likely also morals.

In the subsequent discussion, we assume that the child is risk-averse and his one-period utility function is quadratic and of the following form:

$$u_t^B = (1-\beta) \cdot [c \cdot (1-\tau) \cdot w - \frac{d}{2} \cdot ((1-\tau) \cdot w)^2] + \beta \cdot [c \cdot (\psi + \tau \cdot w) - \frac{d}{2} \cdot (\psi + \tau \cdot w)^2], \tag{14}$$

where the superscript B stands for the child, and the rate of monetary transfer (as percentage of his income) is denoted by τ, $\tau \in [0,1]$. The rate of transfer is the child's sole decision variable. The ratio $\frac{c}{d}$ is an indicator for the child's risk-aversion, where c and d are parameters. That is, the lower is the ratio, the more risk-averse the child is. If the child is risk-neutral, then $d = 0$. Note that, by construction, the child's post-transfer income has to be smaller than $\frac{c}{d}$, i.e.

$$(1-\tau) \cdot w \leq \frac{c}{d}. \tag{15}$$

(This is a well-known property of the quadratic utility function. If $u(x) = c \cdot x - \frac{d}{2} \cdot x^2$, then $u'(x) \geq 0$ requires $x \leq \frac{c}{d}$.) Finally, in order to impose $\tau \in [0, 1]$, we set $\frac{c}{d} = \overline{w}$.

The economic intuition behind relation (14) (in combination with (13)) is that the child's utility not only depends on his own but also on his parent's well-being. The extent of the child's caring for his parent – his empathy – arises from his gratitude for enjoying a higher income thanks to his education. Note that, so far, no decision-making is involved. The only optimization the child actually undertakes is when he decides upon the rate of monetary transfer. To determine the optimal rate of transfer, the child maximizes his utility, taking the parent's pre-transfer income ψ as given:

$$\max_{\tau}(1-\beta) \cdot \left[c \cdot (1-\tau) \cdot w - \frac{d}{2} \cdot ((1-\tau) \cdot w)^2\right] + \beta \cdot \left[c \cdot (\psi + \tau \cdot w) - \frac{d}{2} \cdot (\psi + \tau \cdot w)^2\right] \qquad (16)$$

subject to the child's budget constraint

$$(1-\tau) \cdot w \geq s, \qquad (17)$$

where s denotes the minimum cost of living. For simplicity and without loss of generality, we set $s \equiv 0$. Since we have that $\tau \in [0, 1]$ and w is positive, we know that the budget constraint (17) is always fulfilled. Thus, we have an unconstrained optimization problem.

Proposition 1. *The optimal rate of monetary transfer is* $\tau^* = max\left\{0,\ \beta \cdot \left(1 - \frac{\psi}{w}\right)\right\}$.

Proof. Appendix A establishes the Proof of Proposition 1.

Proposition 1 unsurprisingly reveals that the optimal rate of monetary transfer is zero when the child has no empathy towards his parent, i.e. $\beta = 0$, which is the case if the child's pre-transfer income is not higher than that of his parent (see (13)). More importantly, it also states that a positive optimal rate of transfer is increasing in empathy, i.e. $\frac{\partial \tau^*}{\partial \beta} > 0$. Hence, a grateful child can increase its own welfare by financially helping his parent in need. Finally, note that the child's empathy and therefore also his optimal transfer, $\tau^* \cdot w$, are an outcome of the child's gratitude without assuming that altruistic behavior is exogenously given. The academic literature, in contrast, often imposes a fixed level of empathy without explaining i) why the empathy arises in the first place, and ii) how the level of empathy is determined (see, e.g., Becker (1991) as well as Kolm and Mercier Ythier (2006a, 2006b)).

In the following, we derive the parent's empathy towards his child.

Parent's Empathy and Decision

The parent's empathy towards his offspring arises due to the anticipated gratitude of his child. Thus, the parent's empathy is also endogenously determined. It is natural to assume that empathy is positively correlated with the percentage of income the child transfers to his parent. Therefore, we write:

$$\alpha = a(\tau), \qquad (18)$$

where α denotes the parent's empathy and $\frac{\partial a}{\partial \tau} \geq 0$. For simplicity and without loss of generality, we assume that the parent's empathy towards his child does not depend on any intrinsic parental feelings but is induced only by the expected rate of monetary transfer, i.e. $a(\tau = 0) \equiv 0$.

Suppose that the borrower has the same risk-aversion as his child, and anticipates his child's decision. Furthermore, his one-period utility function is quadratic and, in the second phase, can be written as follows:

$$u_2^A(\psi, \tau^*) \tag{19}$$
$$= (1-\alpha) \cdot \left[c \cdot (\psi + \tau^* \cdot w) - \frac{d}{2} \cdot (\psi + \tau^* \cdot w)^2\right] + \alpha$$
$$\cdot \left[c \cdot (1-\tau^*) \cdot w - \frac{d}{2} \cdot [(1-\tau^*) \cdot w]^2\right],$$

where the superscript A stands for the borrower (parent), the subscript 2 indicates the second phase, and $\psi \in \{\psi_c, \psi_d, \tilde{\psi}_0, \tilde{\psi}_c, \tilde{\psi}_d, \omega\}$.

From the discussion above, it follows that if the optimal rate of transfer is zero, i.e. $\tau^* = 0$, then the periodic utility function (19) reduces to

$$u_2^A(\psi, 0) = c \cdot \psi - \frac{d}{2} \cdot \psi^2. \tag{20}$$

That is, if the child does not transfer any money, then the parent has no empathy for the child and is only concerned about his own welfare.

In the first phase, in contrast to the second phase, the child earns no income and lives with his parent in the same household. Consequently, the empathy towards the child plays no role in the first period, and we can write the parent's one-period utility function as

$$u_1^A(y) = c \cdot y - \frac{d}{2} \cdot y^2, \tag{21}$$

where y, $y \in \{y_c, y_d, \tilde{y}_0, \tilde{y}_c, \tilde{y}_d\}$, belongs to the set of the various potential periodical incomes of the parent in the first period (see (1), (5), (7), (10), (11), as well as Figure 2).

The parent's lifetime utility is additive time-separable. For simplicity, we assume that the discount factor δ is constant over time and common for all parties.

In the first period, the parent is credit constrained but has the option to take up either an education credit or a microcredit. Regardless of the type of credit, this paper studies the case when the lender disposes of the absolute bargaining power. That is, the lender decides upon the interest rate for a given amount of capital. It follows that the parent only decides whether to contract at all, and if so, which credit he ought to choose. Furthermore, he also decides upon keeping or breaking the agreement. All these decisions depend entirely on the present value of his lifetime utilities from the various options. It follows that the contract design of the different credit types plays a vital role in the decision-making of the borrower. Accordingly, we now turn to the principal's decision-making.

Lender's Decision

The principal is assumed to be risk-neutral and to have all bargaining power – he designs the contract such that his lifetime utility, denoted by U^P, is maximized while satisfying the following constraints: First, keeping in mind that we intend to find a way to finance primary education, the investor must find it best to offer an education contract in the first phase. The lender has an incentive to offer an education contract only if it gives him a higher lifetime utility than closing a credit contract or not contracting at all in the first phase (see (23)). Second, the participation of the opportunistic agent – the parent – must be guaranteed, i.e. complying with the education contract must bring about a higher lifetime utility than opting for a credit contract in the first period (see (24)). Third, contracting again in the second phase must give the agent a higher utility than not contracting (see (25)).

Finally, the last and – due to the absence of legal enforceability – crucial constraints are that the design of the education contract as well as the microcredit contract must be self-enforcing at every point in time in order to give the agent incentives to comply in each period (see (26) and (27)). Precisely, in every period, the borrower must be better off by complying and obtaining credit from the same lender in the future periods than by defaulting and enjoying the continuation value in the subsequent periods.

Formally, the lender's constrained optimization problem can be written as follows (remember that the first phase lasts one period while the second phase lasts an infinite number of periods):

$$\max_{i,\,\iota} U^P(i,\iota) = i \cdot K + \frac{\delta}{1-\delta} \cdot \iota \cdot K \tag{22}$$

subject to the principal's incentive constraint to grant an education credit in the first phase followed by a microcredit in the second phase

$$U^P(i,\iota) \geq U^P(\tilde{\imath},\tilde{\iota}), \tag{23}$$

the agent's participation constraint in the first phase

$$u_1^A\big(y_c(i)\big) + \frac{\delta}{1-\delta} \cdot u_2^A\big(\psi_c(\iota), \tau^*(\psi_c, \overline{w})\big) \geq \; u_1^A\big(\tilde{y}_c(\tilde{\imath})\big) + \frac{\delta}{1-\delta} \cdot u_2^A\big(\tilde{\psi}_c(\tilde{\imath}), 0\big), \tag{24}$$

the agent's participation constraint in the second phase

$$u_2^A\big(\psi_c(\iota), \tau^*(\psi_c, \overline{w})\big) \geq u_2^A\left(\tilde{\psi}_0, \tau^*\big(\tilde{\psi}_0, \overline{w}\big)\right), \tag{25}$$

the self-enforcement constraint in the first phase

$$u_1^A\big(y_c(i)\big) + \frac{\delta}{1-\delta} \cdot u_2^A\big(\psi_c(\iota), \tau^*(\psi_c, \overline{w})\big) \geq u_1^A(y_d) + \frac{\delta}{1-\delta} \cdot u_2^A(\omega, 0), \tag{26}$$

and the self-enforcement constraint in the second phase

$$u_2^A\big(\psi_c(\iota), \tau^*(\psi_c, \overline{w})\big) \; \geq (1-\delta) \cdot u_2^A(\psi_d, 0) + \delta \cdot u_2^A(\omega, 0), \tag{27}$$

where $y_d = \psi_d$. For simplicity and without loss of generality, we set $\tilde{\iota} \equiv 0$ as well as $U^P(\tilde{\imath}, \tilde{\iota}) = 0$.

Consequently, the Lagrangian function is:

$$\mathcal{L}(i, \iota, \lambda_1, \lambda_2, \lambda_3, \lambda_4) = f(i, \iota) + \sum_{j=1}^{2} \lambda_j \cdot g_j(i, \iota) + \lambda_3 \cdot g_3(\iota) + \lambda_4 \cdot g_4(i, \iota) + \lambda_5 \cdot g_5(\iota), \tag{28}$$

where $f(i, \iota)$ is the objective function, λ_j, $j = 1,..,5$, are Lagrange multipliers, and $g_1(i, \iota)$ through $g_5(\iota)$ denote the functions corresponding to the various constraints of the lender's optimization problem, i.e.

$$g_1(i, \iota) = U^P(i, \iota) - U^P(\tilde{\imath}, \tilde{\iota}), \tag{29}$$

$$g_2(i, \iota) = u_1^A\big(y_c(i)\big) - u_1^A\big(\tilde{y}_c(\tilde{\imath})\big) + \frac{\delta}{1-\delta} \cdot \big[u_2^A\big(\psi_c(\iota), \tau^*(\psi_c, \overline{w})\big) - u_2^A\big(\tilde{\psi}_c(\tilde{\imath}), 0\big)\big], \tag{30}$$

$$g_3(\iota) = u_2^A\big(\psi_c(\iota),\, \tau^*(\psi_c, \overline{w})\big) - u_2^A\left(\tilde{\psi}_0, \tau^*\big(\tilde{\psi}_0, \overline{w}\big)\right), \tag{31}$$

$$g_4(i, \iota) = u_1^A\big(y_c(i)\big) - u_1^A(y_d) + \frac{\delta}{1-\delta} \cdot \big[u_2^A\big(\psi_c(\iota), \tau^*(\psi_c, \overline{w})\big) - u_2^A(\omega, 0)\big], \tag{32}$$

$$g_5(\iota) = u_2^A\big(\psi_c(\iota),\, \tau^*(\psi_c, \overline{w})\big) - (1-\delta) \cdot u_2^A(\psi_d, 0) - \delta \cdot u_2^A(\omega, 0). \tag{33}$$

In general, we do not know which constraints will be binding at the maximum (a full characterization of the solution would require an additional set of assumptions). However, the problem is only interesting when the enforcement constraints bind. Otherwise, the principal simply sets i and ι such that the participation contraint binds in each period, and the credit agreement simplifies to the solution of a standard contracting model without limitation on contract enforcement. In the following, we only consider the more interesting case with binding enforcement constraints. That the enforcement constraints bind at the optimum is very intuitive. A contract design which ensures the participation of the contracting partners – and therefore the closing of the contract – does not necessarily lead to the compliance of the borrower. Thus, a lender will likely give priority to the self-enforcement of the agreement and check only afterwards whether participation of the borrower is guaranteed. For a similar argument, see, e.g., Genicot and Ray (2006), Banerjee and Ghatak (2004), Ghosh, Mookherjee and Ray (2000).

In the following, we determine the optimal contract design, i.e. the optimal interest rates in phases one and two, from the two self-enforcement constraints and then solve the constrained optimization problem by backward induction.

In a first step, we consider the self-enforcement constraint in the second phase (27) which is binding. Rewriting it and using (19) as well as (20), we obtain the optimal interest rate in phase two:

$$\iota^* = g^{-1}(0), \tag{34}$$

where

$$g(\iota) \tag{35}$$
$$= \left(1 - a\left(\tau^*(\psi_c(\iota), \overline{w})\right)\right) \cdot \left[c \cdot (\psi_c(\iota) + \tau^*(\psi_c(\iota), \overline{w}) \cdot \overline{w}) - \frac{d}{2} \cdot (\psi_c(\iota) + \tau^*(\psi_c(\iota), \overline{w}) \cdot \overline{w})^2\right]$$
$$+ a\left(\tau^*(\psi_c(\iota), \overline{w})\right) \cdot \left[c \cdot \left(1 - \tau^*(\psi_c(\iota), \overline{w})\right) \cdot \overline{w} - \frac{d}{2} \cdot \left[\left(1 - \tau^*(\psi_c(\iota), \overline{w})\right) \cdot \overline{w}\right]^2\right] - (1 - \delta)$$
$$\cdot \left[c \cdot \psi_d - \frac{d}{2} \cdot {\psi_d}^2\right] - \delta \cdot \left[c \cdot \omega - \frac{d}{2} \cdot \omega^2\right].$$

In a second step, we consider the self-enforcement constraint in the first phase (26), which is also binding. The optimal interest rate in phase one is obtained by using equation (19), (20), and (21), taking the optimal interest rate from phase two (34) as given. We obtain

$$i^* = h^{-1}(0), \tag{36}$$

where

$$h(i) \tag{37}$$
$$= \; c \cdot \left(y_c(i) - y_d - \frac{\delta}{1 - \delta} \cdot \omega\right) - \frac{d}{2} \cdot \left(y_c(i)^2 - {y_d}^2 - \frac{\delta}{1 - \delta} \cdot \omega^2\right) + \frac{\delta}{1 - \delta}$$
$$\cdot \left(\begin{array}{l} \left(1 - a\left(\tau^*(\psi_c(\iota^*), \overline{w})\right)\right) \cdot \left[c \cdot (\psi_c(\iota^*) + \tau^*(\psi_c(\iota^*), \overline{w}) \cdot \overline{w}) - \frac{d}{2} \cdot (\psi_c(\iota^*) + \tau^*(\psi_c(\iota^*), \overline{w}) \cdot \overline{w}) \right. \\ \qquad \left. + a\left(\tau^*(\psi_c(\iota^*), \overline{w})\right) \cdot \left[c \cdot \left(1 - \tau^*(\psi_c(\iota^*), \overline{w})\right) \cdot \overline{w} - \frac{d}{2} \cdot \left[\left(1 - \tau^*(\psi_c(\iota^*), \overline{w})\right) \cdot \overline{w}\right]^2\right] \end{array} \right)$$

As we argued above, mobility and anonymity are rising in developing societies and presumably lead to a decrease in information flow at some stage of the economic development. Most certainly, this decrease in information flow will affect the enforcement of contracts. Therefore, we now turn to the consequences of a change in information flow on the optimal contract design. Precisely, we study the effect of an impairment in contract enforcement (which is induced by a deterioration in information flow) on the optimal interest rate in phases one and two ((36) and (34), respectively).

Comparative Statics: Change In Contract Enforcement

The worsening of enforcement can be seen as an increase in the agent's continuation income ω, where ω is highest if the agent is able to contract in each period with an uninformed lender and default without getting punished. However, we know that if defaulting leads neither to punishment nor any limitations in obtaining new credit, then the agent would naturally always default (regardless of the contract design). Let us denote this maximal level as $\overline{\omega}$, where

$$\overline{\omega} = F(K). \tag{38}$$

We know that if $\omega = \overline{\omega}$, then the self-enforcement constraint cannot be met. Consequently, any continuation income that satisfies the self-enforcement constraint must always be strictly smaller than the natural upper bound, i.e. $\omega < F(K)$.

Proposition 2. *We have that* $\frac{di^*}{d\omega} \leq 0$, *where* $\frac{di^*}{d\omega}$ *is independent of* α *and* β, *and* $\frac{d\iota^*}{d\omega}(\alpha = \alpha_0) \leq 0$. *Furthermore, we have that*

$$\left|\frac{d\iota^*}{d\omega}(\alpha = \alpha_0,\ \beta = \beta_0)\right| \leq \left|\frac{d\iota^*}{d\omega}(\alpha = \alpha_0,\ \beta = 0)\right|,$$

and

$$\left|\frac{d\iota^*}{d\omega}(\alpha = \alpha_0)\right| \leq \left|\frac{d\iota^*}{d\omega}(\alpha = 0)\right|, \text{if } \beta \leq 0.5$$
$$\left|\frac{d\iota^*}{d\omega}(\alpha = \alpha_0)\right| > \left|\frac{d\iota^*}{d\omega}(\alpha = 0)\right|, \textit{otherwise}.$$

Proof. Appendix B establishes the Proof of Proposition 2 in detail.

Proposition 2 claims that a worsening in contract enforcement ultimately causes the interest rate on the *education credit* in phase one to always decrease. It is little surprising that this change is independent of the underlying assumptions regarding the child's and parent's empathy towards each other since both are assumed to live within the same household during the first phase. More interesting is the effect on the interest rate of the *microcredit* in the subsequent phase. This effect is ambiguous. Precisely, we find that a deterioration in contract enforcement always leads to a lower interest rate on the microcredit under the assumption that the parent's empathy towards his child is constant, i.e. $\alpha = \alpha_0$ with $\alpha_0 \in [0,1]$. The extent to which the parent cares for his child's well-being does not depend on the anticipated rate of transfer.

The economic intuition behind the above finding is straightforward: a rise in the continuation value (e.g., due to a worsening of information flow) causes a violation of the self-enforcement constraint. Reneging on a current agreement becomes more attractive for the parent than complying. As a consequence, the contract design must be adjusted in order to restore self-enforcement. More precisely, the post-transfer income of the parent must be raised. This is accomplished by lowering the interest rate for the following reason: a decrease in the interest rate leads to an increase in the parent's pre-transfer income. A marginal increase in the parent's pre-transfer income, in turn, results in a relatively low increase of transfer, i.e.

$\left|\frac{\partial \tau^*}{\partial \psi_c}\right| \cdot \overline{w} \leq 1$. This means that, despite a lower monetary transfer from the child, the parent's post-transfer increases after an increase in pre-transfer income. Thus, a rise of mobility and anonymity in developing societies leads to a decrease in the optimal interest rate on the microcredit ι in order to prevent the borrower from reneging on the contract.

This result is in line with the finding of Genicot and Ray (2006) who argue that, under the assumption of pure selfish behavior, an improvement in enforcement leads to a decrease of the borrower's utility if the lender has enough bargaining power. By extending their framework and allowing for endogenous altruistic behavior, we find that a worsening of contract enforcement causes the interest rate ι on the

microcredit (in the second phase) to decrease less when the child and parent feel some empathy towards each other than when the child only cares about his own well-being, i.e. $\left|\frac{d\iota^*}{d\omega}(\alpha = \alpha_0,\ \beta = \beta_0)\right| \leq \left|\frac{d\iota^*}{d\omega}(\alpha = \alpha_0,\ \beta = 0)\right|$, with $\alpha_0 \in [0,1]$ and $\beta_0 \in [0,1]$. Furthermore, we also find that a decrease in information flow causes the interest rate ι to decrease less when the parent feels some empathy towards his child than when the parent is motivated purely on the basis of exchange motives. However, this is only true as long as the child cares more for himself than for his parent. If, in contrast, the child attaches greater importance to the well-being of his parent than his own, then a worsening of contract enforcement has the opposite effect.

This finding has important policy implications since it means that in societies where family ties are stronger and people more grateful, the rise of mobility and anonymity causes the interest rate to fall less than in more individualistic societies. Hence, the caring (empathy) of family members for each other is not only a way to insure themselves against financial distress but also dampens the negative effect of a deterioration in contract enforcement on the lender's payoff. If, however, gratefulness exceeds a rational level – that is when the child's gratefulness takes the form of self-sacrificing itself for the parent's well-being – then an increase in mobility and anonymity demands a sharper decrease in the interest rate in altruistic compared to more individualistic societies.

CONCLUSION

The objective of this paper has been to present a financing scheme which promises to enhance access to primary education in developing countries, without relying on the legal enforceability of contracts, traditional collateral or contracting with minors. Furthermore, due to increased mobility and anonymity in developing countries, we have analyzed its effect on the optimal terms of the contracts depending on the strength of family ties and have found that family ties matter; they not only prevent the family members from financial hardship (e.g., during retirement) but can also mitigate the fall of the lender's payoff due to limited contract enforcement. The proposed financing scheme is only a first step in this mostly unexplored field. Further research is needed that, e.g., explores the importance of cultural characteristics on the design of self-enforcing contracts.

APPENDICES

Appendix A

In the following, we establish the proof to Proposition 1 which claims that the optimal amount of transfer is given by $\tau^* = max\left\{0,\ \beta \cdot \left(1 - \frac{\psi}{w}\right)\right\}$.
The child's optimization problem is as follows:

$$\max_{\tau}(1-\beta)\cdot\left[c\cdot(1-\tau)\cdot w - \frac{d}{2}\cdot((1-\tau)\cdot w)^2\right] + \beta\cdot\left[c\cdot(\psi+\tau\cdot w) - \frac{d}{2}\cdot(\psi+\tau\cdot w)^2\right] \qquad (1A)$$

subject to the child's budget constraint

$$(1-\tau)\cdot w \geq 0, \qquad (2A)$$

where $\psi \in \{\psi_c, \psi_d,\ \tilde{\psi}_c, \tilde{\psi}_d, \omega\},\ w \in \{\underline{w}, \overline{w}\},\ \underline{w} \leq \psi,\ \overline{w} = \frac{c}{d}$ and $\beta = \begin{cases} 0 & \text{if } w - \psi \leq 0 \\ b(w,\psi) & \text{if } w - \psi > 0 \end{cases}$. As stated in the main text, the budget constraint is always fulfilled when $\tau \in [0,1]$. Thus, the solution of this constrained optimization problem is identical to the solution of the corresponding unconstrained optimization problem. The solution τ^* follows straight from the first order condition. Specifically, taking into account that the child views the parent's pre-transfer income ψ as exogenous when maximizing his utility, we obtain the optimal transfer

$$\tau^* = \begin{Bmatrix} \beta\cdot\left(1-\frac{\psi}{w}\right) & \text{if } w = \overline{w} \wedge \psi = \psi_c \\ 0 & \text{otherwise} \end{Bmatrix}, \qquad (3A)$$

which completes the proof.

Appendix B

In this appendix, we provide the Proof of Proposition 2 which states that a worsening in contract enforcement ultimately causes the interest rate on the education credit (phase 1) to decrease while the effect on the interest rate of the microcredit (phase 2) is ambiguous. The latter decreases if the parent's empathy is constant. In addition, Proposition 2 claims that a deterioration in contract enforcement causes the interest rate on the microcredit to decrease less when the child and parent feel some empathy towards each other than when they are either selfish and ungrateful, or when the child sacrifices itself for the well-being of his family.

The optimal interest rate in phase one is given by

$$i^* = h^{-1}(0), \tag{1B}$$

where $h(i)$ is defined in (37), and we have

$$\frac{di^*}{d\omega} = -\frac{h_\omega}{h_i}, \tag{2B}$$

where h_ω denotes the partial derivative of $h(i)$ with respect to the continuation income ω and h_i denotes the partial derivative of $h(i)$ with respect to the interest rate i. The latter is given by

$$h_i = \frac{\partial y_c}{\partial i} \cdot \Big(c - d \cdot \big(y_c(i)\big)\Big), \tag{3B}$$

where $\frac{\partial y_c}{\partial i} < 0$. Since we know that, by construction, income must be smaller than the ratio $\frac{c}{d}$, we can exclude the case that $y_c(i) \geq \frac{c}{d}$. It follows that

$$h_i < 0. \tag{4B}$$

The partial derivative of $h(i)$ with respect to ω, on the other hand, is

$$h_\omega = -\frac{\delta}{1-\delta} \cdot (c - \mathrm{d} \cdot \omega). \tag{5B}$$

Thus, for the same reason (regarding income) as above, we have that

$$h_\omega < 0. \tag{6B}$$

From (4B) and (6B), it follows that

$$\frac{di^*}{d\omega} < 0. \tag{7B}$$

We can conclude that an improvement in contract enforcement (which diminishes ω) always causes the interest rate on the education credit to rise.

Let us now turn to the optimal interest rate in the second phase, which is given by (34), i.e.

$$\iota^* = g^{-1}(0), \tag{8B}$$

where $g(\iota)$ is defined as in (35). We can write

$$\frac{d\iota^*}{d\omega} = -\frac{g_\omega}{g_\iota}, \tag{9B}$$

where g_ω stands for the partial derivative of $g(\iota)$ with respect to the continuation income ω and g_ι denotes the partial derivative of $g(\iota)$ with respect to the interest rate ι. The former is

$$g_\omega = -\delta \cdot [c - d \cdot \omega], \tag{10B}$$

where $\omega < \frac{c}{d}$ by construction. Therefore, the partial derivative of $g(\iota)$ with respect to the continuation value is always negative, i.e.

$$g_\omega < 0. \tag{11B}$$

It follows that the change in ι^* due to a deterioration of contract enforcement is of the same sign as the partial derivative of $g(\iota)$ with respect to the interest rate in the second phase:

$$sign\left[\frac{d\iota^*}{d\omega}\right] = sign[g_\iota]. \tag{12B}$$

The partial derivative of $g(\iota)$ with respect to the interest rate ι is given by

$$g_\iota = \left[\xi + \left(\eta + \vartheta \cdot \frac{\partial a}{\partial \tau}\right) \cdot \frac{\partial \tau^*}{\partial \psi_c}\right] \cdot \frac{\partial \psi_c}{\partial \iota}, \tag{13B}$$

where

$$\xi := \left(1 - a\left(\tau^*(\psi_c(\iota), \overline{w})\right)\right) \cdot [c - d \cdot (\psi_c(\iota) + \tau^*(\psi_c(\iota), \overline{w}) \cdot \overline{w})], \tag{14B}$$

$$\eta := \overline{w} \cdot \left[c \cdot \left[1 - 2 \cdot a\left(\tau^*(\psi_c(\iota), \overline{w})\right)\right] - d \cdot \begin{pmatrix} \psi_c(\iota) \cdot \left[1 - a\left(\tau^*(\psi_c(\iota), \overline{w})\right)\right] \\ +\overline{w} \cdot \left(\tau^*(\psi_c(\iota), \overline{w}) - a\left(\tau^*(\psi_c(\iota), \overline{w})\right)\right) \end{pmatrix}\right], \tag{15B}$$

$$\vartheta := c \cdot [1 - 2 \cdot \tau^*(\psi_c(\iota), \overline{w}) \cdot \overline{w} - \psi_c(\iota)] - \frac{d}{2} \cdot \begin{pmatrix} \left[\left(1 - \tau^*(\psi_c(\iota), \overline{w})\right) \cdot \overline{w}\right]^2 \\ -[(\psi_c(\iota) + \tau^*(\psi_c(\iota), \overline{w}) \cdot \overline{w})]^2 \end{pmatrix}, \tag{16B}$$

and $\frac{\partial a}{\partial \tau} \geq 0$, $\frac{\partial \tau^*}{\partial \psi_c} \leq 0$, and $\frac{\partial \psi_c}{\partial \iota} < 0$.

(13B) is too involved to be interpreted. Therefore, we study the case where the borrower's empathy towards his child is independent of his transfer, i.e. $\alpha = \alpha_0$ with $\alpha_0 \in [0,1]$ and $\frac{\partial a}{\partial \tau} = 0$. Since $\frac{c}{d} = \overline{w}$, (13B) simplifies to

$$g_\iota = \left[\xi + \eta \cdot \frac{\partial \tau^*}{\partial \psi_c}\right] \cdot \frac{\partial \psi_c}{\partial \iota}, \tag{17B}$$

where

$$\xi := (1-\alpha_0) \cdot d \cdot \left[\left(1 - \tau^*(\psi_c(\iota), \overline{w})\right) \cdot \overline{w} - \psi_c(\iota)\right], \tag{18B}$$

$$\eta := \overline{w} \cdot d \cdot \left[\, (1-\alpha_0) \cdot \left(\overline{w} - \psi_c(\iota)\right) - \tau^*(\psi_c(\iota), \overline{w}) \cdot \overline{w}\right]. \tag{19B}$$

It is reasonable to assume that $\left(1 - \tau^*(\psi_c(\iota), \overline{w})\right) \cdot \overline{w} \geq \psi_c(\iota) + \tau^*(\psi_c(\iota), \overline{w}) \cdot \overline{w}$, which means that the order of post-transfer incomes remains the same as prior to the transfer. Otherwise, the child would be worse off after transferring money than his parent is. It follows that $\xi \geq 0$. Furthermore, we have that

$$\eta \begin{cases} \geq 0 & \text{if } \left(1 - \tau^*(\psi_c(\iota), \overline{w})\right) \cdot \overline{w} - \psi_c(\iota) \geq \alpha_0 \cdot \left(\overline{w} - \psi_c(\iota)\right) \\ \leq 0 & \text{otherwise} \end{cases}. \tag{20B}$$

It follows that $g_\iota \leq 0$ and therefore

$$\frac{d\iota^*}{d\omega}(\alpha = \alpha_0) \leq 0. \tag{20B}$$

Now, let us compare the slopes of the contour line. We know that (10B) is independent of α and β. Thus, the denominators of all slopes are the same, and we only need to compare the nominators. It is straightforward to see that

$$g_\iota(\alpha = \alpha_0,\ \beta = \beta_0) \geq g_\iota(\alpha = \alpha_0,\ \beta = 0), \tag{21B}$$

and

$$\begin{array}{ll} g_\iota(\alpha = \alpha_0) \geq g_\iota(\alpha = 0) & \text{if } \beta \leq 0.5 \\ g_\iota(\alpha = \alpha_0) < g_\iota(\alpha = 0) & \text{otherwise'} \end{array} \tag{22B}$$

where $\alpha_0 \in [0,1]$ and $\beta_0 \in [0,1]$. It follows that

$$\left|\frac{d\iota^*}{d\omega}(\alpha = \alpha_0,\ \beta = \beta_0)\right| \leq \left|\frac{d\iota^*}{d\omega}(\alpha = \alpha_0,\ \beta = 0)\right|, \tag{23B}$$

and

$$\begin{array}{ll} \left|\frac{d\iota^*}{d\omega}(\alpha=\alpha_0)\right| \leq \left|\frac{d\iota^*}{d\omega}(\alpha=0)\right|, & \text{if } \beta \leq 0.5 \\ \left|\frac{d\iota^*}{d\omega}(\alpha=\alpha_0)\right| > \left|\frac{d\iota^*}{d\omega}(\alpha=0)\right|, & \text{otherwise} \end{array}. \quad (24B)$$

This completes the proof.

REFERENCES

Armendáriz de Aghion, B. & Morduch, J. (2004), Microfinance: Where Do We Stand? In: Ch. Goodhart (ed.), *Financial Development and Economic Growth: Explaining the Links*, London: Macmillan/Palgrave, 135-148.

Armendáriz de Aghion, B. & Morduch, J. (2005), *The Economics of Microfinance*, 1st edn., Cambridge, MA: MIT Press.

Banerjee, A. & Ghatak, M. (2004), Eviction Threats and Investment Incentives. *Journal of Development Economics*, 74, 469-488.

Barr, N. (2001), *The Welfare State as Piggy Bank: Information, Risk, Uncertainty, and the Role of the State*, Oxford: Oxford University Press.

Barr, N. (2004), Higher Education Funding. *Oxford Review of Economic Policy*, 20 (2), 264-283.
Barr, N. (2005), Financing Higher Education. *Finance & Development*, 42 (2).

Barr, N. & Crawford, I. (2005), *Financing Higher Education: Answers from the UK*, London and New York: Routledge.

Becker, G. S. (1991), *A Treatise on the Family*, 2nd edn., Cambridge, MA: Harvard University Press.
Bell, C. & Srinivasan, T. N. (1989), Interlinked Transactions in Rural Markets: An Empirical Study of Andhra Pradesh, Bihar and Punjab. *Oxford Bulletin of Economics and Statistics*, 51 (1), 73-83.

Braverman, A. & Stiglitz, J. E. (1982), Sharecropping and the Interlinking of Agrarian Markets. *American Economic Review*, 72 (4), 695-715.

Chapman, B. (1997), Conceptual Issues and the Australian Experience with Income Contingent Charges for Higher Education. *Economic Journal*, 107, 738-751.

Chapman, B. (2005), *Income Contingent Loans for Higher Education: International Reform*, CEPR Discussion Paper 491, CEPR, Canberra.

Chapman, B. & Ryan, C. (2005), The Access Implications of Income Contingent Charges for Higher Education: Lessons from Australia. *Economics of Education Review*, 24, 491-512.

Dunford, C. (2001), *Building Better Lives – Sustainable Linkage of Microcredit and Education in Health, Family Planning and HIV/AIDS Prevention for the Poorest Entrepreneurs*, Discussion Paper for the Microcredit Summit Campaign.

Dunford, C. (2003), Adding Value to Microfinance and to Public Health Education – At the Same Time. *Asian Development Bank's Finance for the Poor Newsletter*, 4:4.

Dunford, C. & Denman, V. (2001), *Credit with Education: A Promising title II Microfinance Strategy, Food and Nutrition Technical Assistance Project*, Academy of Educational Development, Washington, DC.

Flammer, C. (2009), *The Financing of Education in Developing Countries: Models of Sustainable Educational Contracts,* Saarbruecken: Suedwestdeutscher Verlag fuer Hochschulschriften.

Friedman, M. (1955), The Role of Government in Education. In: R. A. Solo (ed.), *Economics and the Public Interest*. New Brunswick, N J.: Rutgers University Press.

Friedman, M. (1962), *Capitalism and Freedom*, Chicago: Chicago University Press.

Genicot, G. & Ray, D. (2006), Bargaining Power and Enforcement in Credit Markets. *Journal of Development Economics*, 79, 398-412.

Ghosh, P., Mookherjee, D. and Ray, D. (2000), Credit Rationing in Developing Countries: An Overview of the Theory. In: D. Mookherjee and D. Ray (eds.), *A Reader in Development Economics*, 283-301. London: Blackwell.

Ghosh, P. & Ray, D. (2001), *Information and Enforcement in Informal Credit Markets*, mimeo, New York University.

Johnstone, D. B. (2004), The Applicability of Income Contingent Loans in Developing and Transitional Countries. *Journal of Educational Planning and Administration*, 18 (2), 159-174.

Johnstone, D. B. (2005), Higher Educational Accessibility and Financial viability: The Role of Student

Loans. In: J. Tres and F. Lopez Segrera (eds.), *Higher Education in the World 2006: The Financing of Universities*, (84-101). Barcelona: Palgrave Macmillan.

Kolm, S-Ch. & Mercier Ythier, J. (2006a), Handbook of the Economics of Giving, Altruism and Reciprocity: Foundations, Vol. 1. In: K. J. Arrow and M. D. Intriligator (eds.), *Handbooks in Economics*, 23, (1-886). Amsterdam: North-Holland.

Kolm, S-Ch. & Mercier Ythier, J. (2006b), Handbook of the Economics of Giving, Altruism and Reciprocity: Applications, Vol. 2. In: K. J. Arrow and M. D. Intriligator (eds.), *Handbooks in Economics*, 23, (887-1588). Amsterdam: North-Holland.

Ledgerwood, J. (1999), *Microfinance Handbook*, 1st edn., Washington, DC: World Bank.
MkNelly, B. & McCord, M. (2001), Womens' Empowerment. *Credit with Education Impact Review*, 1, 1-22.

MkNelly, B. & McCord, M. (2002), Economic Capacity and Security. *Credit with Education Impact Review*, 2, 1-23.

MkNelly, B. & McCord, M. (2003), Children's Nutritional Status. *Credit with Education Impact Review*, 3, 1-19.

Mookherjee, D. & Ray, D. (2008), A Dynamic Incentive-Based Argument for Conditional Transfers. *Economic Record*, 84, S2-S16.

Morduch, J. (1999), The Microfinance Promise. *Journal of Economic Literature*, 37, 1569 – 1614.

Palacios, M. (2004), *Investing in Human Capital: A Capital Markets Approach to Higher Education Funding*, Cambridge: Cambridge University Press.

Stark, O. & Falk, I. (1998), Transfers, Empathy Formation, and Reverse Transfers. *American Economic Review*, 88 (2), 271-276.

Ziderman, A. & Albrecht, D. (1991), *Deferred Cost Recovery for Higher Education: Student Loan Programs in Developing Countries*, World Bank Discussion Paper No. 137, Washington, D.C., World Bank.

Ziderman, A. & Albrecht, D. (1992), *Funding Mechanisms for Higher Education: Financing for Stability, Efficiency, and Responsiveness*, World Bank Discussion Paper No. 153, Washington, D.C., World Bank.

Ziderman, A. & Albrecht, D. (1995), Financing Universities in Developing Countries, *Stanford Series on Education & Public Policy*, 16, Washington: Falmer Press.

ACKNOWLEDGEMENT

I am especially grateful to two anonymous referees, the editors (Mercedes Jalbert and Terrance Jalbert), and conference participants at the IBFR Global Conference on Business and Finance (2010) whose comments and suggestions substantially improved the paper. Furthermore, I thank Raquel Fernàndez, Jonathan Morduch, Debraj Ray as well as seminar participants at New York University for valuable feedback. I also would like to express my gratitude to New York University for its hospitality and the Swiss National Science Foundation for financial support (Fellowship #PBSG1-117281).

BIOGRAPHY

Dr. Caroline Flammer is an Assistant Professor at Kean University. Her contact information is as follows: Kean University, Department of Graduate Management Studies, Union, NJ 07083. Phone: +1 (908) 737-5983. Email: cflammer@kean.edu.

STAKEHOLDER PERCEPTION OF CORPORATE SOCIAL RESPONSIBILITY

Petra F.A. Dilling, New York Institute of Technology

ABSTRACT

As corporate social responsibility receives increased attention by company stakeholders, researchers are also increasingly exploring corporate social responsibility, its causes and implications. However little is known about the perception of corporate social responsibility. This study explores the link between stakeholder perception of corporate social responsibility and its relationship with underlying factors. The findings suggest that age of the corporation, community involvement, and cultural diversity have a significant influence on corporate social responsibility perception by stakeholders. Another importance is issue is the existence of a published corporate social responsibility or sustainability report. No significant results were found for the sustainable use of natural resources and Dow Jones Sustainability Index inclusion. The study concludes with recommendations for corporations on how they can enhance perception of corporate social responsibility by stakeholders.

JEL: M14, M39, M49, Q01

KEYWORDS: corporate social responsibility, stakeholder perception, sustainability reporting, cultural diversity, community investment, sustainable use of natural resources

INTRODUCTION

In a definition proposed by the Commission of the European Communities corporate social responsibility (CSR) is described as societal responsibility for a company to integrate social and environmental concerns into their activities and stakeholder relationships on a voluntary basis (European Commission, 2002). The World Business Council for Sustainable Development describes CSR as "commitment of business to contribute to sustainable economic development, working with employees, the local community and society" (World Business Council for Sustainable Development, 2000). In the literature, many definitions have been developed, from various angles and in multiple contexts. For a summary of definitions, refer to Swaen & Chumpitaz (2008). However, until now, a common definition of CSR has not been established (Mutch & Aitken, 2009). Nonetheless, companies are increasingly devoting significant resources to demonstrate their CSR commitment (Swaen & Chumpitaz, 2008).

When we look for reasons behind this commitment we find that some corporations invest in CSR because it is the "right thing to do"; it is aligned with the beliefs of the management and corporate culture; it is part of the strategic plan; it is a current thing to do as most of the other organizations do it; or management expects to be rewarded for it by the market. Regarding the latter, numerous studies have been devoted to exploring the linkage between CSR and financial performance. In the existing literature, there is still no consensus on the question if suitable CSR programs will lead to better corporate financial performance. About seventy percent of related studies showed a positive and statistically relevant relationship between CSR and financial performance (Dilling, 2010). Martin Curran provides a systematic review of evidence on the relationship between CSR and financial performance (Martin Curran, 2005). Delivering profits to shareholders is important, but organizations are also subject to broader stakeholder interests as well as the need to demonstrate a balanced perspective towards doing business (Maon et al., 2009).

The remainder of this article is organized as follows: The next section provides a brief review of the literature and the formulation of the hypotheses. In the third section information on the data and methodology is presented. In the fourth section the empirical results are presented, followed by a brief discussion as well as limitations and conclusions in sections 5 and 6.

LITERATURE REVIEW

Various research studies have dealt with the subject of CSR and its impact on consumer behavior, attitude, and corporate reputation (Berens et al., 2005). An empirical consumer study done in Australia indicates low CSR awareness levels (Pomering & Dolnicar, 2009). However, on the other hand, CSR is also perceived to have a positive impact on corporate image as well as customers' and other stakeholders' satisfaction (Lindgreen et al., 2009). A recent national survey in the US found that 59% of consumers consider environmental sustainability an important factor when buying products (CAPSTRAT, 2010). The statistical results of a study undertaken by Perez in 2009 also show that CSR-based consumer-company identification has an influence on purchase intent of customers (Perez, 2009). Moreover, some authors claim that committed CSR activities as well as communication thereof create an increase in overall firm reputation (Galbreath, 2010 and Anonymous, 2005). Adding on the specific subject of consumer perception of CSR, another recent study noted an increase of ethical consumerism which the authors trace back to the fact that there seems to be growing empowerment as well as impatience with the current performance of the company (Globescan, 2009). Another study focusing on consumer perception highlights the need for more emphasis of CSR activities other than in the annual report and website (Singh et al., 2008). Based on the analysis of their empirical results, the authors go as far as to state that those traditional communication channels are not reaching the consumers. This confirms the trend that companies that communicate their CSR activities through many different channels will have a higher CSR perception compared to those that will not communicate the activities as much (Wagner et al., 2009). In fact, communication of CSR has been cited as being one of the crucial elements when making people aware of CSR initiatives (Pfau et al., 2008). Liston Heyes and Ceton (2009) argue that in order to send a "positive" signal, corporations not only have to be active regarding CSR but also have to publicize the CSR performance efficiently. In addition, the United Nations Global Compact and the Global Reporting Initiative (GRI), for example, are undertaking advocacy and other efforts to encourage companies to publish sustainability reports by applying certain standards und using their platforms (Global Reporting Initiative, 2010 and UN Global Compact, 2010). However, different maturity levels of companies in the application of the principles used globally can be observed (Mio, 2010). Consequently, comparing and contrasting information communicated in CSR reports still represent a challenge (Sherman & DiGuilio, 2010). As mentioned above, in general, an increased demand for CSR activity as well as for information can be noted (Holder-Webb et al., 2009). This increased call for transparency can be traced back to an expanded accountability requirement in the corporate governance context as well as the emergence of sustainability reporting (Kolk, 2008). Some authors even support mandatory standardized disclosure of CSR information in an attempt to increase the quality of information provided (Crawford & Williams, 2010). Therefore, over the last years, many companies have published separate sustainability or CSR reports. Please note that for the purpose of this study the terms sustainability report, corporate social responsibility report, and citizen report are used interchangeably.

H1: A CSR report published for the main purpose of informing stakeholders about CSR activities of the company will result in a higher perception of CSR.

In their 2009 paper, Rhee and Valdez argue that social selection processes favor older organization due to them being "reliable" and "accountable". Moreover, with respect to consumers, it has been stressed in the past that they, as one of the main stakeholder groups, often perceive companies as being active regarding CSR if they are familiar with them or if they like the products that the companies sell, or the services they provide. It is assumed that this is transferrable to CSR perception by all stakeholders. Additionally, in a

study conducted in Canada in 2008 on perceived versus actual CSR performance, it is mentioned that a "halo effect" appears to be evident for certain, very popular, brands (MapChange, 2008). Therefore, it is hypothesized that companies that are well known will have a higher CSR perception. The fact that a company is well known, very often, correlates to the fact that it has been around for a long time. Thus, in the absence of a score for being well known for the studied companies, we are using organizational age as a proxy for being well known.

H2: Companies with a *higher organizational age will have* a *higher CSR perception.*

Steurer et al. (2005) state that corporations are confronted with economic, social, and environmental claims by their stakeholders. Undeniably, stakeholders have certain expectations when it comes to corporate behaviour. They will reward behavior they see beneficial to the corporate environment, themselves, as well at the corporation itself. One of those expectations is community investment. Community investment and reporting thereof can lead to enhancements in stakeholder relationships and accountability (Tsang et al., 2009). According to research on forty European companies, for example, "community" is the most mentioned stakeholder on websites of corporations (Silberhorn & Warren, 2007). Moreover, it is also being argued that all stakeholders have a preference for broader community involvement by businesses in general (Amato & Amato, 2007).

H3: Companies that engage in community development will have higher CSR perception.

While community investment is an important stakeholder expectation there are others that might be equally important and therefore should be examined as well. One that seems to have become increasingly important over the last years is workforce and cultural diversity efforts. Like community, employees are also often being named the most important stakeholder group (D'Humieres, 2001). Furthermore, there is an indication that the market rewards a company for being proactive in its diversity activities (Bird et al., 2007).

H4: There is a positive relationship between cultural diversity efforts of a corporation and its stakeholder CSR perception.

With regard to environmental stakeholder claims, evidence suggests that stakeholders react positively to environmental protection (Bird et al., 2007). The authors state that if a company is being identified as failing to meet regulatory standards with respect to the environment, it will have a negative impact on the value that the stakeholders place on them. Other authors claim that environmentally ethical behaviours and morally acceptable environmental actions are being demanded of corporations (Onkila, 2009). There is also evidence that companies with "green products" are being perceived more favorable than those whose efforts towards sustainability are not reflected in their product lines (MapChange, 2008). Therefore, it is assumed that companies which apply sustainable processes will have a higher perception regarding CSR than others.

H5: Stakeholders will show a higher CSR perception for companies that are applying sustainable practices when using natural resources.

As investor interest in sustainability is growing, sustainability indices have been developed that track the financial performance of the leading sustainability-driven companies. Among these are the Dow Jones Sustainability Index, the FTSE4Good as well as the Domini Social Index. These indices have given credibility to the notion of investment in sustainable companies (Lopez et al., 2007). Additions to and droppings from the index, which take place on an annual basis, are usually accompanied by substantial press coverage.

H6: Corporations that are included in the Dow Jones Sustainability Index will have higher CSR perception by their stakeholders.

DATA AND METHODOLOGY

The Reputation Institute, in connection with the Boston College Center for Corporate Citizenship, annually publishes corporate reputation and social responsibility rankings (Reputation Institute, 2010). For their 2008 report, the Reputation Institute surveyed more than 60,000 members of the general public on their feeling about company performances along seven dimensions of reputation. The reputation score consisted of ratings regarding managerial, technical, and institutional company performance indicators. The report then takes a closer look at rankings incorporating institutional dimension scores which included perception ratings on corporate citizenship, governance, and workplace. The combined index of those perceptions is then called the corporate social responsibility index. The scores for the 50 most socially responsible ranked companies in the US for 2008 are used as scores for CSR perception for our study.

The sample for this study consisted of the 50 companies for which the Reputation Institute provided CSR perception scores for the year 2008. The CSR perception score was then used as the dependent variable. The data related to those companies was then obtained by analyzing the company web pages (in 2009), 2008 annual reports, 2008 press releases as well as the 2008 sustainability reports. It was assumed that the information provided by the corporations is an accurate indication on what their efforts in those areas actually were.

Scores between 0 and 10 were assigned to the different independent variables depending on the information provided. This applies to the independent variables "community investment", "cultural diversity" and "sustainable practices". Examples for community investment included volunteerism programs, community activities, disaster response and humanitarian relief programs, community partnerships and sponsorships, philanthropy programs, neighbourhood programs, etc. Cultural diversity information encompassed non-discrimination policies, workforce diversity programs, cross-cultural communication, policies on respect for others, multi-cultural awareness, collaboration culture, equal opportunities, etc. Examples for sustainable practices with respect to natural resources were recycling, solar usage, water conservatism, energy saving, greenhouse gas emissions control, and waste programs as well as alternative energy and renewable energy and land use planning programs.

Before any statistical analysis was conducted, the data was tested to verify that the basic assumptions of the general linear model were met. Table 1 presents descriptive statistics while Table 2 shows bivariate correlations for all variables. The examination of scatter plots and normal probability plots did not show violations of normality, multivariate linearity, or homoscedasticity.

The 50 companies in the sample have been in business between 12 and 203 years, on average 84 years. They were active in 13 different sectors. The average 2008 gross profit was 15 million USD. While 84% of the corporations issued a CSR report only 34% of the corporations issued a CSR report applying the Global Reporting Initiative (GRI) guidelines. 48% of the companies were included in the 2008 Dow Jones Sustainability Index (DJSI). In 2008, the companies issued between 0 and 124 press releases with CSR as subject. CSR was specifically mentioned between 0 and 16 times in the 2008 annual reports.

Table 1: Descriptive Statistics and Frequencies (n=50)

Item	Minimum	Maximum
Organizational age	12	203
Employees	1,400	410,097
Gross profit	$177,000	$70,948,000
CSR press releases	0	124
CSR in annual report	0	16

Table 1 shows descriptive statistics and frequencies for the 50 companies that were analyzed. There is a wide variety of corporations with different ages, sizes, and annual gross profits. In the year 2008, between zero and 124 CSR press releases were issued by the companies. The subject of corporate social responsibility was mentioned between zero and 16 times in the 2008 annual reports.

EMPIRICAL RESULTS

Table 2 indicates that none of the independent variables was significantly correlated with the CSR Index 2008. This does not mean that the independent variables cannot be used as predictor variables as inter-correlations can have an impact on the significance of relationships. Correlations give us an indication on how variables are associated, however, variable dependencies cannot be derived. A number of significant correlations between several of the predictor variables can be observed. Potential multicollinearity issues within the model were examined. Both variance inflation factors and tolerance statistics were examined for multicollinearity. The results suggested there were no multicollinearity issues in either of the regression equations used in the analysis.

Table 2: Correlations among Variables

Variables	1	2	3	4	5	6	7
1 CSR Index 2008	1						
2 Organizational Age	0.189	1					
3 CSR report	0.253	0.244*	1				
4 Natural Res.	0.145	0.202	-0.51	1			
5 Cultural Diversity	-0.061	-0.18	-0.406***	0.266*	1		
6 Community Investment	-0.074	0.038	-0.431***	0.301**	0.292**	1	
7 DJSI	0.145	-0.043	-0.310**	0.337**	0.483***	0.371***	1

*Table 2 shows the correlations among the variables. It can be observed from the table that, while there is some correlation between the variables, none of the independent variables was significantly correlated with the CSR Index 2008. ***, **, and *indicate significance at the 1, 5, and 10 percent levels respectively.*

Multiple regression analysis is used in order to determine the predictability of the outcome of the dependent variable based on the independent variables. The results of the regression are shown in Table 3a. From Table 3a, four variables influencing the CSR perception score are significant and explain 30% of the variance (R square= 0.296, F=3.006, p=0.015). CSR perception is positively influenced by company age and CSR reporting and negatively influenced by cultural diversity and community investment. More specifically, if the age of the corporation increases by one year, the CSR perception score will increase by 0.302 (t=2.208, p=0.033). Hence, in this study, age has been shown to be an important factor when it comes to predicting CSR perception. The same applies to CSR or sustainability reporting which positively influences CSR perception by stakeholders. In fact, the beta coefficient for CSR reporting is at 0.533 units (t=3.371, significant at 0.002), meaning that if a company publishes a CSR report, CSR perception scoring increases by 0.53. The independent variables for cultural diversity and community development are also statistically significant. However, contrary to H3 and H4, the relationship between them and the dependent variable is negative. This implies that if, for example, cultural diversity and community development increase by one unit, CSR perception would decrease by 0.32 and 0.36 units, respectively.

Hypothesis 5 which predicted that companies which apply sustainable practices when using natural resources will have a higher CSR perception was not supported. Table 3a also shows that, contrary to our

prediction, the B coefficient for the variable for the DJSI inclusion is not significant. Therefore, H6 is not supported.

The following regression equation was estimated to identify the determinants of CSR stakeholder perception:

$$CSR\ perception = 70.059 + 0.017(Company\ age) + 3.770\ (CSR\ report) + 0.175(Natural\ Resources) - 0.272(Cultural\ Diversity) - 0.342\ Community\ Investment) + 1.147\ (DJSI) \quad (1)$$

Ordinary Least Squares estimates were obtained. The results are presented in Table 3a.

Table 3a: Multiple Regression Analysis

Variables	**Unstandardized Coefficient**	**Standard error**	**Standardized Coefficient**	**t**
	B	SE	beta	
Constant	70.059	1.212		57.781
Organizational age	0.017	0.07	0.302**	2.208
CSR report	3.770	1.118	0.533***	3.371
Natural Resources	0.175	0.144	0.175	1.214
Cultural Diversity	-0.272	0.132	-0.321**	-2.064
Community Investment	-0.342	0.147	-0.356**	-2.328
DJSI	1.147	0.809	0.221	1.417

*Table 3a shows the regression estimates of the equation: CSR perception = 70.059 + 0.017 (Company Age) + 3.770 (CSR Report) + 0.175 (Natural Resources) - 0.272 (Cultural Diversity) - 0.342 (Community Investment) + 1.147 (DJSI). The figures in the second column are the regression coefficients B. The third column shows the standard error (SE); whereas in the fourth column in each cell the standardized coefficients beta are listed. The cells in the fifth column are the t-statistics. ***, **, and *indicate significance at the 1, 5, and 10 percent levels respectively. Note: Categorical variables: CSR report, 0=no, 1=yes, DJSI: 0=no, 1=yes*

In an additional multiple regression, two additional demographics are added as explanatory variables to test whether they would account for additional variance. From Table 3b, the four variables influencing the CSR perception score which significant (R square=0.299, F=2.185, p=0.049) are still the same. The B coefficient for industry and company size did not show any significance, indicating that neither of those variables can provide additional insight into the underlying relationships between the variables. Therefore, adding those two explanatory variables does not account for additional variance.

Table 3b: Multiple Regression Analysis, with Added Explanatory Variables

Variables	**Unstandardized Coefficient**	**Standard error**	**Standardized Coefficient**	**t**
	B	SE	beta	
Constant	69.933	1.681		41.596
Organizational age	0.018	0.08	0.324**	2.093
CSR report	3.706	1.155	0.524***	3.208
Natural Resources	0.161	0.152	0.161	1.062
Cultural Diversity	-0.273	0.135	-0.322**	-2.021
Community Investment	-0.327	0.154	-0.341**	-2.128
DJSI	1.249	0.890	0.241	1.404
Company size	-1.602E-6	0.000	-0.060	-0.406
Industry	0.044	0.212	0.031	0.208

*Note: Categorical variables: CSR report, 0=no, 1=yes, DJSI: 0=no, 1=yes, Industry: 1=Basic materials, 2=Consumer goods, 3=Financial, 4=Healthcare, 5=Services, 6=Technology. This table shows the regression estimates of the equation: CSR perception = 69.933 + 0.018 (Company Age) + 3.706 (CSR Report) + 0.161 (Natural Resources) - 0.273 (Cultural Diversity) - 0.327 (Community Investment) + 1.249 (DJSI) -1.602E-6 (Company Size) + 0.044 (Industry). The figures in the second column are the regression coefficients B. The third column shows the SE; whereas in the fourth column in each cell the standardized coefficients beta are listed. The cells in the fifth column are the t-statistics. ***, **, and *indicate significance at the 1, 5, and 10 percent levels respectively.*

DISCUSSION

The results of this exploratory study provide support for the assertion that companies can influence stakeholder perception with regard to CSR. Regression analysis indicated that among the independent variables used in the analysis, organizational age, CSR reporting, the level of cultural diversity and community involvement have a significant influence on CSR perception. The regression analysis revealed that the four variables accounted for almost 30% of the variance of CSR perception.

Well established companies enjoy a perception advantage when it comes to CSR; however, according to our study, preparing and publishing a CSR report seems also an effective way to raise CSR perception. The findings on the variables cultural diversity and community investment and their negative influence on CSR perception are surprising. One would assume that increased CSR activities will have a positive impact on stakeholder perception regarding CSR. Could it be that stakeholders perceive the mention of those CSR activities as "pure" marketing efforts without credible follow-through by the corporations? Or could it be that CSR activities are not being perceived as important when assigning an overall CSR score for a company? This, however, would not explain the negative association between the variables. The fact that some corporations already have long standing and extensive community and cultural diversity programs could set stakeholder expectations quite high. This would confirm Golbescan's statement on stakeholder empowerment and impatience regarding company CSR performance (Globescan, 2008). Note that the CSR maturity level also varies quite a bit between corporations. What for some companies represents a big step forward could be considered a step backward for other companies, hence relative CSR involvement in the relevant sector could be considered a gauging factor.

LIMITATIONS AND CONCLUSIONS

The purpose of this paper is to examine the relationship between CSR efforts as well as company characteristics and the level of CSR perception by stakeholders. In conclusion, this paper is the first to find statistically significant independent variables that influence stakeholder CSR perception. The results of this exploratory study suggest that by undertaking certain CSR efforts managers can achieve a higher CSR perception for their companies. If the results of a consumer study undertaken by Swaen & Chumpitaz in 2008 are transferrable to all stakeholders, a positive influence on overall stakeholder trust toward the company can be achieved through CSR activities (Swaen & Chumpitaz, 2008).

While this study provides insights into CSR perception and its related factors study limitations identify further research areas. For the purpose of this study, it is assumed that the amount of information provided in the CSR reports, company websites, annual reports, and press releases represents an accurate reflection of CSR activities that the companies engage in regarding CSR. This assumption should be verified. Given that there is an indication for a strong link between corporate social responsibility and corporate reputation, as pointed out in various publications (Docherty & Hibbert, 2003; Brammer & Pavelin, 2006), stakeholders are questioning the "true" intentions of the corporations as they market and implement their CSR program. Are corporations engaging in CSR doing this in the hope to enhance their reputation; to increase share prices or market value; or is CSR actually part of their corporate culture and vision? Some authors suggest that, while efforts towards CSR are increasing, perception of consumers and/or stakeholders are worsening. This could also be based on the fact that expectations have been raised as corporations are actually investing more in that area; and therefore, the expected level of engagement has been raised for everyone. It is also important to consider that better CSR performance does not necessarily translate into higher levels of CSR perception.

In their 2008 study, Singh et al. state that, on average, consumers perceive companies as not providing sufficient information on their CSR activities (Singh et al., 2008). The results of this study confirm this statement. If companies accurately and effectively report on their CSR program and its implementation

into the overall strategy, stakeholders, including consumers, will acknowledge this. As mentioned above, CSR perception is higher if companies publish a separate sustainability, citizen or CSR report. Therefore, if companies are committed towards CSR, they need to think about how they want to communicate this commitment to the various internal and external players. The study confirms another of Singh's statement indicating that the use of traditional channels is not an appropriate tool to raise CSR awareness for the CSR activities and programs of a company. Tench et al., in 2007, claim that executives and communication specialists are unsure on how to communicate their CSR strategies most effectively. Clearly, companies that use communication of CSR activities as a public relations tool without a strong commitment towards achieving their mission with CSR as a major component will fail. Those companies make it harder for others to maintain or regain the trust of the stakeholders.

A separate CSR report with relevant and targeted information for different stakeholder groups in various formats and delivery modes represents an effective option according to our findings. Furthermore, organizations have to be ready to communicate honestly, internally as well as externally, on what they have accomplished and what they hope to achieve (Maon et al., 2008). Additional steps could include assurance of the CSR report by a trustworthy and competent assurance provider. Further research is needed in this area.

Even though most of the companies in the analysis have a global footprint, the study itself does not assume a cross-cultural perspective. In view of the global aspect of CSR, it would be interesting to investigate CSR perception in different countries as culture has been documented as being one of the most crucial variables when it comes to ethical decision making (Rawwas et al., 2005).

In summary, companies will have to strengthen their stakeholder engagement and communication overall. Done right, CSR can be instrumental to increase shareholder value as well as to boost employee morale. Organizations need to understand how stakeholders will perceive their businesses. More importantly, corporations that would like to be perceived as being active or even a leader in the area of CSR need to develop a comprehensive and integrated CSR framework. CSR programs, policies, and processes have to be monitored and updated continuously; environmental and social performance have to be assessed; stakeholders need to be consulted on an ongoing basis; and efficient communication and conversations with all stakeholders will be the key to success.

REFERENCES

Amato, L. & Amato, C. (2007). The Effects of Firm Size and Industry on Corporate Giving. *Journal of Business Ethics*, 72(3), 229-241. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1249533201).

Anonymous (2005). Corporate social responsibility and its impact on corporate reputation. (2005, September). *Brand Strategy*, 40-41. Retrieved January 11, 2011, from ABI/INFORM Global. (Document ID: 893871111).

Berens, G., Van Riel, C., & Van Bruggen, G. (2005). Corporate Associations and Consumer Product Responses: The Moderating Role of Corporate Brand Dominance. *Journal of Marketing*, 69(3), 35-48. Retrieved October 25, 2010, from ABI/INFORM Global. (Document ID: 859782311).

Bird, R., D Hall, A., Momentè, F., & Reggiani, F. (2007). What Corporate Social Responsibility Activities are Valued by the Market? *Journal of Business Ethics*, 76(2), 189-206. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1372595031).

Brammer, S. & Pavelin, S. (2006). Corporate Reputation and Social Performance: The Importance of Fit. *The Journal of Management Studies*, 43(3), 435-455. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1030556591).

CAPSTRAT (2010). http://www.capstrat.com/news/consumer-interest-sustainability-remains-consistent-through-downturn/. Retrieved October 26, 2010.

Crawford, E. & Williams, C. (2010). Should corporate social reporting be voluntary or mandatory? Evidence from the banking sector in France and the United States. *Corporate Governance*, 10(4), 512-526. Retrieved January 11, 2011, from ABI/INFORM Global. (Document ID: 2123393331).

D'Humières, P. (2001, October). Développement durable : entreprises, réveillez-vous ! Sociétal,(34), 35-39. Retrieved January 12, 2011, from ABI/INFORM Global. (Document ID: 820034871).

Dilling, P. (2010). Sustainability Reporting In A Global Context: What Are The Characteristics Of Corporations That Provide High Quality Sustainability Reports - An Empirical Analysis. *The International Business & Economics Research Journal*, 9(1), 19-30. Retrieved November 1, 2010, from ABI/INFORM Global. (Document ID: 1961400881).

Docherty, S. & Hibbert, S. (2003). Examining company experiences of a UK cause-related marketing campaign. *International Journal of Nonprofit and Voluntary Sector Marketing*, 8(4), 378-389. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 516929121).

European Commission (2002). COMMUNICATION FROM THE COMMISSION Concerning Corporate Social Responsibility: A business contribution to Sustainable Development, July 2, 2002. http://trade.ec.europa.eu/doclib/docs/2006/february/tradoc_127374.pdf. Retrieved January 12, 2011.

Galbreath, J. (2010). How does corporate social responsibility benefit firms? Evidence from Australia. *European Business Review*, 22(4), 411-431. Retrieved January 11, 2011, from ABI/INFORM Global. (Document ID: 2072179351).

Global Reporting Initiative (2010). http://www.globalreporting.org/Home. Retrieved October 25, 2010.

Globescan (2009). http://globescan.com/rf_csr_executive_01.htm. Retrieved October 25, 2010.

Holder-Webb, L., Cohen, J., Nath, L., & Wood, D. (2009). The Supply of Corporate Social Responsibility Disclosures Among U.S. Firms. Journal of Business Ethics, 84(4), 497-527. Retrieved January 12, 2011, from ABI/INFORM Global. (Document ID: 1626523661).

Kolk, A. (2008). Sustainability, accountability and corporate governance: exploring multinationals' reporting practices. *Business Strategy & the Environment (John Wiley & Sons, Inc)*, 17(1), 1-15. doi:10.1002/bse.511

Lindgreen, A., Swaen, V., & Johnston, W. (2009). Corporate Social Responsibility: An Empirical Investigation of U.S. Organizations. *Journal of Business Ethics*: Supplement, 85, 303-323. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1667541291).

Liston-Heyes, C., & Ceton, G. (2009). An Investigation of Real Versus Perceived CSP in S&P-500 Firms. *Journal of Business Ethics*, 89(2), 283-296. Retrieved October 25, 2010, from ABI/INFORM Global. (Document ID: 1960205431).

López, M.V., Arminda Garcia, & Lazaro Rodriguez. (2007). Sustainable Development and Corporate Performance: A Study Based on the Dow Jones Sustainability Index. *Journal of Business Ethics*, 75(3), 285-300. Retrieved January 12, 2011, from ABI/INFORM Global. (Document ID: 1339472601).

Maon, F., Lindgreen, A., & Swaen, V. (2009). Designing and Implementing Corporate Social Responsibility: An Integrative Framework Grounded in Theory and Practice. *Journal of Business Ethics*: Supplement, 87, 71-89. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1680512521).

MapChange (2008): http://consumer.environics.net/files/Change_MapChange_Doc.pdf. Retrieved October 25, 2010.

Martin Curran, M. (2005). Assessing the rate of return of the adoption of corporate social responsibility initiatives, *PhD thesis*, University of Edinburgh, UK. http://www.era.lib.ed.ac.uk/bitstream/1842/810/1/Curran%20Thesis.pdf. Retrieved January 12, 2011.

Mio, C. (2010). Corporate social reporting in Italian multi-utility companies: an empirical analysis. *Corporate Social - Responsibility and Environmental Management*, 17(5), 247. Retrieved January 11, 2011, from ABI/INFORM Global. (Document ID: 2142915391).

Mutch, N., & Aitken, R. (2009). Being fair and being seen to be fair: Corporate reputation and CSR partnerships. *Australasian Marketing Journal*, 17(2), 92-98. Retrieved October 25, 2010, from ABI/INFORM Global. (Document ID: 1927302171).

Onkila, T. (2009). Corporate Argumentation for Acceptability: Reflections of Environmental Values and Stakeholder Relations in Corporate Environmental Statements. *Journal of Business Ethics*, 87(2), 285-298. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1747918661).

Pérez, R. (2009). Effects of Perceived Identity Based on Corporate Social Responsibility: The Role of Consumer Identification with the Company. *Corporate Reputation Review*, 12(2), 177-191. Retrieved January 11, 2011, from ABI/INFORM Global. (Document ID: 1770851751).

Pfau, M., Haigh, M., Sims, J., & Wigley, S.(2008). The Influence of Corporate Social Responsibility Campaigns on Public Opinion. *Corporate Reputation Review: Special Issue: Globalization and Corporate Reputation*, 11(2), 145-154. Retrieved January 12, 2011, from ABI/INFORM Global. (Document ID: 1514102161).

Pomering, A., & Dolnicar, S. (2009). Assessing the Prerequisite of Successful CSR Implementation: Are Consumers Aware of CSR Initiatives? *Journal of Business Ethics: Supplement*, 85, 285-301. Retrieved January 12, 2011, from ABI/INFORM Global. (Document ID: 1718041251).

Rawwas, M., Swaidan, Z. & Oyman, M. (2005). Consumer Ethics: A Cross-Cultural Study of the Ethical Beliefs of Turkish and American Consumers. *Journal of Business Ethics*, 57(2), 183-195. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 824379821).

Reputation Institute (2010). http://www.reputationinstitute.com/knowledge-center/global-pulse. Retrieved October 26, 2010.

Rhee, M. & Valdez, M. (2009). Contextual factors surrounding reputation damage with potential implications for reputation repair. Academy of Management. *The Academy of Management Review*, 34(1), 146-168. Retrieved October 25, 2010, from ABI/INFORM Global. (Document ID: 1622168081).

Sherman, W. R. & DiGuilio, L. (2010). The Second Round of G3 Reports: Is Triple Bottom Line Reporting Becoming More Comparable?. Journal of Business & Economics Research, 8(9), 59-77.

Silberhorn, D. & Warren, R. (2007). Defining corporate social responsibility : A view from big companies in Germany and the UK. *European Business Review*, 19(5), 352-372. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1360292451).

Singh, J., de los Salmones Sanchez, M., & Del Bosque, I.. (2008). Understanding Corporate Social Responsibility and Product Perceptions in Consumer Markets: A Cross-cultural Evaluation. *Journal of Business Ethics*, 80(3), 597-611. Retrieved October 25, 2010, from ABI/INFORM Global. (Document ID: 1496122771).

Steurer, R., Langer, M., Konrad, A. & Martinuzzi, A. (2005). Corporations, Stakeholders and Sustainable Development I: A Theoretical Exploration of Business-Society Relations. *Journal of Business Ethics*, 61(3), 263-. Retrieved October 25, 2010, from ABI/INFORM Global. (Document ID: 928531311).

Swaen, V., & Chumpitaz, R. (2008). Impact of Corporate Social Responsibility on consumer trust. *Recherche et Applications en Marketing*, 23(4), 7-33. Retrieved October 25, 2010, from ABI/INFORM Global. (Document ID: 1738944061).

Tench, R., Bowd, R. & Jones, B. (2007). Perceptions and perspectives: corporate social responsibility and the media. *Journal of Communication Management*, 11(4), 348-370. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1384728691).

Tsang, S., Welford, R., & Brown, M. (2009). Reporting on community investment. *Corporate Social - Responsibility and Environmental Management*, 16(3), 123. Retrieved October 26, 2010, from ABI/INFORM Global. (Document ID: 1730109271).

UN Global Compact (2010). http://www.unglobalcompact.org/. Retrieved October 25, 2010.

Wagner, T., Lutz, R., & Weitz, B. (2009). Corporate Hypocrisy: Overcoming the Threat of Inconsistent Corporate Social Responsibility Perceptions. *Journal of Marketing*, 73(6), 77. Retrieved January 12, 2011, from ABI/INFORM Global. (Document ID: 1879708791).

World Business Council for Sustainable Development (2000). Corporate social responsibility: making good business. http://www.wbcsd.org/DocRoot/IunSPdIKvmYH5HjbN4XC/csr2000.pdf. Retrieved October 25, 2010.

BIOGRAPHY

Dr. Petra Dilling is an Associate Dean, School of Management, at the New York Institute of Technology in Vancouver. She can be contacted at: School of Management, 1700-701 W Georgia St., Vancouver, BC, V7Y 1K8, Canada. Email: pdilling@nyit.edu

INVESTIGATING THE DETERMINANTS AND OUTCOMES OF MARKET ORIENTATION: EVIDENCE FROM BANGLADESH BANKS

Mostaque Ahmed Zebal, Abu Dhabi University, UAE
Ali Quazi, University of Canberra, Australia

ABSTRACT

This paper aims at identifying the determinants and outcomes of market orientation in the context of a developing country - Bangladesh. To this end, the validity of the well established Market Orientation (MARKOR) scale was tested using samples drawn from the private banking sector in Bangladesh. The study revealed support for the validity of the MARKOR scale when applied to Bangladesh. Stepwise regression and univariate test were performed for searching the answer for the research questions of this study. The findings of this research have important implications for marketing policies of firms operating in developing countries in general and Bangladesh in particular

JEL: M31

KEYWORDS: Market Orientation, MARKOR, Banks, Developing Country, Bangladesh

INTRODUCTION

Over the last decade, the issue of market orientation has generated considerable interest and synergy in the academic and business circles considering the critical role that market orientation can play in business success (Narver and Slater, 1990; Jaworski and Kohli, 1993; Slater and Narver, 1994a). Webster (1994) noted that, for the sake of survival in the increasingly competitive markets in the future, every business needs to be customer-focused, market driven, global oriented, and flexible to be able to deliver superior value to customers. Hence, Pulendran et al. (2000) found a positive relationship between market orientation and business performance. Customer preferences and expectations are changing rapidly with the increasing exposure to new product offerings and communicating the new offerings to customers. As a consequence, market orientation has emerged as a vital element in current market practices as well as in contemporary marketing literature and in marketing thoughts and theories (Svensson, 2001).

Further, there has been a trend of speedy change in the modern business world due to the fact of worldwide rapid change in customers' needs and wants. In addition, adoption of new technology, change of business legislation, and competitive intensity in the market place make the market for a particular product more volatile. These are in fact different challenges that a particular organization likely to face on a regular basis in its day to day business operations. Now the question is; how a particular organization may face these challenges. Can that be done by being a market oriented organization? In order to search answers for these questions, this paper investigates if market orientation can work as one of the weapons to face theses challenges. Further, it has been a common knowledge that market orientation helps maintain a successful business relationship aimed at gaining superior financial performance in a rapidly changing competitive posture in domestic as well as in international markets. Thus considering all these issues, selecting market orientation for this study seems justified.

Market orientation has been investigated with reference to the consumer goods manufacturing sector in Bangladesh (Zebal, 2005), but there has been no research done in the context of the service sector. Paul (2006) noted the paucity of research on this issue in the context of South and Central Asian countries

excepting India. In this sense, the present study can be considered as pioneering research examining market orientation in a service sector, particularly in the context of the banking industry. It would be particularly interesting because in Bangladesh the public banking sector has traditionally played a dominant role in the financial services sector. This trend has, however, undergone changes in recent times following government initiative aimed at strengthening the private sectors to enhance competitiveness between the public and private sectors in almost all arenas of the economy including the banking sector in Bangladesh. The public banking sector in Bangladesh is being subjected to stronger supervision as per the restructuring projects under the guidance of the International Monetary Fund. The restrictions imposed on the government banks regarding loan facilities for individual clients/board-members, loan recovery rates etc. would help to create an even playing field in this sector (Asian Development Outlook, 2006).

The broad objective of the paper is to explore the situation affecting adaptation of market orientation strategy of services firms in a developing country. The specific objectives of the paper are as follows:
to identify the specific factors that significantly affect the adoption of market orientation of banking companies in Bangladesh to identify the specific outcomes that result from market orientation activities of banking companies in Bangladesh.

This paper advances as follows. The next section provides a literature review on the various facets of market orientation. An explanation of market orientation and the term MARKOR along with the determinants and outcomes of market orientation are provided in this section. The following section outlines the data and methodology issues of the paper. The results and concluding comments are then discussed.

LITERATURE REVIEW

Kohli and Jaworski (1990) proposed a market orientation perspective known to be market intelligence perspective. The issue of market intelligence visualizes market orientation as the implementation of marketing concept from the practitioner's perspective. Kohli and Jaworski (1990) concluded that a market-oriented organization is one in which the three pillars of the marketing concept such as customer focus, coordinated marketing, and profitability are operationally manifested. This market orientation perspective posits that a market orientation entails: (1) one or more departments engaged in activities geared toward developing an understanding of customers' current and future needs and the factors affecting them, (2) sharing of this understanding across departments and (3) various departments engaged in activities designed to meet selected customer needs. They further defined market orientation as the organization-wide generation of market intelligence pertaining to customers' current and future needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it (Kohli and Jaworski, 1990). Considering the positive nature of identifying market orientation within the organization, this perspective has been well accepted by marketing scholars (Jaworski and Kohli, 1993; Raju et al., 1995; Caruana et al., 1998; Pulendran et al., 2000).

In order to measure market orientation, Jaworski and Kohli (1993) initially developed a 31 item scale, which was subsequently reduced to a 20 item scale in a later study, known as MARKOR (Kohli et al. 1993). MARKOR has been proved to be a valid measure of market orientation that assesses the degree to which an organization engages in market intelligence generation activities, disseminates the generated intelligence throughout the organization using formal and informal means, and develops and implements marketing programs on the basis of the collected and disseminated information. The MARKOR was used for this study because the convergent, discriminant and nomological validity was provided for this scale (Kohli et al., 1993). In addition, the authors (Jaworski and Kohli, 1993; and Kohli et al., 1993) reported the results of two single informant samples and reliability alpha coefficient (Cronbach, 1951) which ranged between 0.89 and 0.96 for market orientation and between 0.71 and 0.82 for intelligence

generation, intelligence dissemination, and intelligence responsiveness. Again, the MARKOR is also well accepted in the market orientation literature (Bhuian, 1997; Pulendran et al., 2000; Cervera et al., 2001).
There are numerous determinants of market orientation. Of these, following are those most widely discussed in the literature and examined in prior studies both in developed and developing countries.
The development of market orientation starts from the top and not from the bottom. There has been a common phenomenon that lower management executes decisions rather than initiating and participating in decision making. Since, the top managers of a company are the decision makers, if they are in support of market orientation, the rest will be the followers and implementers. For this purpose, significant relationship has been found between top management emphasis and overall market orientation (Payne, 1988; Pulendran et al., 2000).

Training is an important weapon that helps adoption of newness by making the unknown subjects familiar to the attendees. It does not only provide knowledge with the necessary weapons in a particular area but also teaches how to act in different situations. Without a formal training facility, a company relies on experience or hiring trained managers from outside. As a result, this outside dependency becomes a barrier as hiring from outside is time consuming and in most cases it is hard to find appropriate experienced and trained mangers. Research shows that there is a positive relationship between the above and market orientation of firms (Pulendran et al., 2000).

Market orientation requires rapid decision making from time to time. If a particular company relies on the decision coming from the centre, it rather delays the flow of work and so hampers market orientation. For this purpose, Harris (2000) found a negative relationship between centralization and overall market orientation.

Market or performance based reward system helps employees to perform beyond their target as this works as motivational incentive. In this system, an organization mainly depends on the customers' feedback for designing pay and promotion for its employees. Jaworski and Kohli (1993) suggested that organizations that reward employees on the basis of factors such as customer satisfaction and building customer relationships tend to be more market-oriented. Conflicts between departments increase tension and do hamper normal operation of an organization. Not only that, it results with frustration among individuals when they believe that they are not being treated fairly and equally by others. This as a result, in fact breaks the organization-wide integration and is responsible for poor market oriented activities. Several researchers have suggested that the implementation of market orientation is greatly influenced by interdepartmental conflict (Wong et al., 1989; Pulendran et al., 2000).

Interdepartmental connectedness is the extent of formal and informal direct contact amongst employees across the departments of an organization. Connectedness among the employees of the various departments of a company enhances interactions and facilitates exchange of information which in fact is responsible for high level of market orientation of a company. Ignacio et al. (2002) argued that interdepartmental connectedness develops groups of activities which satisfy the target market.

Competition, market turbulence, and technology of a country can be considered as the main external factors that also determine the level of market orientation. The competitive environment refers to any group or organization that competes for the attention, resources, or loyalty of a target group (Wood and Bhuian, 1993). The success of an organization depends on how well it understands its competitors and to what extent it monitors strategies and tactics of its rivals (Simkin and Cheng, 1997). In this connection, Wong and Saunders (1996) suggested that, in order to gain competitive advantage, a company should design offers that satisfy targeted customer needs better than competitors. Thus, it can be said that the greater the perceived competition, the greater the tendency to adopt a market orientation (Wood and Bhuian, 1993). Avlonitis and Gounaris (1999) in a study that considered competitive intensity as market factor also found a strong positive relationship between competition and market orientation.

Jaworski and Kohli (1993) defined market turbulence as the rate of change in the composition of customers and their preferences. The salient role of market turbulence in the development of market orientation has been documented in several studies (Felton, 1959; Levitt, 1960; Kotler, 1977). Pulendran et al. (2000) argued that it is imperative that organizations are highly market-oriented in conditions of market turbulence. And, in such conditions, management must undertake market-oriented activity whilst maintaining the flexibility to shift resources and adapt to potentially variable market trends. Thus, they also suggested that a focus must be placed on listening and responding to customer needs as a failure to adapt will render an organization competitively unstable.

Technology is a dynamic force that drives change in an organization at an ever-increasing rate (Chaharbaghi and Willis, 2000). Appropriate manufacturing technologies can provide the organization with considerable operational and competitive benefits (Sohal, 1995). Kohli and Jaworski (1990) observed that organizations often use technological orientation as an alternative means to market orientation in building sustainable competitive advantage. Glazer (1991) suggested that firms in high-technology markets tend to allocate greater resources to technology in order to manage the uncertainty created by technological changes, even though a balance between market orientation and emphasis on technological orientation is possible. Hayes and Wheelwright (1984) purported that the firms in markets characterized by high technological uncertainty compete more on the basis of technology than on the basis of market orientation, compared with the firms characterized by low technological uncertainty.
Market orientation's outcomes that have been identified in the literature include monetary performance, employees' response e.g., employees' organizational commitment and esprit de corps, and customer response e.g., customer satisfaction and customer retention (Kohli and Jaworski, 1990; Jaworski and Kohli, 1993; Matsuno and Mentzer, 2000). A significant number of studies of market orientation have focused on the relationship between the market orientation and business performance. Several authors identified a positive relationship between market orientation and performance and suggested that market orientation is critical for any kind of organizational success (Pelham and Wilson, 1996; Dawes, 2000; Homburg and Pflesser, 2000; Pulendran et al., 2000; Kumar, 2002).

Market orientation provides mental and social benefits to employees and more specifically, it develops a sense of belongingness to a single broad organizational family. Further, market orientation with its activities unite all the employees of the organization and builds relationship bridge between employees and the organization, as well as enhances a feeling of dedication to fulfilling market needs and meeting customers' expectations. Market orientation involves almost all the employees of a company with its various market oriented activities which in turn helps in building solid employee relationship. This is in fact responsible for enhancing team spirit among the employees. Shoham and Rose (2001) identified a positive and significant association between market orientation and esprit de corps.

Customer response includes customer satisfaction and customer retention. Doyle (1995) asserted that the customers who are satisfied with the value being provided are likely to repurchase the product. Kohli and Jaworski (1990) argued that market orientation leads to satisfied customers who spread the good word to other potential customers and who keep coming back to the organization. Literature review reveals that several factors influence the formation of market orientation of a particular organization and once the market orientation is formed it brings success for that organization. Therefore, in view of the literature review above, the following research questions can be raised:

1. What factors influence the formation of market orientation of the banks in Bangladesh?
2. What are the outcomes of market orientation of the banks in Bangladesh?

DATA AND METHODOLOGY

The data for this study were collected using a structured questionnaire. The population of this research comprised all private commercial banks in Dhaka, the capital of Bangladesh. There are a total of 37 banks in operation in the city of Dhaka, of which 25 are local private commercial banks and 12 are foreign commercial banks. All 37 banks were included in the sample. A total number of 74 branches were selected randomly, two branches from each bank. To be on the safe side and allow possible non-cooperation from the respondents, it was decided that a sample size of 444 would be justifiable (six respondents from each branch). Since market orientation involves all the departments within the organization (Jaworski & Kohli, 1993), it was considered appropriate to select respondents from all departments of a bank. Senior managers of all branches were approached directly through a letter to nominate participants from their respective branches. Although all 444 prospective respondents nominated (within the 74 branches), agreed to participate in the study, a total of 322 officials could be interviewed with a response rate of 72.52%.

In order to measure the overall market orientation of the banking industry in Bangladesh, the 20-item MARKOR scale developed by Kohli et al. (1993) was used. Top management emphasis, market based reward system, interdepartmental conflict and dynamics, market turbulence and technological turbulence, organizational commitment and esprit de corps were measured by scale items developed by Jaworski and Kohli (1993). Centralization was measured by scale items developed by Aiken and Hage (1966; 1968), competition was measured by adopting scale items from COMPOR developed by Gray et al. (1998), Jaworski and Kohli (1993) and Narver and Slater (1990). In order to measure business performance, eight widely scaled items were derived from the work of a variety of authors including return on investment (Ruekert and Walker, 1987), profit (McCarthy and Perreault, 1993), sales growth (Douglas and Carig, 1983), market share (Collins, 1990), sales volume (Burke, 1984), and revenue, product quality, and financial position (Bhuian, 1992). Customer satisfaction and repeat customer was measured by scale adopted from Zebal (2003). A 5 point Likert scale representing strongly agree to strongly disagree was used in this study for all the scale items. Likert scale is chosen as it is comparatively easy to prepare, interpret, and is also simple for respondents to answer (Zikmund, 2000).

Measures validity was performed in two phases. First, all items were examined for the internal validity and items with low inter-item correlations were reviewed and deleted if they added no value to the scale. Second, scale reliability was checked using Cronbach alpha coefficient. Table 1 displays that all the refined scales have acceptable to high level of reliability coefficients that meet the recommended cut-off level of coefficient alpha 0.60 (Churchill and Peter, 1984; Nunnally, 1988). The scales defining market orientation as per MARKOR conformed to the sampling adequacy requirement, as an inspection of the anti-image correlation matrix revealed all scales having adequacy value above the acceptable level of 0.5 (Coakes and Steed, 2001). MARKOR scale seems suitable for factoring since the Bartlett's Test of sphericity came out to be significant and the Kaiser-Meyer-Olkin measure of sampling adequacy is 0.82 which is much higher than 0.6 (Coakes and Steed, 2001).

Further, an investigation was made using confirmatory factor analysis. All variables had positive and significant coefficients with a goodness of fit indices (GFI = 0.92), adjusted goodness-of-fit index (AGFI = 0.91), and competitive-fit index (CFI = 0.92) which is greater than the recommended threshold values suggested by (Hair et al., 1998). In addition, the most widely used measure, CMIN/DF = 2.008, the normed fit index (NFI = 0.941) and the root mean square error of approximation (RMSEA = 0.042) also suggest that the model fit is acceptable. Thus, it can be said that this study found strong evidence supporting the underlying factor representation of the MARKOR scale reported by Kohli et al. (1993). This means that the three elements including intelligence generation, intelligence dissemination, and intelligence responsiveness established the validity of the MARKOR scale. In addition, the internal consistency of the overall scale was also found to be high (Alpha = 0.88).

Table 1: Coefficient Alpha and Descriptive Statistics

Scale Items	Min	Max	Mean	S.D.	No. of Items	Cronbach Alpha
Intelligence Dissemination	8	25	18.31	3.15	5	0.83
Intelligence Responsiveness	21	44	32.02	4.55	9	0.80
Market Orientation	44	98	71.11	9.57	20	0.88
Top Management Emphasis	8	20	15.92	2.46	4	0.62
Management Training	4	20	14.63	2.88	4	0.64
Centralization	4	20	12.94	3.39	4	0.73
Market Based Reward System	7	20	13.97	2.68	4	0.71
Interdepartmental Conflict	5	22	11.80	3.09	5	0.72
Interdepartmental Connectedness	4	20	15.08	2.84	4	0.75
Competition	12	34	24.18	3.94	7	0.65
Market Turbulence	5	20	13.91	2.55	4	0.61
Technology	5	20	14.11	2.99	4	0.67
Organizational Commitment	6	20	15.00	2.82	4	0.67
Esprit de Corps	3	15	11.09	2.08	3	0.60
Business Performance	17	40	32.51	4.81	8	0.87
Customer Satisfaction	7	60	22.08	4.17	6	0.64
Repeat Customer	4	20	15.06	2.36	4	0.64
Note: N = 322						

Note: The table shows the detailed results of the descriptive statistics and cronbach alpha coefficient of the variables used in the study.

RESULTS

While reporting their results, Jaworski and Kohli (1993) did not clearly state the type of regression analysis they used in order to identify the determinants of market orientation. Furthermore, tables of results in their study suggest that they used a stepwise regression process although they stated otherwise, that they used a direct entry method. Keeping this issue in mind, it was decided to use stepwise regression procedure. Overall, the regression results displayed in Table 2 suggest that several factors affect market-oriented activity of the banking industry in Bangladesh.

Table 2: Determinants Of Market Orientation: Stepwise Dependent Variables; Market Orientation (MARKOR), Intelligence Generation (ING), Intelligence Dissemination (IND), Intelligence Responsiveness (INR)

Variables	MARKOR * (t)	ING * (t)	ND * (t)	INR * (t)
Mgt. Training (MGT)	0.16 (3.49**)	0.11 (2.05*)	---	0.18 (3.57***)
Centralization (CEN)	-0.27(-6.64***)	-0.20 (-4.27***)	-0.24 (-5.05***)	-0.22 (-5.1***)
Market Based Reward (MBE)	---	---	0.22 (4.48***)	---
Interdepart. Conflict (ICT)	---	---	---	-0.15 (-2.97**)
Interdepart. Connectedness (ITD)	0.09 (2.05*)	0.15 (2.83**)	---	---
Competition (COM)	0.18 (4.01***)	0.22 (4.28***)	---	0.10 (2.1*)
Market Turbulence (MTB)	---	---	---	-0.13 (-2.76**)
Technology (TEC)	0.22 (4.85***)	0.15 (2.95**)	0.21 (4.29***)	.21 (4.20***)
R^2	0.49	0.33	.32	0.43
* R^2	0.48	0.32	.31	0.42
F	50.47***	26.01***	37.19***	34.16

*Note: *** $p<0.001$, ** $p<0.01$, * $p<0.05$. The table shows the regression estimates of the following equations:*

$$MARKOR = \alpha + \beta_1 (TME) + \beta_2 (MGT) + \beta_3 (CEN) + \beta_4 (MBE) + \beta_5 (ICT) + \beta_6 (ITD) + \beta_7 (COM) + \beta_8 (MTB) + \beta_9 (TEC). \quad (1)$$

$$ING = \alpha + \beta_1 (TME) + \beta_2 (MGT) + \beta_3 (CEN) + \beta_4 (MBE) + \beta_5 (ICT) + \beta_6 (ITD) + \beta_7 (COM) + \beta_8 (MTB) + \beta_9 (TEC). \quad (2)$$

$$IND = \alpha + \beta_1 (TME) + \beta_2 (MGT) + \beta_3 (CEN) + \beta_4 (MBE) + \beta_5 (ICT) + \beta_6 (ITD) + \beta_7 (COM) + \beta_8 (MTB) + \beta_9 (TEC). \quad (3)$$

$$INR = \alpha + \beta_1 (TME) + \beta_2 (MGT) + \beta_3 (CEN) + \beta_4 (MBE) + \beta_5 (ICT) + \beta_6 (ITD) + \beta_7 (COM) + \beta_8 (MTB) + \beta_9 (TEC). \quad (4)$$

*The first figure in each cell is the regression coefficient. The second figure in each cell is the t-statistics. ***, **, and * indicate significance at the 1, 5, and 10 percent levels respectively. Market orientation (MARKOR) and its three components; intelligence generation (ING), intelligence dissemination (IND), and intelligence responsiveness (INR) displayed in the table show the results for the full sample of 322 respondents drawn from the 74 branches of 37 banks.*

Top management emphasis was found to be statistically significant and positively related to overall market orientation (* = 0.26, $p < 0.001$). Similarly other factors including management training (* = 0.16, $p < 0.01$), interdepartmental connectedness (* = 0.09, $p < 0.05$), and competition (* = 0.18, $p < 0.001$), were also found to be statistically significant and positively related to overall market orientation. Technological turbulence was expected to be negatively related to market orientation according to the theory, but it was found to be positively related (* = 0.22, $p < 0.001$). These results suggest that top management emphasis, management training, interdepartmental connectedness, competition, and technology play a crucial role in the development of market orientation. Further, centralization was found to be statistically significant and negatively related to overall market orientation (* = -0.27, $p < 0.001$). This suggests that centralization is a barrier to market orientation. The other variables; market based reward system, interdepartmental conflict, and market turbulence were not found to be statistically significant in the study.

The following regression equation was estimated to identify the determinants of MARKOR:

$$MARKOR = \alpha + \beta_1 (TME) + \beta_2 (MGT) + \beta_3 (CEN) + \beta_4 (MBE) + \beta_5 (ICT) + \beta_6 (ITD) + \beta_7 (COM) + \beta_8 (MTB) + \beta_9 (TEC). \quad (1)$$

Ordinary Least Squares estimates were obtained. The detailed results are presented in Table 2.Intelligence generation was found to be statistically significant and positively related to top management emphasis (* = 0.15, $p < 0.01$), management training (* = 0.11, $p < 0.05$), interdepartmental connectedness (* = 0.15, $p < 0.01$), competition (* = 0.22, $p < 0.001$), and technological turbulence (* = 0.15, $p < 0.01$). On the other hand, centralization was found to be statistically significant and negatively related to intelligence generation (* = -0.020, $p < 0.001$). The other variables; market based reward system, interdepartmental conflict, and market turbulence were not found to be statistically significant and related to intelligence generation.

The following regression equation was estimated to identify the determinants of intelligence generation:

$$ING = \alpha + \beta_1 (TME) + \beta_2 (MGT) + \beta_3 (CEN) + \beta_4 (MBE) + \beta_5 (ICT) + \beta_6 (ITD) + \beta_7 (COM) + \beta_8 (MTB) + \beta_9 (TEC). \quad (2)$$

Ordinary Least Squares estimates were obtained. The detailed results are presented in Table 2. Intelligence dissemination was found to be statistically significant and positively related to top management emphasis (* = 0.025, $p < 0.001$), market based reward system (* = 0.22, $p < 0.001$), and technological turbulence (* = 0.21, $p < 0.001$). On the other hand, centralization was found to be statistically significant and negatively related (* = -0.24, $p < 0.001$). The other variables; management training, interdepartmental conflict, interdepartmental connectedness, competition, and market turbulence were not found to be statistically significant and related to intelligence dissemination.

The following regression equation was estimated to identify the determinants of intelligence dissemination:

$$IND = \alpha + \beta_1 (TME) + \beta_2 (MGT) + \beta_3 (CEN) + \beta_4 (MBE) + \beta_5 (ICT) + \beta_6 (ITD) + \beta_7 (COM) + \beta_8 (MTB) + \beta_9 (TEC). \quad (3)$$

Ordinary Least Squares estimates were obtained. The detailed results are presented in Table 2. Intelligence responsiveness was found to be statistically significant and positively related to top management emphasis (* = 0.027, $p < 0.001$), management training (* = 0.18, $p < 0.001$), competition (* = 0.10, $p < 0.05$), and technological turbulence (* = 0.21, $p < 0.001$). On the other hand, centralization ((* = -0.22, $p < 0.001$), interdepartmental conflict (* = -0.15, $p < 0.001$), and market turbulence (* = -0.13, p

< 0.01) were found to be statistically significant and negatively related. The other two variables; market based reward system and interdepartmental connectedness were not found to statistically significant in the study.

The following regression equation was estimated to identify the determinants of intelligence responsiveness:

$$INR = \alpha + \beta_1 (TME) + \beta_2 (MGT) + \beta_3 (CEN) + \beta_4 (MBE) + \beta_5 (ICT) + \beta_6 (ITD) + \beta_7 (COM) + \beta_8 (MTB) + \beta_9 (TEC). \quad (4)$$

Ordinary Least Squares estimates were obtained. The detailed results are presented in Table 2."
In order to identify the outcomes of market orientation, univariate test was provided. Table 3 displays a test for homogeneity of variance for each of the dependent measures. All the dependent variables were significant except business performance. This means that, if the univariate F-tests for these variables are also significant, researcher must interpret these findings at a more conservative alpha level (0.05/3 = 0.017). This is called Bonferroni-type adjustment that reduces type I errors (Coakes and Steed, 2001).

Table 3: Test of Homogeneity of Variances

Variables	Levene Statistic	df1	df2	Sig.
Organizational Commitment	1.4888	46	275	.029
Business Performance	1.309	46	275	.100
Customer Satisfaction	1.536	46	275	.020
Repeat Customer	1.607	46	275	.011
Esprit de Corps	1.581	46	275	.014

Note: The table shows the test of homogeneity of variance to identify the significance levels of the variables for the purpose of reducing the type I errors.

The examination of the univariate effect of overall market orientation on each dependent variable indicates that overall market orientation (MARKOR) was significantly affecting business performance [F (46, 275) = 2.735, p < 0.001], organizational commitment [F (46, 275) = 4.440, p < 0.001], Esprit de corps [F (46, 275) = 2.293, p < 0.001], customer satisfaction [F (46, 275) = 2.665, p < 0.001], and repeat customer [F (46, 275) = 2.509, p < 0.001]. The univariate findings indicate that all the dependent variables were significant at smaller alpha levels than the predetermined conservative alpha level of 0.017. The detailed results are displayed in Table 4.

Table 4: Univariate Effect of Market Orientation on Business Performance, Employees' organizational Commitment, Esprit de Corps, Customer Satisfaction & Repeat Customer

Dependent Variables	BGSS	WGSS	Df	BGMS	WGMS	F
Business Performance	2328.60	5089.87	46, 275	50.62	18.51	2.735***
Organizational Commitment	1085.46	1461.54	46, 275	23.60	5.32	4.440***
Esprit de Corps	385.17	1004.04	46, 275	8.37	3.65	2.293***
Customer Satisfaction	1722.74	3864.00	46, 275	37.45	14.05	2.665***
Repeat Customer	529.57	1262.06	46, 275	11.51	4.59	2.509***

*Note: *** p<0.001, ** p<0.01, * p<0.05. The figures in the different cells are between group sum square, within group sum square, degree of freedom, between group mean square, and within group mean square respectively. ***, **, and * indicate significance at the 1, 5 and 10 percent levels respectively. The results displayed in the table show the results for the full sample of 322 respondents drawn from the 74 branches of 37 banks.*

CONCLUDING COMMENTS

The results of this study have pointed to a number of important issues pertaining to the status of market orientation in the banking industry in Bangladesh by identifying the determinants and outcomes of market orientation. The findings suggest that in order for the banking industry in Bangladesh to implement market oriented strategy, attention needs to be paid to top management emphasis on market orientation as well as initiating management training, interdepartmental connectedness, competitive activities, and technological development. There is no denying the fact that in order to nurture market oriented culture in a developing country, top management must pay adequate attention to market orientation issues. This would encourage the middle and lower levels of management to contribute to market orientation at the organizational level. The issue of management training in creating a market oriented organization is well understood in the face of general trends in the developing countries where not much importance is attached to management training. These findings support the conventional wisdom that currently prevails in the western marketing culture characterized by buyers' market orientation.

Although the results of this study are to be interpreted cautiously because of comparatively small sample size that has been drawn from a single sector representing only one of numerous developing countries, these results may suggest some sort of universality in the understanding of antecedents and outcomes of market orientation especially in the developing world. More specifically, perhaps it can be said that market orientation status in a particular market culture may not be significantly influenced by the contrasting market setting (such as sellers' market condition in a developing country such as Bangladesh). The current study can be considered as a unique work in the sense that no similar study has been undertaken in Bangladesh or elsewhere in the developing world. Therefore, there is room for replicating the study across other developing countries to validate the results of this study.

Finally, the univariate findings of the study displayed in table 4 suggest that superior performance can be achieved by undertaking market oriented activity. This supports the concept of Market orientation being a generic contributor in improving business performance (Paul, 2006). The univariate test indicates that overall market orientation of the banking industry has a significant effect on monetary performance of business as well as organizational commitment and esprit de corps/team spirit of employees, customer satisfaction and repeat purchase/customer retention.

Further, the findings of the study can be used as a guideline for banks or other financial institutions in designing their market orientation strategies. As the study confirms superior performance as a function of market oriented activities, bank managers in Bangladesh would be able to project the cost benefit ratio by looking at the cost of resource commitment needed for becoming market oriented.

The scope of this study is limited in that it has focused only on the local private banks; the public banking sector was excluded from the sample. Therefore, future study may also focus on the public banks and make a comparison amongst the two sectors in terms of the impact of market orientation on their business performances. Furthermore, towards improving the validity and reliability of the MARKOR scale, a broad based sample can be drawn from banking companies operating in the other large cities of Bangladesh such as Chittagong and Khulna. This may contribute to generalization of the findings of this study across the whole of Bangladesh. Since technological turbulence was found to be positively related to market orientation, this may be further investigated by initiating an exploratory phase and seeing whether this phase has support for the finding of this study (Zikmund, 2000).

This study considered external variables as determinants of market orientation instead of using them as mediating factors. This consideration was made following Jaworski and Kohli's (1993) suggestions as their study did not find any moderating effect of the external variables. Future research focusing on developing countries including Bangladesh may consider these variables as mediating factors in order to

investigate the nature and strength of any possible relationship between market orientation and performance in a different market setting.

Furthermore, Bulent and Seigyoung (2006) question the merit of adapting MARKOR as a single influencer on business performance and suggest that organizations supplement market orientation with "innovativeness" to achieve a more favorable impact on business performance. In this perspective, authors of this research felt such addition to the concept of MARKOR could be a next step to extend the findings of this research.

However, despite its limitations, this study provides evidence that like any other industrialized country, superior business performance can also be achieved in a developing country such as Bangladesh by initiating market oriented action despite its varying socio-economic and marketing environment. Thus, the findings of this study suggest that business managers in Bangladesh should actively consider implementing market oriented plans and programs to enhance superior performance of their businesses and to survive and grow in an emerging competitive financial market in Bangladesh.

REFERENCES

Aiken, M. and Hage, J. (1966), "Organizational Alienation", *American Sociological Review,* Vol. 31, p. 497-507.

Aiken, M. and Hage, J. (1968), "Organizational Independence and Intra-organizational Structure", *American Sociological Review,* Vol. 33, p. 912-930.

Asian Development Outlook 2006, www.adb.org/documents/books/ADO/2006/documents/ban.pdf (Accessed on 01 March 2007).

Avlonitis, G. and Gounaris S. 1999, "Marketing Orientation and its Determinants: An Empirical Analysis", *European Journal of Marketing,* Vol. 33 (11/12), p. 1003-1037.

Bhuian, S. N. (1997), "Exploring Market Orientation in Banks: An Empirical Examination in Saudi Arabia," *Journal of Services Marketing,* Vol. 11 (3), p. 317-328.

Bhuian, S.N. (1992), "Market Orientation and Successful not-for-profit Marketing: Direct Relationships and the Influence of Professionalism, Entrepreneurship, Competition and Demand", PhD Dissertation, Texas Tech University, Texas.

Burke, M. (1984), "Strategic Choice and Marketing Managers: An Examination of Business Level Objectives", *Journal of Marketing Research,* Vol. 21 (4), p. 345-359.

Bulent, M., Seigyoung, A. (2006), "Creating a Firm level Dynamic Capability through Capitalizing on Market Orientation and Innovativeness", *Journal of the Academy of Marketing Science,* Vol. 34 (1), p. 63-73.

Caruana, A., Ramaseshan, B. and Ewing, M.T. 1998, "Do Universities That Are More Market Oriented Perform Better?", *International Journal of Public Sector Management,* Vol. 11, (1), p. 55-70.

Cervera, A., Molla, A., Sanchez M. 2001, "Antecedents and Consequences of Market Orientation in Public Organizations", *European Journal of Marketing,* Vol. 35 (11/12), p. 1259-1286.

Chaharbaghi, K. and Willis, R. 2000, "The Technology, Mythology and Economy of Technology", *Management Decision,* Vol. 38 (6), p. 394-402.

Churchill, G.A. and Peter, P.J. 1984, "Research Design Effects on the Reliability of Rating Scales: A Meta-Analysis", *Journal of Marketing Research,* Vol. 21 (4), p. 360-375.

Coakes, S.J. and Steed, L.G. (2001), *SPSS – Analysis Without Anguish,* John Wiley and Sons Australia, Ltd., Milton, Queensland.

Collins, J. (1990), "A Market Performance Comparisons of US Firms Active in Domestic, Developed and Developing Countries", *Journal of International Business Studies,* Vol. 21 (2), p. 271-288.

Cronbach, L.J. 1951, "Coefficient Alpha and the Internal Structure of Tests", *Psychometrika,* Vol. 16 (4), p. 297-334.

Dawes, J. (2000), "Market Orientation and Company Profitability: Further Evidence Incorporating Longitudinal Data", *Australian Journal of Management,* Vol. 25 (2), p. 173-200.

Douglas, S. and Craig, C. (1983), "Examining Performance of US Multinationals in Foreign Markets", *Journal of International Business Studies,* Vol. 14 (3), p. 51-62.

Doyle, P. (1995), "Marketing in the New Millennium", *European Journal of Marketing,* Vol. 29, No. 13, p. 23-41.

Felton, A.P. 1959, "Making the Marketing Concept Work", *Harvard Business Review,* Vol. 37 (4), p. 55-65.

Glazer, R. 1991, "Marketing in an Information-Intensive Environment: Strategic Implications of Knowledge as an Asset", *Journal of Marketing,* Vol. 55 (4), p. 1-19.

Gray, B., Matear, S., Boshoff, C. and Matheson, P. (1998), "Developing a Better Measure of Market Orientation", *European Journal of Marketing,* Vol. 32 (9/10), p. 884-903.

Hair, J.F., Anderson, R.E., Tatham, R.L., and Black, W.C. (1998), Multivariate Data Analysis, (5th ed.) Prentice Hall, Upper Saddle River, New Jersy.

Harris, L.C. (2000), The Organizational Barriers to Developing Market Orientation", *European Journal of Marketing,* Vol. 34. (5/6), p. 598-624.

Hayes, R.H. and Wheelwright, S.C. 1984, *Restoring Our Competitive Edge,* John Willey & Sons, Inc., New York.

Homburg, C. and Pflesser, C. (2000), "A Multiple-Layer Model of Market-Oriented Organizational Culture: Measurement Issues and Performance Outcomes", *Journal of Marketing Research,* Vol. 37 (4), p. 449-462.

Ignacio, L., Gonzalez, A., Vijande, M.L.S. and Casielles, R.V. (2002), "The Market Orientation Concept in the Private Nonprofit Organization Domain", *International Journal of Nonprofit and Voluntary Sector Marketing,* Vol. 7 (1), p. 55-67.

Jaworski, B.J. and Kohli, A.K. (1993), "Market Orientation: Antecedents and Consequences", *Journal of Marketing,* Vol. 57 (3), p. 53-70.

Kohli, A.K. and Jaworski, B.J. (1990), "Market Orientation: The Construct, Research Propositions, and Managerial Implications", *Journal of Marketing,* Vol. 54 (2), p. 1-18.

Kohli, A.K., Jaworski, B.J. and Kumar, A. (1993), "MARKOR: A Measure of Market Orientation", *Journal of Market Research,* Vol. 30 (4), p. 467-477.

Kotler, P. 1977, "From Sales Obsession to Marketing Effectiveness", *Harvard Business Review,* Vol. 55 (6), p. 67-75.

Kumar, K. (2002), "Market Orientation, Organizational Competencies and Performance: An Empirical Investigation of a Path-Analytic Model", *Journal of American Academy of Business,* Vol. 1 (2), p. 371-376.

Levitt, T. 1960, "Marketing Myopia", *Harvard Business Review,* Vol. 38, (4), p. 45-56.

Matsuno, K. and Mentzer, J.T. (2000), "The Effects of Strategy Type on the Market Orientation-Performance Relationship", *Journal of Marketing,* Vol. 64 (4), p. 1-16.

McCarthy, E. and Perreault, W. (1993), *Basic Marketing,* 11th ed., Irwin, Homewood, Illinois.
Nunnally, J.C. (1988), *Psychometric Theory,* McGraw-Hill, Englewood Cliffs, New Jersey.

Narver, J. and Slater, S. (1990), "The Effect of Market Orientation on Business Profitability", *Journal of Marketing,* Vol. 54 (4), p. 20-35.

Payne, A.F. (1988), "Developing a Marketing-Oriented Organization", *Business Horizons,* Vol. 31 (3), p. 46-53.

Paul D.E. (2006), "Market Orientation and Performance: A Meta Analysis & Cross National Comparisons", *Journal of Management Studie*s, Vol.43 (5), p 1089-1107.

Pelham, A.M. and Wilson, D.T. (1996), "A Longitudinal Study of the Impact of Market Structure, Firm Structure, Strategy and Market Orientation Culture on Dimensions of Small-Firm Performance", *Journal of the Academy of Marketing Science,* Vol. 24 (1), p. 27-43.

Pulendran, S., Speed, R. and Widing II, R.E. (2000), "The Antecedents and Consequences of Market Orientation in Australia", *Australian Journal of Management,* Vol. 25 (2), p. 119-144.

Raju, P.S., Lonial, S. C. and Gupta, Y. P. 1995, "Market Orientation and Performance in the Hospital Industry", *Journal of Health Care Marketing,* Vol. 15 (4), p. 34-41.

Ruekert, R. and Walker, O.C. Jr. (1987), "Marketing's Interaction with Other Functional Units: A Conceptual Framework and Empirical Evidence", *Journal of Marketing,* Vol. 51 (1), p. 1-19.

Shoham, A. and Rose, G.M. (2001), "Market Orientation: A Replication, Cross National Comparison, and Extension", *Journal of Global Marketing,* Vol. 14 (4), p. 5-25.

Simkin, L. and Cheng, A. (1997), "Understanding Competitors' Strategies: The Practitioner-Academic Gap", *Marketing Intelligence and Planning,* Vol. 15 (3), p. 124-134.

Slater, S. and Narver, J. (1994a), "Market Orientation, Customer Value and Superior Performance", *Business Horizons,* Vol. 37 (2), p. 22-28.

Sohal, A. 1995, "Assessing Implementations: An Empirical Field Study", *Proceedings of the European Conference on Management of Technology,* Birmingham, p. 469-484.

Svensson, G. (2001), "Re-Evaluating the Marketing Concept", *European Business Review,* Vol. 13 (2), p. 95-100.

Webster, F.E. (1994), *Market Driven Management,* John Wiley & Sons, New York.

Wong, V. and Saunders, J. 1996, in Kotler, P., Armstrong, G., Saunders, J. and Wong, V. (eds), *Principles of Marketing,* Prentice-Hall, Hemel Hempstead.

Wong, V., Saunders, J. and Doyle, P. (1989), "The Barriers to Achieving Stronger Market Orientation in British Companies", *Marketing Education Group 22 Conference*.

Wood, W.R. and Bhuian, S.N. 1993, "Market Orientation and Nonprofit Organizations: Performance Associations and Research Propositions", *Journal of Nonprofit & Public Sector Marketing,* Vol. 1 (1), p. 7-32.

Zebal, M.A. (2003), "A Synthesis Model of Market Orientation for a Developing Country – The Case of Bangladesh", PHD Thesis, Victoria University, Melbourne, Australia.

Zebal, M.A. (2005), "Investigating the Outcomes of Synthesis Market Orientation in a South Asian Country Market", *European Journal of Economics, Finance and Administrative Sciences,* Vol. 2 (2), p. 6-25.

Zikmund, G.W. (2000), *Business Research Methods,* 6th ed., The Dryden Press, Harcourt College Publishers, New York.

BIOGRAPHY

Dr. Mostaque Ahmed Zebal is a Marketing Professor with more than 20 years of successful involvement in marketing profession. He received his Ph.D. from the Victoria University, Australia. His research interest includes market orientation, strategic marketing, consumer behavior, and service marketing. He can be contacted at: College of Business Administration, Abu Dhabi University, P.O. Box. 59911, Abu Dhabi, UAE. Email: Mostaque.Zebal@adu.ac.ae or zebalmostaque@yahoo.com.au.

Dr Ali Quazi is an Associate Professor of Marketing within the Faculty of Business and Government at the University of Canberra, Australia. He received his PhD from the University of New South Wales. Dr Quazi has over 20 years of professional experience in marketing. His research interests are in the areas of services/relationship marketing, marketing management, corporate social responsibility, and innovation management. His articles have appeared in leading international journals including European Journal of Marketing, Journal of Marketing Management, Electronic Markets, Supply Chain Management: An International Journal, and Journal of Business Ethics. He can be contacted at: Faculty of Business and Government, University of Canberra, ACT 2601, Australia. Email: ali.quazi@canberra.edu.au.

PREDICTING INNOVATION ACTIVITY IN EUROPEAN MANUFACTURING FIRMS: A MULTI-COUNTRY EMPIRICAL STUDY

Avraam Papastathopoulos, Technological Educational Institute of Ionian Islands
Christina C. Beneki, Technological Educational Institute of Ionian Islands

ABSTRACT

The purpose of this paper is to investigate the factors that influence the Internal Process Innovation (IPI) Activity of the European manufacturing firms. Moreover, a predictive model is developed that can be used to predict which manufacturing firms are more likely to introduce any new or significantly improve their internal processes. This survey is part of the "e-Business Watch," a service launched in 2007 and provided by "empirica GmbH" to the European Commission, Enterprise and Industry Directorate General, in co-operation with renowned international partners. In the present study, 914 European manufacturing small, medium and large enterprises were examined and a set of hypotheses, regarding their innovation activity, were developed. The results showed that the adoption of Enterprise Resource Planning (ERP), Customer Relationship Management (CRM) and the electronic information exchange between business partners are positively related to firm's process innovation activity. Moreover, the results revealed that the employment of ICT-qualified employees, investments in ICTs, firm size and long-term relationships with suppliers also played a major role for European manufacturing firms to conduct internal innovations. The paper highlights the fact that the innovation activity of the firms is deeply affected by a number of different factors, both internally and externally.

JEL: L6; M1; O32; O33

KEYWORDS: Innovation activity, Processes improvement, ICT, Manufacturing firms

INTRODUCTION

Innovation is crucial for ensuring competitiveness of companies and industries (Galia and Legros, 2004; Tourigny and Le, 2004; Storey, 2000). In our days, firm's survival is often dependent on the degree to which they incorporate innovation into their business strategy, especially because of increasing global competition (Cefis and Marsili, 2006). It is widely accepted that firms, which successfully satisfy market demands and customer preferences can develop and maintain a long-term competitive advantage (Panayides, 2006). The ability to introduce innovation often depends on the adoption and use of advanced technologies, such as Information and Communication Technologies (ICT). The last twenty years the value and the importance of ICT have become increasingly decisive and ubiquitous in all organizational processes. Technology exerts an important impact on social and financial innovation and development (of societies and economies) since a long time ago. The Global Information Technology Report 2006–2007 makes its appearance at a critical juncture as far as the impact of ICT on the world economy is concerned. There is growing evidence that ICT is driving innovation by allowing creative thinking and responsive problem-solving to provide the promise of unprecedented opportunities for all (Dutta and Mia, 2007). The rapid deployment of the internet, the corporate databases and information-enterprise systems accelerated this process of modifications to enterprises' internal and external environment. This new 'technology-driven' situation and its possible evolution provide abundant new challenges in all functional areas across the enterprise (Carneiro, 2006).

ICT has far-reaching properties. It is a so-called general purpose technology, or *"key enabling technology"*, with three basic characteristics: it is pervasive as it spreads to most sectors of the economy;

it improves over time and hence keeps lowering costs for users; and it spawns innovation, as it facilitates research, development and market introduction of new products, services or processes. This last property can be termed the "enabling role of ICT for innovation" (European Communities, 2010). From the early work of Barney (1991) through to studies by Lee (2000), Koellinger (2005, 2006), McAfee (2006) and to the more recent research by European Commission (2006, 2008), the successful innovation may be dependent on the presence of other organization specific skills and capabilities, like the implementation of ICT (Barney, 1991). ICT made a direct impact on process innovation in an organizational setting by facilitating inter-organizational integration and collaboration enhances the innovation capabilities of companies by providing opportunities for shared learning, transfer of technical knowledge and resource exchange (Koellinger 2005, 2006; Lee 2000). The most obvious benefit of information integration with the help of ICT is the optimization of the value chain in order to eliminate the so-called "bullwhip effect", that is to say how small variations in intermediate and final demand levels along a supply chain can add up to significant disturbances and disruptions (European Commission, 2008). Other, less obvious consequences for firms' innovativeness include the creation of communication infrastructures, which facilitate the production networks or enable partners to align the incentives of multiple players by creating joint business units or teams managing the same tasks (McAfee, 2006). Ultimately, ICT investments can enable process innovations if the implementation of new ICT succeeds, the routines are changed and the new system is actually utilized (European Commission, 2006).

While there is an extensive body of literature on innovation activities of the firms, there is scant research on the relationship between internal process innovations and ICT-related factors. In addition, the existing studies are fragmented and provide incomplete explanations for the ICTs that enable the introduction of innovations which may significantly improve the firm's internal processes. The majority of innovation studies have been primarily focused on the stimulating effect of innovation to a firm's growth (Coad and Rao, 2008, Wolff and Pett, 2006; Motwani et al., 1999), the impact of innovation on a firm's performance (Dibrell et al., 2008, Verhees and Meulenberg, 2004), the effect of innovation on the survival of firms as a whole (Cefis and Marsili, 2006; Buddelmeyer et al., 2006) and the development of competitive advantages (Lewis et al., 2002).

This paper reports the results of a study that examined factors to Internal Process Innovation Activity among a sample of 914 manufacturing small, medium and large enterprises in seven selected EU countries (UK, France, Germany, Sweden, Spain, Italy and Poland). Specifically, the seven factors (independent variables) which take place in our study, concern *adoption of ERP and CRM systems, employment of ICT practitioners, investments in ICTs, electronic information exchange between business partners, type of relationships with suppliers* and, one further variable are included on the basis of research plausibility, *firm size.* The first objective of the study is to analyze the descriptive statistics of the above variables for each EU country and the second is to develop a predictive model that can be used to predict which firms are more likely to introduce any new or significantly improve their internal processes. The results will help develop a deeper understanding of the factors to and predictors of internal process improvements and will provide practitioners with useful guidelines for implementing appropriate practices to extend their innovation activities and to respond to enhanced competitiveness.

This study provides distinguishing contributions to the extant literature in the following ways. First, previous studies have investigated innovation activity in a specific country (Wolff and Pett, 2006; Madrid-Guijarro et al., 2009; Carol Yeh-Yun Lin and Mavis Yi-Ching Chen, 2007). This study examines the innovation activity in seven EU countries. A second distinguishing contribution of the current study from prior studies (Dibrell et al., 2008; Ru-Jen Lin et al., 2010) is that it broadens the number of ICT-related factors influencing firms' process innovation activities. Lastly, the major contribution of this study lies in that it brings scholars and practitioners closer to new factors influencing the process innovation activity of firms.

The paper is organized as follows. First, we underpin our formal hypotheses with a discussion stemming from the relevant theory and prior research conclusions. Secondly, we present a discussion of the methodological issues regarding survey development, sampling and data collection. Thirdly, the results of our research are followed not only by an analysis, but also by relevant interpretations. The last section contains a discussion on these findings as well as our conclusions, while a discussion on the limitations of our research and its implications for further future research is also included.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Innovation And Process Innovation: Innovation has been perceived as the cornerstone for achievement in the business sector of the 21st century, large and small organizations have begun to re-evaluate their products, their services and their operations in an attempt to develop a culture of innovation. This re-examination of organizational purpose is due to recognition that developing a culture of innovation within the organization is the best insurance that an organization can have of longevity in the new environment of fast-moving and competitive market (European Commission, 2004). The conception of innovation has evolved significantly over the last forty years. During the 1950s, innovation was considered as a discrete development resulting from studies carried out by isolated researchers. Nowadays, innovation as defined by the European Commission is «the renewal and enlargement of the range of products and services and the associated markets; the establishment of new methods of production, supply and distribution; the introduction of changes in management, work organization, and the working conditions and skills of the workforce» (Commission of the European Communities, 1995). According to Dibrell et al., (2008), innovations vary in complexity and can range from minor changes to existing products, processes, or services to breakthrough products, and processes or services that introduce first-time features or exceptional performance. Process innovation, in this research, refers to the changes made in the processes or technologies used by the organization to deliver products or services (Walker, 2005).

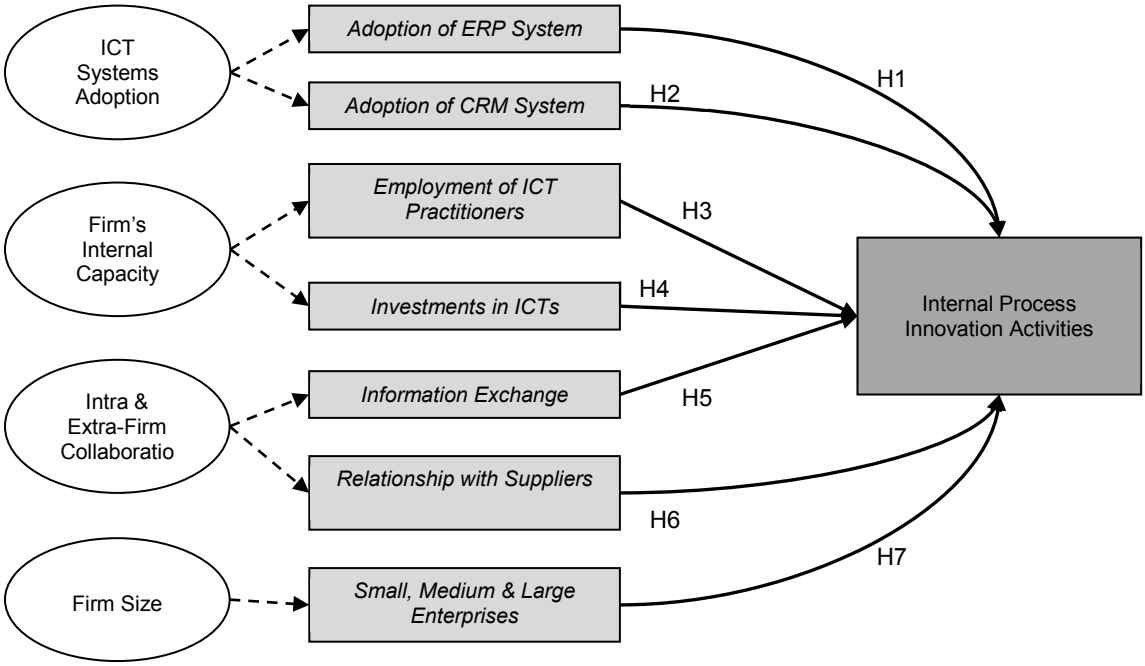
Innovation Activity & ICT: Innovative activity by firms is thought to be an important way to gain competitive advantage and outperform other firms. Firms that introduce new products or process will have an advantage in the market, as each innovation can provide a growth opportunity for an existing firm or a new firm (Frenken and Boschma, 2007). Basic and applied technological knowledge can yield high payoffs and act as a source of competitive advantage for private firms (Spencer, 2001). Based on the literature, the initiatives of innovation and ICT are complementary (Dibrell et al., 2008). ICTs transform the process of replicating business innovations across organizations (Brynjolfsson et al., 2006). Traditionally, deploying business innovation on a larger scale proved to be time-consuming and required considerable involvement of resources and employees. In our times, ICTs allow companies to embed business innovations and then implement them across the organization at a much smaller cost than before without compromising on quality. Every location or unit implements and follows all steps of the new process in a way specified in the software design (European Commission, 2008).

In the following section, we explain our conceptualization of the relationship between process-related innovations/improvements (independent variable) and related factors (dependent variables) that are under investigation in this research. All the dependent variables may be perceived as too great of a challenge to overcome in order to expand firms' process innovation activities. The dependent variables are grouped into the following four categories:

i. ICT Systems Adoption
ii. Firm's Internal Capacity
iii. Inter and Extra-Firm Collaboration-Relationships
iv. Firm Size

From the above independent and dependent variables, we develop our model in forward order, left to right in Figure 1, proposing testable hypotheses for predicting process innovation activities in EU manufacturing firms.

Figure 1: Distribution of Interviews by Firm Size and Sector



This figure provides a graphic illustration of all hypothesized associative influences.

ERP And Internal Process Innovation Activity: ERP system is a packaged business software system that allows a company to automate & integrate the majority of its business processes, and share common data and practices within and beyond a firm's boundary (Hitt et al., 2002). Following a literature review, we were able to identify a multitude of ERP benefits to businesses such as inventory reduction, data integration and cost reduction (Holsapple and Sena, 2005, Gefen and Ragowsky, 2005, Buonanno et al., 2005), and inventory reduction (Sumner, 2000).

Last years the researches emphasize on the ERP technology as an enabler of business process reengineering (BPR); it deals with issues of process orientation and the organizational change – both internally and as a second phase in the supply chain (Papastathopoulos and Beneki, 2010; Davenport et al., 2004; Davenport and Brooks, 2004; Willis and Willis-Brown, 2002; Al-Mashari, 2001). Within this context, a study conducted by Buonanno et al., (2005) argues that the large companies, making use of an ERP system expect a wider extent of business transformation (business process reengineering and business network redesign), while SMEs always schedule a limited organizational change in the case of ERP adoption; thus, they seem not to consider ERP systems as a keystone for organizational innovation. These findings were generally supported by the study of Raymond and Uwizeyemungu (2007), although the latter study also identified that only the SMEs with a greater production and innovation capacity are more likely to adopt ERP systems.

Taking into account the arguments stated above, we formulate the first hypothesis:

H1: Manufacturing firms implementing an ERP system are more likely to introduce any new or significantly improve their internal processes, in comparison with their peer-group.

CRM and Internal Process Innovation Activity: CRM is a tool designed to integrate and automate management of all client-facing tasks in order to help build and retain their loyalty. CRM refers to the utilization of extensive strategies and engineering to find, obtain, cultivate advantaged customers, and hence maintain long-term partnerships (Sin et al., 2005). It is based on the recognition that not all customers should be treated the same way. In practice, companies adopting CRM technology have the ability to sustain significant competitive advantages by delivering value added services that respond to their customer's changing needs and preferences (Peltier et al., 2006; Zahay et al., 2004).

Recently, the literature has begun to link the practice of CRM with the development of innovation activity. Ramani and Kumar (2008) suggested that using CRM to engage in creating, maintaining, and fostering useful customer relationships along with maintaining long-term partnerships are important strategic elements for developing innovation capability. Intensive interaction between manufacturers and customers encourage customers to provide valuable suggestions for product development (Droge et al., 2004). Therefore, manufacturers who receive important information from customers are able to increase their innovation capability by meeting the needs of a targeted market (Ottum and Moore, 1997).

Finally, there is a growing consensus in the literature that the adoption of CRM technology is likely to be crucial when market conditions are characterized by high uncertainty and firms are attempting to gain competitive advantages through innovation (Papastathopoulou et al., 2007; Wang and Ang, 2004; McGee and Sawyerr, 2003).

In view of the foregoing studies, H2 is formulated as follows:

H2: Manufacturing firms implementing a CRM system are more likely to introduce any new or significantly improve their internal processes, , in comparison with their peer-group.

ICT Practitioners and Internal Process Innovation Activity: It is well known that adoption of innovation requires employee commitment and effort (Acemoglu and Pishke, 1999). In case of ICT, empirical studies have shown ICT is most productive when combined with complementary investments in working practices, human capital, and firm restructuring (Brynjolfsson and Hitt, 2000). In fact, knowledge stock and skills were found to be positively associated with a firm's absorptive capacity to adopt new technologies (Cohen and Levinthal, 1989). This, in turn, has positive impact on a firm's innovation performance. Thus, in order to develop marketable products or feasible production processes based on ICT, a firm needs to build up the relevant complementary assets such as knowledge stock and expertise. The most obvious example of investments in complementary assets includes investments in training and organizational transformations to accompany ICT investments.

Consequently, these points yield the following hypothesis:

H3: Manufacturing firms characterized by a higher share of employees with ICT qualifications are more likely to realize internal process innovations, compared with their peer-group.

ICT Investments and Internal Process Innovation Activity: With ICT's increasing sophistication and usage, managers now consider the use of ICT as a competitive tool used for the implementation of strategic plans and the support of firm core competencies (e.g., Aral and Weill, 2007; Oh and Pinsonneault, 2007). Therefore, investment in ICT by firms has dramatically escalated in recent times (Devaraj and Kohli, 2003).

Using survey data, Dibrell et al. (2008) found that managers who are able to integrate either a product or a process-oriented innovation strategy with investments in ICT enhance their firms' relative performance along two essential dimensions: profitability and growth. In contrast, a failure to invest in ICT can cause

a firm to be unable to support its innovation initiatives. Perhaps, a lack of investment in ICT over time may render the firm incapable of meeting customer requirements. Lastly, Brynjolfsson and Hitt (2000) have found parallel results, where they have been shown that ICT investment has a significant effect on productivity levels, productivity growth, and stock market value of firms.

In view of the foregoing arguments, H4 is formulated as follows:

H4: Manufacturing firms that make investments in ICTs (e.g. for new hardware, software or networks) are more likely to conduct internal process innovations, compared with their peer-group.

Intra-Organizational Information Exchange and Internal Process Innovation Activity: Intra-organizational information exchange is important for the creation and diffusion of innovations within complex multiunit organizations. ICT has a direct impact on process innovation in an organizational setting by facilitating inter-organizational links (Lee, 2000). ICT-enabled inter-organizational integration and collaboration enhances the innovation capabilities of companies by providing opportunities for shared learning, transfer of technical knowledge and resource exchange. Carr and Pearson (1999) pointed out that information sharing between manufacturers and their clients about markets, designs, and processes enables manufacturers to adopt technologies that can improve design and process innovative capabilities. A recent discussion of Ru-Jen Lin et al. (2010) also verified that using information sharing has positive and significant effects on process innovation. This leads to the following hypothesis:

H5: Manufacturing firms that use ICT applications to exchange information on their inventory levels or production plans with their business partners are more likely to introduce internal process innovations, compared with their peer-group.

Relationships with Suppliers and Internal Process Innovation Activity: Supplier relations are important value chain characteristics, which are likely to influence the innovation activity of companies. The benefits of inter-firm cooperation are subject to learning effects. In order to benefit fully from integration, both parties need time to comprehend and adapt to the new organization of activities. In other words, when relationship investments are indispensable or specific assets are procured firms will create networks in which suppliers form closed business relationships. This helps to overcome hold-up problems and allows firms to create relations, which are additionally strengthened by ICT (European Commission, 2008). According to Helper and MacDuffie (2003), ICT facilitating B2B interactions continues to be used in a way that enhances, not replaces individual companies' business strategies. Companies develop e-business tools that reinforce old paradigms for purchasing and supplier relations. This happens because there are patterns of social interaction that are deeply imbedded in systems of procurement. We thus postulate:

H6: Manufacturing firms maintaining long-term relationships with suppliers are more likely to conduct internal process innovations, compared with their peer-group.

Firm Size and Internal Process Innovation Activity

The literature offers contradictory findings about the direction and the intensity of the relation between size and innovation. On the one hand, there are studies that found significant relationships between the size of a firm and innovation (Camison-Zornoza and Lapiedra-Alcami, 2004; Sullivan and Kang, 1999; Damanpour, 1992). On the other hand, however, other researchers declared that firm size had no apparent effect on either product or process improvement (Wolff and Pett, 2006). Lastly, still other work claims that no relation exists between the core variables (Aiken et al., 1980).

Against this background, our next hypothesis is:

H7: The larger the size of the business, the more likely process innovations activities will be conducted by small, medium and large enterprises.

In the next section, we discuss the methodology employed to test the theoretical model.

RESEARCH METHODOLOGY

Research Design

In order to address the preceding research questions, we used data from the 'Sectoral e-Business Survey (SeBW) 2007'. This global survey is part of the "e-Business Watch", a service launched in 2007 and provided by "empirica GmbH" to the European Commission, Enterprise and Industry Directorate General, in co-operation with renowned international partners (European Commission and the Sectoral e-Business Watch, 2007) while it was presented as a Confidentialized Unit Record File. The key objective of the SeBW is to gather information about the usage of ICT and their application to the electronic business in companies, in order to derive indicators on industrial sector level. The fieldwork was carried out from August 13 to October 08, 2007 and had a scope of 2.121 telephone interviews with decision-makers from three industry sectors (chemical, steel and furniture) in seven EU countries (UK, France, Germany, Sweden, Spain, Italy and Poland). The target respondent within the company was a person responsible for or taking part in decisions concerning the use of information and communication technologies and of e-business. This person could have been in different positions, depending on the size and kind of company or organisation – usually the IT manager or a senior professional in the IT department. Particularly in the case of larger companies, there are dedicated positions for e-business management while in micro and small enterprises, the respondent rather is someone at the level of managing director or owner. The questionnaire collected information on the background information of the firms, ICT-related characteristics (such as infrastructure, software systems, skills requirements, costs, impacts, drivers and inhibitors) and innovation activity (if any) of the firm during the past 12 months.

Sample and Data Collection: The sample drawn (for each sector) was a random sample of companies, stratified by sector and, where possible, size (number of employees in the company), was selected per country. The quality of the survey frame was of very high importance. In order to ensure the best possible quality of results in terms of raising the survey data, SeBW explicitly instructed the institutes that the sampling/ address purchase and the universe figures (sample frame) should be based to the largest possible extent on "official" business registers and company statistics, which are usually run by the National Statistical Office in the country. Wherever possible for the drawing of the sample the same source was chosen as for building-up the universe. However, in some countries the statistical offices that were used for the universe figures were not able (resp. were not allowed) to provide the institutes with full and up-to-date addresses or telephone numbers of companies at all. In case where the sampling/ address purchasing could not be obtained directly from the respective national statistical offices, the countries used renowned address supplier of the highest possible quality in terms of coverage and up-to-dateness. This is common practise in business-to-business surveys. Furthermore, the usage of computer/PC (including desktop computers and notebooks) within the company was required in order to qualify for an interview.

The final allocation of our sample (n=914) according to industry sector and company size as well as the sample sources were used, is illustrated in Table 1. In this survey, a cut-off was introduced with regard to company size: only companies with at least 10 employees were interviewed. The highest level of the population (at least 10 employees) was the set of all computer-using enterprises which were active within the national territory of one of the seven countries covered, and which had their primary business activity in one of the three industry sectors specified on the basis of NACE Rev. 1.1.

Table 1: Industry and Country Distribution of the Sample and Sampling Sources

			Countries							
			Germany	**Spain**	**France**	**Italy**	**Sweden**	**UK**	**Poland**	**Total**
Industry Sectors	Chemical, rubber & plastics	Count	129	26	88	43	6	74	30	**396**
		% within Industry Sector	32.6%	6.6%	22.2%	10.9%	1.5%	18.7%	7.6%	100.0%
	Steel	Count	36	11	28	21	8	16	13	**133**
		% within Industry Sector	27.1%	8.3%	21.1%	15.8%	6.0%	12.0%	9.8%	100.0%
	Furniture	Count	75	36	31	72	11	61	99	**385**
		% within Industry Sector	19.5%	9.4%	8.1%	18.7%	2.9%	15.8%	25.7%	100.0%
Total		Count	240	73	147	136	25	151	142	***914***
		% within Industry Sector	26.3%	8.0%	16.1%	14.9%	2.7%	16.5%	15.5%	100.0%
Sampling Sources			Heins and Partner Business Pool	Dun & Bradstreet	WEGENER DM. previously IDATA	Dun & Bradstreet	Statistics Sweden's Business Register	Dun & Bradstreet	Hoppenstedt Bonnier Information Poland (HBI)	

This table shows the allocation of sample and sampling sources by country and industry sector.

Weighting Schemes: Due to stratified sampling, the sample size in each size-band is not proportional to the population numbers. If proportional allocation had been used, the sample sizes in the 250+ size-band would have been extremely small, preventing any reasonable presentation of results. Thus, weighting is required so that results reflect the structure and distribution of enterprises in the population of the respective sector or geographic area. The SeBW applies two different weighting schemes: by employment, and by the number of enterprises

*Measure Development and Statistical Method***:** In order to test the above seven hypotheses and determine the likelihood of conducting internal process innovations, a binary logistic regression analysis was applied. Table 2 details the research variables used to this study including concept, operational measure and sampling source. The raw data were coded and analyzed using the PASW Statistics 18.

Table 2: Description of Variables

Concept ***Dependent variable***	**Description – Operational Measure**	**Source**
Internal Process Innovation (IPI) Activity	A 0/1 dummy taking value 1 if firm had introduced any new or significantly improved their internal processes, during the past 12 months.	European Commission 'Sectoral e-Business Survey 2007'
Independent variable		
Adoption of ERP (ERP)	A 0/1 dummy taking value 1 if firm had implemented ERP system.	European Commission 'Sectoral e-Business Survey 2007'
Adoption of CRM (CRM)	A 0/1 dummy taking value 1 if firm had implemented CRM system.	European Commission 'Sectoral e-Business Survey 2007'
ICT Practitioners (ICTP)	A 0/1 dummy taking value 1 if firm had employed ICT practitioners (persons who were hired primarily to take care of the company's ICT infrastructure).	European Commission 'Sectoral e-Business Survey 2007'
ICT Investments (ICTI)	A 0/1 dummy taking value 1 if firm had made investments in ICT during the past 12 months, for example for new hardware, software or networks.	European Commission 'Sectoral e-Business Survey 2007'
ICT Applications for Information Exchange (ICTIE)	A 0/1 dummy taking value 1 if firm had implemented ICT applications to exchange information on their inventory levels or production plans with their business partners, during the past 12 months.	European Commission 'Sectoral e-Business Survey 2007'
Long-Term Relationships with Suppliers (LTRS)	A 0/1 dummy taking value 1 if firm was maintaining long-term relationships with its suppliers	European Commission 'Sectoral e-Business Survey 2007'
Firm Size (FS)	Companies were categorized according to number of their employees into 1 = small (10-49), 2 = medium (50-249) and 3 = large (250+).	European Commission 'Sectoral e-Business Survey 2007'

This table describes the measurement and sampling source of dependent and independent variables

RESULTS

Demographic Characteristics: As seen in Table 3, almost half of the responding firms (49.4 percent) in the sectors surveyed had implemented innovative activities during the previous year, whereas Germany, Poland and Spain shows the highest rates of 66.1%, 59.7% and 56.4% respectively. More than half (52 percent) of the responding firms have deployed an ERP system, and 47.8 percent had not. According the European e-Business Report 2008, the deployment of ERP systems has almost doubled among small enterprises from 2003 to 2007 and increased by about 20 percentage points in medium-sized and large firms (European Communities, 2008). On the other hand, only thirty percent of the responding firms reported having a CRM system. The current adoption rates (ERP, CRM) lead us to conclude that both enterprise systems are not widely used and, of course, there is still room for improvement. Moreover, about 42 percent of the firms interviewed employ ICT specialists with Spain and France showing the lowest percentages. At this point, we have to say that there is, however, a general concern, especially among larger companies, that e-business does have a significant impact on skills requirements (European Communities, 2008). Anyway, some countries seem more aware of the value of employees with ICT qualifications. Conversely, almost 80% of the responding firms had made investments in ICTs during the past 12 months, providing strong evidence that the EU manufacturing companies are interested in full potential of ICT usage. However, according OECD (2003) investments in ICT is no panacea. Firms may well overinvest in ICT, either in an effort to compensate for lack of skills or competitive pressure, or because they lack a clear market strategy. Firms that achieve the highest returns from ICT are often those that were already performing well or had successfully innovated in the past. The electronic exchange of information between business partners is found to be of different importance for the seven countries, with Poland, Germany and Sweden to present the highest percentages. Finally, the European manufacturing firms prefer to trade mostly with long-term business partners rather than having a changing supplier base.

Table 3: Respondent Characteristics per Country (n = 914)

Variables		EU Countries							MEAN	SD
		Germany %	Spain %	France %	Italy %	Sweden %	UK %	Poland %	%	%
Internal Process Innovations	*Yes*	66.1	56.4	41.8	40.7	43.7	37.2	59.7	***49.37***	***11.17***
	No	33.9	43.6	58.2	59.3	56.3	62.8	40.3	***50.63***	***11.17***
Adoption of ERP System	*Yes*	82.1	52.3	64.0	37.6	49.9	43.4	34.9	***52.03***	***16.47***
	No	17.9	47.7	36.0	62.4	50.1	56.6	65.1	***47.97***	***16.47***
Adoption of CRM System	*Yes*	38.7	38.4	23.3	16.7	26.6	38.3	33.6	***30.80***	***8.73***
	No	61.3	61.6	76.7	83.3	73.4	61.7	66.4	***69.20***	***8.73***
Employment of ICT-qualified	*Yes*	46.8	17.0	21.3	43.8	61.2	43.8	56.0	***41.41***	***16.56***
personnel	*No*	53.2	83.0	78.7	56.2	38.8	56.2	44.0	***58.59***	***16.56***
ICT Investments,	*Yes*	86.8	72.5	68.0	72.1	81.9	88.7	83.2	***79.03***	***8.08***
	No	13.2	27.5	32.0	27.9	18.1	11.3	16.8	***20.97***	***8.08***
Intra-Organizational	*Yes*	26.9	7.8	10.9	12.5	26.0	17.8	31.5	***19.06***	***9.15***
Information Exchange	*No*	73.1	92.2	89.1	87.5	74.0	82.2	68.5	***80.94***	***9.15***
Type of Relationships with	*Long-Term*	93.5	98.9	100.0	85.9	92.2	92.8	88.3	***93.09***	***5.12***
Suppliers	*Short-Term*	6.5	1.1	.0	14.1	7.8	7.2	11.7	***6.91***	***5.12***

This table shows respondent descriptive characteristics per variable and country.

A Prediction Model for the Factors Influencing the Development of Process Innovations The main goal of this study was to examine the factors affecting the development of process innovation. Since the research model uses a dichotomous dependent variable and categorical independent variables, the binary logistic regression analysis was used to validate the research model empirically. Thus, the final logit model is specified as follows:

$$\text{Ln}\left(\frac{Prob(IPI\ Activity=Yes)}{1-Prob(IPI\ Activity=Yes)}\right) = \beta_0 + \beta_1 * ERP_i + \beta_2 * CRM_i + \beta_3 * ICTP_i + \beta_4 * ICTI_i + \beta_5 * ICTIE_i + \beta_6 * LTRS_i + \beta_7 * FS_i + \varepsilon_i$$

Logit analysis is a preferred technique because it does not assume equal variance-covariance matrices across groups and multivariate normality of the variables (Hair et al., 1998). Moreover, the output from the analysis is very similar to regression and is therefore easier to draw inferences. Logit uses a binomial probability function for the dichotomous dependent variable and estimates whether it is one way or the other using an odds ratio. Unlike regression, where we try to minimize the squared deviations, in logit we maximize the likelihood of a firm adopting IS innovations (Premkumar, 2003).

As shown in Table 4, all dimensional hypotheses were supported. The likelihood-ratio test is used instead of Wald statistics (the square of the ratio of the parameter estimate to its standard error) because the Wald statistics has undesirable properties. For large coefficients, the standard error can be too large, resulting in too small Wald statistics. That is, we may fail to reject the null hypothesis when it is false (Norusis, 2008). For that cause, the likelihood-ratio test was chosen. The overall model's fit is significant ($p < 0.001$).

Table 4: Logistic Regression Results

Independent Variables	Hypothesis	Coef (β)	Likelihood Ratio Chi-Square	Sig.	Exp(β)
Constant		-2.892	0.110		
Adoption of ERP (ERP)	H1	0.445**	4.738	0.029	1.561
Adoption of CRM (CRM)	H2	0.862***	18.755	0.000	2.369
ICT Practitioners (ICTP)	H3	0.434**	5.276	0.022	1.543
ICT Investments (ICTI)	H4	1.189***	22.169	0.000	3.284
ICT Applications for Information Exchange (ICTIE)	H5	0.865***	14.298	0.000	2.375
Long-Term Relationships with Suppliers (LTRS)	H6	0.693**	4.147	0.042	2.001
Firm Size (FS)	H7	2.329***	18.918	0.000	10.266

This table shows the logistic regression coefficient, likelihood-ratio test, and odds ratio for each of the predictors Employing a 0.05 criterion of statistical significance, all variables had significant partial effects. The overall model's fit is significant ($p < 0.001$).
** The estimated regression coefficients are significant at the 0.1 level.** The estimated regression coefficients are significant at the 0.05 level.*
**** The estimated regression coefficients are significant at the 0.01 level.*

The repressors' are not directly of interest in statistics but the exponent of each term is the odds ratio and thus reveals the contribution of each term in the probability for an EU manufacturing firm to introduce an IPI. The term 0.445 when exponentiated gives exp(0.445)=1.56. This means that the odds of introducing an IPI, for a firm, which has implemented an ERP system, are 1.56 times the odds for a company that has not. Similarly, the odds of introducing an IPI, for a firm, which has implemented a CRM system, are 2.37 times the odds for a company that has not. Moreover, the odds attributes to ICTP, ICTI and ICTIE are equal to 1.54, 3.28 and 2.37 respectively. This gives a clear indication that the odds of introducing an IPI, for a firm, which has employed ICT practitioners, has made investments in ICTs and has deployed ICT applications for information exchange with the business partners, are correspondingly 1.54, 3.28 and 2.37 times the odds for a company that has not. Likewise, the manufacturing firms which maintain long-term relationships with suppliers are more likely (two times the odds) to conduct internal process innovations, compared with their peer-group. Finally, the odds of introducing an IPI are excessively rising (10.27 times the odds) according to the employment size of the firms.

DISCUSSION

The findings of this study extend the innovation literature and help build a foundation for further understanding the factors, which are found to be critical in IPI activity of manufacturing firms. From the results, we are able to make multiple observations. First, our findings provide strong support for H1 that manufacturing firms implementing an ERP system are more likely to introduce any new or significantly improve their internal processes *($p = 0.029$).* This is in line with previous studies (e.g. Papastathopoulos

and Beneki, 2010; Davenport et al., 2004; Davenport and Brooks, 2004), indicating that the deployment of an ERP system contributes to firm's internal process innovation activity. Second, the results reveal (H2) that firms implementing a CRM system have a greater propensity *($p < 0.0001$)*to introduce any new or significantly improve their internal process activities. This is consistent with prior studies (e.g. Ramani and Kumar, 2008; Papastathopoulou et al., 2007; Wang and Ang, 2004; McGee and Sawyerr, 2003). CRM is touted as an imperative strategy to improve a firm's innovation activity. Manufacturing firms must carefully align their CRM practices with the specific types of innovation capability they desire to possess (Ru-Jen Lin et al., 2010). Third, the regression results point to strong support for H3 that manufacturing firms characterized by a higher share of employees with ICT qualifications are more likely to realize an internal process improvement *($p = 0.022$)*. ICT- practitioners with very specific skills seem to be of crucial importance. This is consistent with the observation that the success of the ICT-driven innovation processes relies on the availability and quality of complementary assets such as labor (Brynjolfsson and Hitt, 2000). Logically, this suggests that firms have to employ ICT practitioners who are qualified to effectively incorporate ICTs into innovation activities. Apparently, firms that do not employ ICT professionals have fewer chances to be innovative. Fourth, the results (H4) with respect to investments in ICT have been found to be a significant factor influencing introduction of process innovations *($p < 0.0001$)*. This is consistent with results from previous research that have found ICT investment to be a significant effect on innovation activity of firms (Brynjolfsson and Hitt, 2000). Investments in ICT can enable process innovations if the implementation of new ICT succeeds, the routines are changed and the new system is actually utilized European Commission (2006). Empirical studies have stressed that ICT investments must be combined with complementary investments in work practices, human capital and firm restructuring to have an impact on performance (Brynjolfsson and Hitt, 2000; Greenwood and Jovanovic, 1998). These complementary investments that are usually not counted as ICT specific lead to comparatively high returns to ICT investment (Brynjolfsson and Hitt, 2003).

Clearly, this factor warrants more attention from future researchers working in this area. Fifth, the results (H5) indicate towards a close link between IPI activity and the extent to which firms exchange information electronically *($p < 0.0001$)*. Consistent with Carr and Pearson (1999), Lee (2000) and Ru-Jen Lin et al., (2010), intra-organizational information exchange is important for the creation and diffusion of innovations within complex multiunit organizations. Frequent and close interactions allow actors to know each other, share important information, and create common ideas (Ru-Jen Lin et al., 2010). Sixth, based on regression results (H6) we can confirm that long-term relationships with suppliers has been found to be a significant factor influencing firm's IPI activity *($p = 0.042$)*. Last but not least, the results show strong support for H7, indicating that firm size has been a fundamental variable, and larger firms have a greater propensity to conduct a process innovation *($p < 0.0001$)*. On the one hand, these findings corroborate the views put forth by Camison-Zornoza and Lapiedra-Alcami (2004), Sullivan and Kang (1999) and Damanpour (1992) that firm size associates with firm's innovation activities. On the other hand, our results contradict the findings of the study conducted by Wolff and Pett (2006).

Summarizing, the results suggest that the development of IPI activities could be further enhanced by the implementation of ICT-software systems (ERP and CRM), the employment of ICT-qualified personnel, the investments in advanced technologies, the efficient flow of information between business partners and the long-term relationships with the suppliers. Moreover, the study makes clear the need to blend the dictates of technology and innovation management techniques to make manufacturing firms more competitive. Based on the evidence presented in this cross-country empirical study, ICT remains an important variable both for strategic management and for policy aiming at improving business performance and economic progress. In many sectors and firms, the innovative potential of ICT has not yet been fully exploited. This implies that technologies can still be used to influence a firm's ability to gain a competitive advantage (e.g., Dibrell et al., 2008) through the linkage of ICTs with firm's strategy. As a conclusion to this discussion, the EU manufacturing industries have to intertwine closely their innovation strategies with those related to ICT in order to reap future tangible and sustainable benefits.

CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH

This multi-country empirical research provides an understanding of the factors that influence the Internal Process Innovation (IPI) activity of the European manufacturing firms. Moreover, a predictive model was developed that can be used to predict which manufacturing firms are more likely to introduce any new or significantly improve their internal processes.

The major contribution of this study is statistically validating the factors influencing internal process innovation activity of EU manufacturing firms. Thus, it can be predicted that manufacturing firms with greater implementation of Enterprise Systems (ERP and CRM), greater share of employees with ICT qualifications, greater investments in ICTs, greater ICT applications to exchange information on their inventory levels or production plans with their business partners, greater long-term relationships with their suppliers and a larger size are more likely to introduce any new or significantly improve their internal processes.

This work is not free from limitations. Taken that the findings in this study are based on seven selected European countries, they cannot be generalized to other countries. The analytical investigation of hypothesized associate influences has been approached from a European point of view. Thus, the interpretation and utilization of the research findings should be thoroughly scrutinized. Additionally, this study focused on three industries only. It would be interesting to see whether firms in other industry sectors are influenced by the same factors.

The above results provide a starting point for future studies on this important topic for scholars and practitioners. Practitioners can use this model to increase the development of IPI among their firms, while researchers can replicate the same study in other aspects of innovation scope, such as product innovation, marketing innovation, service innovation, and administrative innovation. Future research may use other techniques such as structural equation modeling (e.g. Ramdani and Kawalek, 2009) to investigate the interaction among the variables.

REFERENCES

Acemoglu, D., and Pishke, J. (1999), Beyond Becker: Training in Imperfect Labor Markets. *Economic Journal,* 109, 112–143.

Aiken, M., Bacharach, S. and French, J. (1980), Organizational structure, work process, and proposal making in administrative bureaucracies. *Academy of Management Journal,* 23, 631–652.

Al-Mashari, M. (2001), Process orientation through enterprise resource planning (ERP): a review of critical issues. *Knowledge and Process Management,* 8(3), 175-185.

Aral, S., and Weill, P. (2007), IT Assets, Organizational Capabilities, and Firm Performance: How Resource Allocations and Organizational Differences Explain Performance Variation. *Organization Science,* 18(5), 763–780.

Barney, J. (1991), Firm Resources and Sustained Competitive Advantage. *Journal of Management,* 17, 99–120.

Brynjolfsson, E., McAfee, A., Sorell, M. and Zhu, F. (2006), Scale without Mass: Business Process Replication and Industry Dynamics. *Harvard Business School*, Working Paper, No. 07-016, 1-46.

Brynjolfsson, E. and Hitt, L.M. (2003), Computing productivity: Firm level evidence. *Review of Economics and Statistics,* LXXXV(4), 793-808.

Brynjolfsson, E. and Hitt, L.M. (2000), Beyond Computation: Information Technology, Organizational Transformation and Business Performance. *Journal of Economic Perspectives,* 14(4), 23-48.

Buddelmeyer, H. Jensen, P. and Webster, E. (2006) *Innovation and the Determinants of Firm Survival (October 2006)*. IZA Discussion Paper No. 2386. Available at SSRN: http://ssrn.com/abstract=942228
Buonanno, G., Faverio, P., Pigni, F., Ravarini, A., Sciuto, D. and Tagliavini, M. (2005), Factors affecting ERP system adoption: a comparative analysis between SMEs and large companies. *Journal of Enterprise Information Management,* 18(4), 384-426.

Camison-Zornoza, C. and Lapiedra-Alcami, R. (2004), A meta-analysis of innovation and organizational size. *Organization Studies,* 25(3), 331–361.

Carneiro, A. (2006), Adopting New Technologies. *Handbook of Business Strategy*, ISSN 0894-4318, 307-312.

Carol Yeh-Yun Lin and Mavis Yi-Ching Chen (2007), Does innovation lead to performance? An empirical study of SMEs in Taiwan. *Management Research News*, 30(2), 115-132.

Carr, A.S. and Pearson, J.N. (1999), Strategically managed buyer-supplier relationships and performance outcomes. Journal of Operations Management, 17(5), 497-519.

Cefis, E., and Marsili, O. (2006), Survivor: The Role of Innovation in Firm's Survival. *Research Policy,* 35, 626–641.

Coad, A. and Rao R. (2008), Innovation and firm growth in high-tech sectors: A quantile regression approach. *Research Policy,* 37, 633–648.

Cohen, W. and Levinthal, D. (1989), Innovation and Learning: the two faces of R&D. *Economic Journal,* 99(397), 569-596.

Commission of the European Communities (1995), *Green Paper on Innovation,* December, Brussels COM (1995) 688.

Damanpour, F. (1992), Organizational size and innovation. *Organization Studies,* 13, 375–402.

Damanpour, F. (1996), Organizational complexity and innovation: developing and testing multiple contingency models. *Management Science,* 42(5), 693-716.

Davenport, T.H. and Brooks, J.D. (2004), Enterprise systems and the supply chain. *Journal of Enterprise Information Management,* 17(1), 8-19.

Davenport, T.H., Harris, J.G. and Cantrell, S. (2004), Enterprise systems and ongoing process change. *Business Process Management Journal,* 10(1), 16-26.

Devaraj, S., and Kohli, R. (2003), Performance Impacts of Information Technology: Is Actual Usage the Missing Link? *Management Science,* 49(3), 273–289.

Dibrell, C., Davis, P. and Craig, J. (2008), "Fueling Innovation through Information Technology in SMEs. *Journal of Small Business Management,* 46(2), 203-218.

Droge, C., Jayaram, J. and Vickery, S.K. (2004), The effects of internal versus external integration practices on time-based performance and overall firm performance. *Journal of Operations Management,* 22(6), 557-73.

Dutta, S. and Mia, I. (2007), *The Global Information Technology Report 2006-2007,* 6th Edition, France: World Economic Forum and INSEAD.

European Communities (2010), *ICT and e-Business for an Innovative and Sustainable Economy: 7th Synthesis Report of the Sectoral e-Business Watch,* European Commission, Enterprise and Industry Directorate General, in cooperation with, DIW econ, IDC EMEA, Ipsos GmbH and GOPA-Cartermill, Luxembourg.

European Communities (2008), *The European e-Business Report 2008: The impact of ICT and e-business on firms, sectors and the economy,* 6th Synthesis Report of the Sectoral e-Business Watch, European Commission, Enterprise and Industry Directorate General, in cooperation with, DIW econ, IDC EMEA, Ipsos GmbH and GOPA-Cartermill, Luxembourg.

European Commission (2008), *An Economic Assessment of ICT Adoption and its Impact on Innovation and Performance,* Enterprise & Industry Directorate General, Impact Study No. 10, Germany: DIW Berlin.

European Commission (2006), *Impact of ICT on Corporate Performance, Productivity and Employment Dynamics,* Enterprise & Industry Directorate General, Technology for innovation, ICT industries and e-business, Special Report No. 01, December, Brussels.

European Commission (2004), *Innovation Management and Knowledge-Driven Economy*, Enterprise & Industry Directorate General Universidad Politécnica de Madrid (leading partner), Brussels-Luxembourg.

Frenken K. and Boschma, R. A. (2007), A theoretical framework for evolutionary economic geography: industrial dynamics and urban growth as a branching process. *Journal of Economic Geography,* 7, 635–649.

Galia, F., and Legros, D. (2004), Complementarities Between Obstacles to Innovation: Evidence from France. *Research Policy,* 33, 1185–1199.

Gefen, D. and Ragowsky, A. (2005), A multi-level approach to measuring the benefits of an ERP system in manufacturing firms. *Information Systems Management,* 22(1), 18-25.

Greenwood, J. and Jovanovic, B. (1998), Accounting for growth. *NBER Working Paper* 6647, Cambridge, Massachusetts.

Hair, J., Anderson, R., Tatham, R. and Black, W. (1998), *Multivariate Data Analysis*, Prentice-Hall International, Englewood Cliffs, NJ.

Helper, S. and MacDuffie, J.P. (2003), *B2B and Modes of Exchange: Evolutionary and Transformative Effects.* The Global Internet Economy.

Hitt, L.M., Wu, D.J. and Zhou, X. (2002), Investment in enterprise resource planning: business impact and productivity measures. *Journal of Management Information Systems,* 19(1), 71-98.

Holsapple, C.W. and Sena, M.P. (2005), ERP plans and decision-support benefits. *Decision Support Systems,* 38(4), 575-90.

Koellinger, P. (2005), Why IT matters - An empirical study of e-business usage, innovation, and firm performance. *DIW Berlin Discussion Paper* 495.

Koellinger, P. (2006), *Technological Change - An Analysis of the Diffusion and Implications of e-Business Technologies.* Humboldt-Universität zu Berlin, http://edoc.huberlin.de/docviews/abstract.php?lang=ger&id=26708.

Lee, H.L. (2000), Creating value through supply chain integration. *Supply Chain Management Review*, 4(4), 30-6.

Lewis, M. W., M. A. Welsh, G. E. Dehler, and Green, S. G. (2002), Product Development Tensions: Exploring Contrasting Styles of Project Management. *Academy of Management Journal,* 45(3), 546–564.

Madrid-Guijarro, A., Garcia, D and Auken, H.V. (2009), Barriers to Innovation among Spanish Manufacturing SMEs. *Journal of Small Business Management,* 47(4), 465–488.

McAfee, A. P. (2006), Enterprise 2.0: The Dawn of Emergent Collaboration. *MIT Sloan Review*, Spring, 47(3), 21-28.

McGee, J. E. and Sawyerr, O. (2003), Uncertainty and Information Search Activities: A Study of Owner-Managers of Small High-Technology Manufacturing Firms. *Journal of Small Business Management,* 41(4), 385-401.

Motwani, J., Dandridge, T., Jiang, J., and Soderquist, K. (1999), Managing Innovation in French Small and Medium- Sized Enterprises. *Journal of Small Business Management,* 37(2), 106–114.

Norusis, M. (2008), *SPSS Statistics 17.0 Advanced Statistical Procedures Companion,* Prentice Hall, USA.

OECD (2003), *Seizing the Benefits of ICT in a Digital Economy,* Meeting of the OECD Council at Ministerial Level, Paris, France.

Oh, W., and Pinsonneault, A. (2007), On the Assessment of the Strategic Value of Information Technologies: Conceptual and Analytical Approaches. *MIS Quarterly,* 31(2), 239–265.

Olson, E. M., Slater, S. F. and Hult, G. T. M. (2005), The Performance Implications of Fit among Business Strategy, Marketing Organization Structure, and Strategic Behavior. *Journal of Marketing,* 69, 49–65.

Ottum, B.D., and Moore, W.L. (1997), The role of market information in new product success/failure. Journal of Product Innovation Management, 14(4), 258-73.

Panayides, P. (2006), Enhancing innovation capability through relationship management and implications for performance. *European Journal of Innovation Management,* 9(4), 466-83.

Papastathopoulos, A., and Beneki, Ch. (2010), The Role of Information and Enterprise Systems in the achievement of the organization's Internal Process Innovations. Findings from an investigation in the

USA Manufacturing Sector. *European Conference on Innovation and Entrepreneurship. Academic Conferences International (ACI),* Athens, Greece, 16-17 September, ISBN: 978-1-906638-75-7, 439-447.

Papastathopoulou, P., Avlonitis, G. J., and Panagopoulos, N. G. (2007), Intraorganizational Information and Communication Technology Diffusion: Implications for Industrial Sellers and Buyers. *Industrial Marketing Management,* 36(3), 322-326.

Peltier, J. W., Schibrowsky, J. A., Schultz, D. E. and Zahay, D. (2006), Interactive IMC: The Relational-Transactional Continuum and the Synergistic Use of Customer Data. *Journal of Advertising Research,* 46(2), 46-159.

Premkumar, G. (2003), A meta-analysis of research on information technology implementation in small business. *Journal of Organizational Computing and Electronic Commerce,* 13(2), 91-121.

Ramani, G. and Kumar, V. (2008), Interaction orientation and firm performance. *Journal of Marketing,* 72(1), 27-45.

Ramdani, B. and Kawalek, P. (2009), Predicting SMEs' adoption of enterprise systems. *Journal of Enterprise Information Management*, 22(1/2), 10-24.

Raymond, L. and Uwizeyemungu, S. (2007), A profile of ERP adoption in manufacturing SMEs. *Journal of Enterprise Information Management,* 20(4), 487-502.

Ru-Jen Lin, Rong-Huei Chen & Kevin Kuan-Shun Chiu (2010), Customer relationship management and innovation capability: an empirical study. *Industrial Management & Data Systems,* 110(1), 111-133.

Sectoral e-Business Watch (2007), *e-Business Watch Survey 2007,* European Commission, Enterprise & Industry Directorate General, Ipsos GmbH, Germany.

Spencer, J. (2001), How relevant is University-Based Scientific Research to Private High-Technology Firms? A United States-Japan Comparison. *Academy of Management Journal,* 44 (2), 432-440.

Sin, L.Y.M., Tse, A.C.B. and Yim, F.H.K. (2005), CRM: conceptualization and scale development. *European Journal of Marketing,* 39(11/12), 1264-1290.

Storey, J. (2000), The Management of Innovation Problem. *International Journal of Innovation Management,* 4(3), 347–369.

Sullivan, P., and Kang, J. (1999), Quick response adoption in the apparel manufacturing industry: Competitive advantage of innovation. *Journal of Small Business Management,* 37, 1–13.

Sumner, M. (2000), Risk factors in enterprise-wide ERP projects. *Journal of Information Technology,* 15(4), 317-327.

Tourigny, D., and Le, C. (2004), Impediments to Innovation Faced by Canadian Firms. *Economics of Innovation and New Technology,* 13(3), 217–250.

Verhees, F. J. H. M., and Meulenberg, M. T. G. (2004), Market Orientation, Innovativeness, Product Innovation, and Performance in Small Firms. *Journal of Small Business Management,* 42(2), 134–154.

Walker, R. M. (2005), Innovation and Organizational Performance: A Critical Review of the Evidence and a Research Agenda. *Academy of Management Conference Best Paper*, B1–B6.

Wang, C. K. and Ang, B. L. (2004), Determinants of Venture Performance in Singapore. *Journal of Small Business Management,* 42(4), 347-363.

Willis, T.H. and Willis-Brown, A.H. (2002), Extending the value of ERP. *Industrial Management & Data Systems,* 102(1/2), 35-38.

Wolff, J. A., and Pett T. L. (2006), Small- Firm Performance: Modeling the Role of Product and Process Improvements. *Journal of Small Business Management,* 44(2), 268–284.

Zahay, D., Peltier, J., Griffin, A. and Schultz, D. (2004), The Role of Transactional versus Relational Data in IMC Programs: Bringing Sales and Marketing Data Together. *Journal of Advertising Research,* 44(1), 3-18.

ACKNOWLEDGEMENTS

The authors wish to express their sincere appreciation to the European Commission and the Sectoral e-Business Watch for supplying the raw data sets of their e-Business Surveys (2002, 2003, 2005, 2006, 2007). These valuable raw data sets help the authors to develop the ideas put forward here. The authors are grateful for the publisher's generous permission to use the raw data sets.

BIOGRAPHY

Dr. Avraam Papastathopoulos is an Adjunct Lecturer of Entrepreneurship at Technological Educational Institute of Ionian Islands. He can be contacted at: Department of Business Administration, Technological Institute of Ionian Islands, Stylianou Typaldou, 28200 Lixouri, Kefallinia, GREECE. E-mail: apapast@hotmail.com

Dr. Christina C. Beneki is an Assistant Professor of Mathematics-Statistics and Associate Head at Department of Business Administration, Technological Educational Institute of Ionian Islands. She can be contacted at: Department of Business Administration, Technological Institute of Ionian Islands, Stylianou Typaldou, 28200 Lixouri, Kefallinia, GREECE. E-mail: benekic@teiion.gr

FACTORS THAT IMPACT CUSTOMER SATISFACTION: EVIDENCE FROM THE THAILAND MOBILE CELLULAR NETWORK INDUSTRY

Orose Leelakulthanit, National Institute of Development Administration
Boonchai Hongcharu, National Institute of Development Administration

ABSTRACT

Retaining current customers is one of the key success factors to survive in the mature market of the mobile cellular network industry in Thailand. The aim of this study is to identify key success factors of this industry. Adult users of mobile cellular networks are interviewed. The results from the multiple regression analysis show that from the mobile service perspective, the customer values network quality, emotional value, promotional value, quality of service at shops and quality of call center service. From a more holistic perspective, corporate image plays a significant role in enhancing customer satisfaction with mobile cellular networks in Thailand.

JEL: L96; M31

KEYWORDS: Customer Satisfaction, mobile phone networks, utilitarian value, hedonic value

INTRODUCTION

The Thai mobile network industry has nearly reached its saturation point, as indicated by the penetration rate of around 99% or 63 million mobile subscribers. Although the industry is characterized by a few big players in the market; namely, Advance Info Service (AIS), Total Access Communication (DTAC), and True Move, with a market share of 43%, 30% and 24%, respectively, competition intensifies during the industry maturity stage. It is often noted that once customers have been acquired and connected to a particular telecommunications network, long-term links with the focal operator are more importance to the company success in competitive markets than in other industries. A key motivation for the growing emphasis on customer satisfaction (CS) is that higher CS can lead to a stronger competitive position, resulting in higher market share and profit (Fornell, 1992). It can lower price elasticity, business cost, failure cost, and costs for attracting new customers. CS is also generally assumed to be a significant determinant of repeated sales, positive word-of-mouth, and customer loyalty. Satisfied customers return and buy more, and tell other people about their experiences (Fornell, Johnson, Anderson and Bryant, 1996). Firms that practice CS enhancement strategies usually gain a sustainable competitive advantage. Satisfaction has been widely studied as a predictor of customer loyalty (e.g., Cronin, Brady and Hult 2000; Fornell, Johnson, Anderson and Bryant 1996; Kim, Park and Jeong, 2004; Olsen, 2002; Yang and Peterson, 2004). CS is an important factor for the long-term relationship between a firm and a customer (Anderson and Srinivasan, 2003). In order to shed light on the success of the companies in the telecommunications industry, this study investigates factors affecting CS with mobile cellular networks.

The study begins with a literature review on the factors that impact customer satisfaction. Next the data and methodology are discussed. The following section discusses the results. Somne concluding comments close the paper.

LITERATURE REVIEW

Many researchers have shown that CS is multidimensional (e.g., Sureshchandar, Rajendran and Anatharaman, 2002; Sweeney and Soutar, 2001; Woo and Fock, 1999). Generally, delivering customer values is a key means for marketers to satisfy customer needs. The factors that might affect customer satisfaction will be discussed in the remainder of this section.

Functional value relates to the proper performance of the cellular network, meaning that it should have a wide coverage, good voice quality, infrequent dropped calls, and instantaneous connection. Logically, consumers expect any products or services they buy to perform correctly. Unsurprisingly, network quality has garnered the attention of many researchers. It is a vital factor for CS of mobile networks (Lim, Widdow, Richard and Park, 2006; Woo and Fock, 1999).

Promotional value is an incentive for consumers to buy products or services. It can be a special package discount, coupons, a bonus gift, etc. It provides savings for consumers, and thereby creates economic value. In general, promotion value is a comparison between the perceived economic benefits received by consumers and the monetary cost of the service. Many researchers have found a significant role in consumers' perceived monetary value regarding satisfaction and future decisions (Chen, 2003; McDougall and Levesque, 2000). Lewis (2004) notices that promotional offers affect the observed service churn. Some subscribers may leave after a promotional period ends, not because of increased dissatisfaction with the service but simply because of the change in their price plan.

Innovative value covers the responsiveness of the mobile network company to the new coming technology of 3G. The company often introduces new products, and differentiates itself from competitors. Generally, new technology, new services and creative ideas are supposed to surpass outdated services. For instance, 3G enables people to send and receive pictures as well as provides faster data transmission than 2G. Similarly, the new services and creative ideas are often meant to deliver a better solution to consumer problems. In short, innovative value is likely to create CS.

Social value is related to the enhancement of social self-concept (Sweeney and Souter, 2001). In the use of technology-driven products or services, social image can be an important factor that affects consumers' decision making. Mobile phones are a medium through which users keep social contact (Ling, 2004). Consumers consider the possession of a technology-driven device as a symbol of social status as well as a fashion item. In this sense, the display and use of their mobile phones are important for mobile phone users to improve the way in which they are perceived by others (Ling, 2004; Lu, Yu, Liu and Yao, 2003). Hence, social value is expected to play an important role in the context of mobile service usage.

Customer service can add unique and sustainable value as it may be more difficult to imitate than product quality and price (Griffith and Krampf, 1998; Keeney, 1999; Parasuraman and Grewal, 2000). Additionally, technical service or core service quality e.g. voice quality, signal quality, etc, is often too difficult to differentiate by consumers. The functional quality of a service is potentially more important for CS (Gronroos, 1984). As for the relationship between service quality and CS, Oliver (1993) first suggested that service quality be antecedent to CS regardless of whether these constructs are measured for a given period or over time. Several studies empirically support the idea that CS is a consequence of service quality (Anderson and Sullivan, 1993; Anderson, Fornell and Lehmann, 1994; Spreng and Mackoy, 1996). In this study, customer service is divided into customer services at shops and call centers because they are the two major points of interactions between the company's personnel and customers. These two access points reflect partly the quality of corporate management practices.

Emotional value refers to utility derived from feelings or affective states that a service provider engenders (Sweeney and Souter, 2001). This may include feeling good, as well as enjoyment and happiness during

the use of the mobile network. Emotional value is expected to incorporate consumers' affective responses to service stimuli in a cognitive-oriented, means-end model. In a retailing context, Sweeney and Souter (2001) found that emotional value is the strongest predictor of consumers' purchase intention. However, it was revealed that customers place higher priority on utilitarian benefits than to hedonic benefits (Chitturi, Raghunathan and Mahajan, 2007; Higgins, 1997, 2001). In general, research also supports the positive influence of the perceived emotional value of satisfaction (Eroglu, Machleut and Barr, 2005).

Corporate image refers to several attributes, including being fair, friendly, reliable, modern, adaptable to the changing environment, and responsible to society. Martensen, Kristensen and Gronholdt (2000) indicate that image is an important component of the CS model. In addition, Saeed, Khan and Hussain (2009) suggest that loyalty, corporate image, and expectations have a high impact on satisfaction. Andreassen and Lindestad (1998) posit that corporate image, through a filtering effect, impacts a customer's evaluation of service quality, value, and satisfaction. In other words, corporate image creates a halo effect on CS. In this study, a cumulative or relational level measure reflects a customer's overall impression, and mental picture of the firm represents corporate image (Bloemer, Ruyter and Peerters 1998; Zimmer and Golden, 1988). Consumers who develop a positive mental schema of a brand are likely to have high CS through a halo effect, where all things associated with the brand are similarly valenced. As such, corporate image is hypothesized to have a significant, positive effect on CS.

The determinants of CS are conceptualized in this study. They are customer values of utilitarian benefits, hedonic benefits and corporate image. These utilitarian benefits refer to the functional, instrumental, and practical benefits of consumption offerings, whereas the hedonic benefits refer to aesthetic, experiential, and enjoyment-related benefits (Batra and Ahtola, 1990; Chitturi, Raghunathan, and Mahajan, 2007; Dhar and Wertenbroch, 2000; Strahilevitz and Myers, 1998). In this study, the utilitarian benefits consist of functional value, promotional value, innovative value, social value, and service at shops and call centers. Hedonic benefits are called emotional value in this study.

DATA AND METHODOLOGY

The questionnaire was first pretested with a group of 20 MBA students. Then, personal interviews were conducted with twenty randomly sampled mobile network users of at least 18 years of age with at least four-month experience in using mobile phones. The questionnaire was assessed for its suitability, readability, and possible ambiguity and revised based on the feedback received from both groups.

Four hundred eligible respondents were interviewed in twenty department stores and discount stores spreading across Bangkok. The response rate was 69%. Many respondents (28%) have two mobile phones, and their major service providers are DTAC (41%), AIS (37%), and True Move (21%), respectively. Most of them pay for the bill by themselves (82%). They primarily use their mobile phones for personal matters, work and emergencies. In addition to voice calls, they use several other mobile services, including text messaging (SMS, MMS), wireless Internet access, picture messaging (picture exchange), music downloading, information services (e.g., news, stock quotes, weather, etc.), ringtones and icons downloading, games, voicemail and roaming services (using mobile phones in foreign countries). On average, they spend 53 minutes talking over their mobile phones each day and pay 657 Baht (approximately $US 22) per month. The ones who use pre-paid and monthly billing programs are roughly equal in number in this study. Seventy-four percent of them have complained (either formally or informally) about the mobile services. Table 1 shows some summary statistics of the data.

Almost all the measures are multi-item scales, including functional value, promotional value, innovative value, social value, emotional value, and corporate image. Generally, the underlying ideas of the measurement have been derived from a previous literature review and the particular items of the scales

are an adaptation of those ideas. Exploratory factor analyses have been conducted on those multi-items, which are supposed to make up the unidimensional scales. For instance, functional value is measured by four items, namely; network coverage, voice quality, frequency of dropped calls, and instantaneous connection. These four items have been factor analyzed and extracted by using a principal component analysis. It was found that these four items load high on a quality factor. Then, the reliability of this unidimensional scale was assessed. The Cronbach's alpha of 0.9 shows that the functional value is highly reliable. Likewise, other multi-item scales have gone through similar processes. It was found that they are all unidimensional. Promotional value, innovative value, social value, emotional value, and corporate image all exhibited high reliability, with a Cronbach's alpha of 0.92, 0.88, 0.95, 0.91 and 0.92, respectively.

Table 1: Summary of the respondents' data

Item	Details
1. Demographic Characteristics	
Gender	Female 65.20%, Male 34.80%
Age	Mean = 28.3 years old (Min 18, Max 62)
Education	61.2 % Bachelors degree, 21.6% High School, 13.8% graduate degrees
Marital status	81.2% single 17.8% married
Income per month	Mean = 21,219 Thai Baht or USD 707 (Min 3,000 or USD 100; Max 300,000 or USD 10,000)
Employment status	68.2% employed, 28.2% students, 3% Housewives and 2.5% unemployed
2. Mobile Phone Usage Behavior	
Network providers	41% DTAC, 37% AIS, 21% True Move
Type of payment	51.25% prepaid, 48.55% postpaid
Length of use per day	53 minutes (Min 2, Max 600)
Amount of payment per month	657 Thai Baht or USD 22 (Min 20 or USD 0.67, Max 7,000 or USD 233)
Compliant	74% yes, 26% No
Satisfaction level	Mean 7.44 from a scale of 1-10 (Min 2, Max 10)

This table shows the summary of the 400 respondents' data. The first column shows the items on demographic data of the respondents and their mobile phone usage behavior. The second column provides detailed information of the item.

Utilitarian benefits, hedonic benefits, and corporate image are likely to be positively related to CS. In order to determine whether this notion is true, a regression analysis was conducted. Specifically, functional value, promotional value, innovative value, social value, customer service at shops, customer service at call centers, emotional value, and corporate image were regressed on CS.

Ordinary Least Squares estimates were obtained for the following regression equation:

$$\textit{Customer Satisfaction (CS)} = \alpha + \beta_1(\textit{Quality}) + \beta_2(\textit{Promotion}) + \beta_3(\textit{Innovation}) + \beta_4(\textit{Social}) + \beta_5(\textit{Quality of shop service}) + \beta_6(\textit{Quality of call center service}) + \beta_7(\textit{Emotion}) + \beta_8(\textit{Image}) \quad (1)$$

RESULTS

The results of the Equation 1 regressions are presented in Table 2. As indicated by the standardized beta coefficients, promotional value, quality of customer service at shops, and corporate image are the three most important factors that have a positive influence on CS. Functional value or mobile network quality comes after these three factors, followed by quality of customer service at call centers. Emotional value has the least positive impact on CS, whereas innovative value and social value have no influences on CS.

In a developing country such as Thailand, the economic benefit of saving through promotional activity has a vital role on CS. This may include promotion based on customer's usage rates and the compatibility

of promotion with the consumers' lifestyles. Moreover, severe competition during the mature stage of product life cycle for the mobile phone industry triggers users to pay more attention to the promotion.

Table 2: Results of Multiple Regression of Factors Affecting CS

Model	Unstandardized Coefficients		Standardized Coefficients	t
	B	Std. Error	Beta	
(Constant)	0.972	0.368		2.639***
Quality	0.145	0.052	0.139	2.817***
Promotion	0.153	0.049	0.158	3.111***
Innovation	0.055	0.047	0.060	1.171
Social	-0.013	0.042	-0.015	-0.305
Quality of shop service	0.150	0.055	0.155	2.743***
Quality of call center service	0.112	0.047	0.129	2.385**
Emotion	0.117	0.056	0.114	2.089**
Image	0.168	0.068	0.150	2.461**

*This table shows the regression estimates of the equation: Customer Satisfaction (CS) = $\alpha + \beta_1$(Quality) + β_2 (Promotion) + β_3 (Innovation) + β_4 (Social) + β_5 (Quality of shop service) + β_6 (Quality of call center service) + β_7 (Emotion) + β_8 (Image). The first column shows the unstandardized beta coefficients and their standard error. The second column shows the standardized Beta coefficients. The third column shows the t-statistics. ***, ** and * indicate significance at the 1, 5, and 10 percent levels, respectively.* $R^2 = .46$, $R^2 = .45$, $F_{8.391} = 41.34$***

The finding that customers are interested in promotional value does not come at a surprise as the mobile phone companies in Thailand utilize promotional activities to drive higher call volume and they allow customers to change the promotional packages whenever they need. In general, the mobile phone industry designs their promotion offer for both current customers and new ones. The promotional packages for new customers are generally more attractive to motivate switches from other operators. While there is no innovation in the industry such as 3G, the mobile phone operators depend more on promotional activities for customer acquisition and retention.

The quality of customer service at shops is more important than the quality of customer service at call centers, and takes precedence over mobile network quality. This service delivery should not be limited to the general perceptions of a firm's customer care but should also include the ways the service personnel conduct themselves (Adelman et al., 1994). In this case, customers only notice the observable attributes of the mobile phone service. In fact, the mobile phone operators have spent their budget setting up shops in malls all over Thailand and upgraded their call centers to serve the customers 24 hours. However, there are some activities in which the customers cannot execute through the websites or call centers such as requesting international roaming services, changing addresses (which requires supporting documents), purchasing a telephone number, etc. Customers may find it more convenient to contact the shops than the call centers.

In terms of corporate image, customers may feel more secure in dealing with a company having a strong corporate image. The image may signify reliable service, good maintenance, strong signals, etc. However, according to the finding, image is still secondary to promotional value and quality of customer service at the shop, as the corporate image is not as noticeable. Moreover, the fact that the largest mobile phone operator was previously owned by the controversial ex-prime minister Thaksin Shinawatra could result in some problems with the corporate image of the firm. However, the topic is beyond the scope of this study and is relegated to future studies.

Customers also can easily perceive the functional quality of mobile phone service, as the quality of the mobile phone function such as wide coverage, decent voice quality, infrequent dropped calls, and instantaneous connection, is often noticeable by customers. In other words, they can make judgment whether they are satisfied with the functional value of the mobile phone service.

Innovation is not a determinant of CS for Thais, perhaps because Thais are not willing to take risks. However, the biggest obstacle in the mobile phone industry at the present is the inability for the industry to launch the 3G service, as the National Telecommunications Commission is unable to grant the 3G licenses to any operator at the moment. Therefore, the respondents might not be able to judge or experience any innovation of the mobile phone operators to the full extent unless the 3G technology is offered. Therefore, there is no distinguished innovation in the industry that can result in their satisfaction.

Social value also does not result in CS for Thai respondents. The Telecommunications Consumer Protection Institute, under the National Telecommunications Commission, reports that billing error is the number one complaint of mobile network customers, followed by irresponsiveness of the service personnel. Keaveney (1995) identified factors that cause people to switch service providers. The most serious is a core service failure, such as billing errors or service mistakes. Others include service encounter failures (e.g., speaking with an uncaring or unknowledgeable representative) and inconvenience to the subscriber. Unlike the mobile phone units which are more conspicuous to the customers, the mobile phone operators do not function as status symbol and get recognized by others. This is because the mobile phone operators compete heavily for all groups of customers without any significant criteria for segmentation. Customers that do not see the social value can enhance their satisfaction.

It is noteworthy that the firm level factor, which comprises corporate image, the utilitarian benefits of promotional value and quality of customer services at shops contribute to CS. Specifically, to be competitive in delivering superior CS, the company should project an image in several ways, including: (1) being fair, i.e. it must not take advantage of the consumers; (2) being friendly; (3) being reliable or trustworthy, i.e. the company should do what it promises; (4) being modern; (5) being adaptable to the changing environment; and (6) being socially responsible.

CONCLUSION

This study investigated factors which impact customer satisfaction using the data from mobile cellular phone users in Thailand. Four hundred mobile phone users were interviewed using a multi-item scale questionnaire. Regression analysis was conducted to investigate whether the utilitarian, hedonic benefits and corporate image influence customer satisfaction. Promotional value, quality of customer service at shops and corporate image are found to be the three most important factors affecting CS. Emotional value has the least influence on CS while innovative value and social value has no impact on CS at all. Even though the findings from the study are interesting as it undermines the roles of emotional value, the findings may only be applied to the Thai respondents, which is the main limitation of this study. Future research is recommended to explore this issue in other geographical settings.

At the service level, utilitarian benefits, namely the quality of customer service at shops and promotional value, are significant factors enhancing CS. These factors are remarkably noticeable by customers. In addition, service is more difficult to emulate than promotional strategy, as marketing communication in the mobile phone industry focuses on sales promotion to the extent that promotion is indispensable in this industry. Network quality is found to be somewhat important to CS. Customers may expect that network quality e.g. the strength of the signals, the voice clarity, etc, must be the basic function that the operators have to provide. As they expect the functional value to be provided by the operators, CS level is not very high since the expectation only meets the performance expectations.

Hedonic benefits or emotional value of feeling good, being confident, experiencing enjoyment, and being happy, are the least significant contributors to CS. Surprisingly, the marketing communication of mobile phone operators has turned from a utilitarian focus to a hedonic one. For instance, the tagline of Advanced Info Service used to be “Anytime, Anywhere, Everyone” implying its strong signals and wide network coverage. Now, the tagline is “With you Always”, depicting the warmth and caring attitude

toward customers. The company has also launched a personality symbol, "Mr. Warmth". Moreover, DTAC, the second largest operator also changed its tagline from "make it easy", showing an operational attribute to "Feel Goood" with 3 o's to emphasize on the hedonic benefits. With the results from this study, it is questionable whether the customers actually perceive and value the hedonic benefit that both companies want to communicate. Even though several companies are trying to move brand benefits up from the utilitarian level to the hedonic, it is now uncertain whether the action would result in higher CS.

In the fast food industry, McDonald's has done the same by changing the tagline from "Good Taste, Great Fun", a utilitarian value to "I'm lovin' it", a hedonic one, while Starbuck emphasizes experiential benefits such as sofas and couches in addition to coffee. In several industries, while functional value is recognized by the customers, there is no need to continue emphasizing it. Instead, the marketers decide to move to the hedonic benefit so customers can perceive what they can expect to receive from the brand. However, it is surmised that the inconspicuous hedonic value may be difficult to recognize by customers and may take time to instill in their mind. However, it is interesting to identify other factors that affect CS when the company decides to offer higher brand benefits such as the hedonic or experiential levels. At the firm level, corporate image, which includes corporate social responsibilities, was found to have a positive influence on CS. Although the Thai mobile phone operators all possess strong corporate images and engage significantly in corporate social responsibility activities, these factors lag behind the promotional and quality of service at the shops. From this perspective, marketers in telecommunications network companies should focus on observable benefits instead of the unnoticeable ones that lead to higher CS.

APPENDIX

Appendix A: Results of Exploratory Factor Analyses of Customer Values

Factor and Item Description	Factor Loadings	Eigenvalue
Factor 1: Quality		3.07
Network Coverage	0.87	
Voice Quality	0.89	
Signal	0.87	
Connect	0.87	
Factor 2 : Promotion		4.24
Variety of promotion	0.75	
Fitness of promotion	0.88	
Fitness of lifestyle	0.86	
Save because of promotion	0.87	
Use more because of promotion	0.79	
Worthwhile because of promotion	0.89	
Factor 3 : Innovation		2.99
Good response to 3G	0.78	
Innovative	0.91	
Differentiate from others	0.89	
Creative	0.87	
Factor 4 : Social		3.49
Accept by others	0.92	
Impressive	0.95	
Accept by society	0.95	
Improve my perception by others	0.93	
Factor 5 : Emotion		3.15
Feel good	0.86	
Confident	0.89	
Experiencing enjoyment	0.91	
Feel Happy	0.89	
Factor 6 : Image		4.28
Fair company	0.84	
Friendly company	0.88	
Trustworthy company	0.86	
Modern company	0.86	
Adaptive company	0.84	
Corporate social responsibility	0.78	

This table shows the results of exploratory factor analyses of customer values. The first column lists the six factors and their item descriptions. The second column indicates the factor loadings and the third column lists the Eigenvalue of the six factors.

REFERENCES

Adelman, M. B., Ahuvia, A. and Goodwin, C. (1994), "Beyond smiling: social support and service quality", Service Quality: New Direction in Theory and Practice, Rust, R T and Oliver, R L (Eds), Sage, New York, N Y.

Anderson, E. W., Fornell, C. and Lehmann, D. R. (1994), "Customer satisfaction market share, and profitability: findings from Sweden", *Journal of Marketing*, 58(3), 53-66

Anderson, E. W. and Sullivan, M. W. (1993), "The antecedents and consequences of customer satisfaction for firms", *Marketing Science*, 12(2), 125-143

Anderson, R. E and Srinivasan, S. S. (2003), "E-satisfaction and e-loyalty: a contingency framework", *Psychology & Marketing*, 20(2), 123-138

Andreassen, T. W. and Lindestad, B. (1998), "Customer loyalty and complex services: the impact of corporate image on quality, consumer satisfaction and loyalty for customers with varying degree of service expertise", *International Journal of Service Industry Management*, 9(1), 7-23

Batra, Rajeev and Ahtola, O. T. (1990), "Measuring the hedonic and utilitarian sources of consumer attitudes", *Marketing Letters*, 2(2), 159-170

Bloemer, J., Ruyter, K. D. and Peerters, P. (1998), "Investigating drivers of bank loyalty: the complex relationship between image, service quality and satisfaction", *International Journal of Bank Marketing*, 16(7), 276-286

Chen, Z. (2003), "Consumer's value perception of an e-store and its impact on e-store loyalty intention", unpublished PhD dissertation, Purdue University, West Lafayette, IN

Chitturi, Ravindra, Raghunathan, Rajagopal and Mahajan, Vijay (2007), "Form versus function: how the intensities of specific emotions evoked in function versus hedonic trade-offs mediate product preferences", *Journal of Marketing Research*, 44(November), 702-714

Cronin, J.J. Jr., Brady, M. K. and Hult, G. T. M. (2000), "Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intention in service environments", *Journal of Retailing*, 76(2), 193-218

Dhar, Ravi and Wertenbroch, Klaus (2000), "Consumer choice between hedonic and utilitarian goods", *Journal of Marketing Research*, 37(February), 60-71

Eroglu, S. A., Machleit, K. and Barr, T. F. (2005), "Perceived retail crowding and shopping satisfaction: the role of shopping values" *Journal of Business Research*, 58, 1146-1153

Fornell, C. (1992), "A national satisfaction barometer, the Swedish experience", *Journal of Marketing*, 56 , 6-21

Fornell, C., Johnson, M. D., Anderson, E .W., Cha, J. and Bryant, B. E. (1996) "The American customer satisfaction index, nature, purpose and findings", *Journal of Marketing*, 60, 7-18

Griffith, D. A. and Krampf, R. F. (1998), "An examination of the web based strategies of the top 100 US retailers", *Journal of Marketing Science Theory and Practice*, 6(Summer), 12-23

Grönroos, C. (1984), "A service quality model and its marketing implications", *European Journal of Marketing*, 18(4), 36-44

Higgins, E. Tory (1997), "Beyond pleasure and pain", *American Psychologist*, 52(12), 1280-1300

Higgins, E. Tory (2001), "Promotion and prevention experiences: relating emotions to nonemotional motivational states", Handbook of Affect and Social Cognition, Forgas, Joseph P (Ed), Lawrence Erlbaum Associates, London, 186-211

Keaveney, Susan M. (1995), "Customer switching behavior in service industries: an exploratory study", *Journal of Marketing*, 59(April), 71-82

Keeney, R. L. (1999), "The value of internet commerce to the customer", *Management Science*, 45(4), 533-542

Kim, M., Park, M. and Jeong, D. (2004), "The effects of customer satisfaction and switching barrier on customer loyalty in Korean mobile telecommunication services", *Telecommunications Policy*, 28, 145-159

Lewis, Michael (2004), "The influence of loyalty programs and short-term promotions on customer retention", *Journal of Marketing Research*, 51(August), 281-292

Lim, Heejin, Widdows, Richard and Park, Jungkun (2006), "M. loyalty winning strategies for mobile carrier", *Journal of Consumer Marketing*, 23(4), 208-218

Ling, R. (2004), The Mobile Connection: The Cell Phone's Impact on Society, Morgan Kaufmann, San Francisco, CA

Lu, J., Yu, C., Liu, C. and Yao, J. (2003), "Technology acceptance model for wireless internet", *Internet Research Electronic Networking Applications and Policy*, 13(3), 206-222

Martensen, A., Kristensen, K. and Gronholdt, L. (2000), "Customer satisfaction measurement at post Denmark: results of application of the European customer satisfaction index methodology", *Total Quality Management*, 11(7), 1007-1015

McDougall, G. H. and Levesque, G. T. (2000), "Customer satisfaction with services: putting perceived value into the equation", *Journal of Services Marketing*, 14(5), 392-410

Oliver, R. L. (1993), "A conceptual model of service quality and service satisfaction: compatible goals, different concepts", Advances in Marketing and Management, Swartz, T A, Bowen, D E and Brown, S W (Eds), JAI Press Inc., Greenwich, CT, 65-85

Olsen, S. O. (2002). "Comparative evaluation and the relationship between quality, satisfaction, and repurchase loyalty", *Journal of Academy of Marketing Science*, 30(3), 240-249

Parasuraman, A. and Grewal, D. (2000), "The impact of technology on the quality-value-loyalty chain: a research agenda", *Journal of the Academy of Marketing Science*, 28(1), 168-178

Saeed, Wages, Khan, Asif Iqbal and Hussain, Farooq (2009), "User satisfaction with mobile services in pakistan", *International Journal of Organization*, Summer 2009, 2(1), 160-173

Spreng, R. A. and Mackoy, R. (1996), "An empirical examination of a model of perceived service quality and satisfaction", *Journal of Retailing*, 72(2), 201-214

Strahilevitz, Michal and Myers, John G. (1998), "Donations to charity as purchase incentives: how well they work may depend on what you are trying to sell", *Journal of Consumer Research*, 24(4), 434-446

Sureshchandar, G. S., Rajendran, C. and Anantharaman, R. N. (2002), "Determinant of customer-perceived service quality: a confirmatory factor analysis approach", *Journal of Services Marketing*, 16(1), 9-34

Sweeney, J. C. and Soutar, G. N. (2001), "Consumer perceived value: the development of a multiple item scale", *Journal of Retailing*, 77(2), 203-220

Torsten Gerpott J., Rams Wolfgang and Schindler Andreas (2001), "Customer retention, loyalty, and satisfaction in the German mobile cellular telecommunications market", *Telecommunications Policy*, 25(4), 249-269

Woo, Ka-Shing and Fock, Henry K. Y. (1999), "Customer satisfaction in the Hong Kong mobile phone industry", *The Service Industries Journal*, 19(3), 162-174

Yang, Z. and Peterson, R. T. (2004), "Customer perceived value, satisfaction, and loyalty: the role of switching costs", *Psychology & Marketing*, 21(10), 799-822

Zimmer, M. R. and Golden, L. L. (1988), "Impression of retailing store: a content analysis of consumer image", *Journal of Retailing*, 64(3), 265-293

BIOGRAPHY

Dr. Orose Leelakulthanit is an Associate Professor of Marketing at NIDA Business School, National Institute of Development Administration. She can be contacted at: NIDA Business School, 118 Seri Thai Road, Bangkok 10240 Thailand. Email: orose@nida.ac.th

Dr. Boonchai Hongcharu is an Associate Professor of Marketing at NIDA Business School, National Institute of Development Administration. He can be contacted at: NIDA Business School, 118 Seri Thai Road, Bangkok 10240 Thailand. Email: bhongcharu@hotmail.com

CORRELATION BETWEEN TECHNOLOGICAL CREATIVITY, SELF EFFICACY AND KNOWLEDGE SHARING AMONG ATHLETES

Chao-Sen, Wu, TransWorld University, Taiwan
Li-Fen Tsai, TransWorld University, Taiwan
Pei-Wen Wang, TransWorld University, Taiwan

ABSTRACT

The main purposes of this study were to investigate the influence of technological creativity for sports, self-efficacy and knowledge sharing , and to analyze the correlation between technological creativity for sports and knowledge sharing, via the mediating effect of athletes' self-efficacy. This study selected current athletes, including tennis players, track and field athletes, volleyball players, etc. as the subjects, with a total of 250 athletes. Statistical methods, such as Cronbach's α, factor analysis, Pearson's correlation, regression analysis, and path analysis, were used to perform analyses. It was found that on the technological creativity for sports , athletes' creativity and technological capacity had significant positive influence for self-efficacy. In other words, the improvement in athletes' self-efficacy may improve their creativity and level of technological capacity. Therefore, it is necessary for coaches to constantly strengthen athletes' self-efficacy and provide them with the space for the development of creativity and technological capacity in order to specifically improve their athletic performance.

JEL: M12

KEYWORDS: Knowledge Sharing , Self-efficacy, Technological Creativity for Sports

INTRODUCTION

Current scientific training processes enable athletes to discover their physical limitations and provide them with almost complete technological training that approach the matured state of technological skills, which strengthens and develops their potential and is regarded as training in the psychological aspect (Lin,2007). Weinberg (1995) indicated that in both individualized and group sports competitions, the competitors' psychological state has a 90% of chance of affecting the results of the competition. Therefore, relevant studies on psychological skills have become one of the focuses of sports psychologists, coaches, and athletes. Many scholars suggested that athletes' performance in a sports competition no longer simply involved the frequency of physical training, but also the psychological traits in a competition or during the training (Kellner,1989;Chi,1995;Lin,2007).

Karlqvist (1997) suggested that creativity is a capacity for creation. Tierney, Farmer & Grean (1999) indicated that creativity is the pursuit of utility, uniqueness, and results. What is "technological creativity?" Chiu and Yeh (1998) suggested that technological creativity is the successful fulfillment of creative technology. Technological creativity is also the integration of domain knowledge with the process of the formation of creative thought, and the results of formative and creative thinking. As for the athlete-centered field of athletic sports, the emphasis is on the connection of technological creativity for sports with athletes' course of creation of value, which is one of the main purposes of this study.

Among the performance indicators, which were used to assess athletes' individual performance in the past, the aspect of technological creativity for sports was seldom mentioned. However, with the continuous progress in athletes' capacities, diversified training models have become the current training trend, they require to cover more diversified levels. Better creativity and ideas can be proposed based on the athletes' technological creativity for sports, as well as the sharing of relevant knowledge and honor. It can be inferred that the importance of the use of technological creativity for sports to understand athletes' performance in competitions cannot be ignored.

The structure of this research included literature review of keywords, collected data , research method, results and concluding comments. This study analyzed the influence of technological creativity for sports on self-efficacy and knowledge sharing, and further investigated the correlations between technological creativity for sports and knowledge sharing via the mediating effect of athletes' self-efficacy.

LITERATURE REVIEW

SELF-EFFICACY : Bandura (1977) indicated that self-efficacy refers to an individual's level of self confidence in their capacity to complete a specific work by himself/herself. Bandura (1991) suggested that an individuals' faith in their own performance will affect the choices they make, their aspirations, devotion to specific tasks, and how long they can pursue specific goals when faced with difficulties and setbacks. This study suggested that self-efficacy is the judgment of self-capacity to complete specific tasks by individuals. The individuals with higher self-efficacy have higher confidence in accepting challenges. On the contrary, the individuals with lower self-efficacy usually suggest that it is difficult for them to face different challenges. Some studies have found that self-efficacy can improve athletes' athletic performance. In addition, it has been proved that outstanding athletes will use self-efficacy to improve their technologies (Lee,1988; Feltz,1988; Martin & Gill,1991).

Technological Creativity for Sports

Creativity is the thinking process where creativity is activated and triggered (Majaro , 1988). Amabile (1988) suggested that the major factors triggering creativity are profession, creativity thinking skills, intrinsic motivation of work, and social contexts. Amabile (1995) further proposed that creativity is comprised of the new thoughts or matter developed through different human behavioral activities. Runco (2000) suggested that creativity is the expression of adaptability, and is an integrative application of experience transformation, individual subjective consciousness, motivations, knowledge, and experiences. Yeh (2000) suggested that creativity is the course of the development of innovative and valuable products by individuals in specific fields, and such course involves the integration and effective application of cognition, affections, and skills. Wu (2007) proposed a model for the assessment of technological creativity for sports based on three aspects, namely, "cognition", "affection", and "skills". This study applied technological creativity to athletes in their professional sports aspects to create appropriate, innovative, and practical technologies; such process is referred to as technological creativity for sports.

This study suggested that there was a strong correlation among technological creativity for sports, athletes' individual and accumulated knowledge capacity and environment; where athletes must possess the various skills of sports-related fields and creativity-related competencies and motivations.

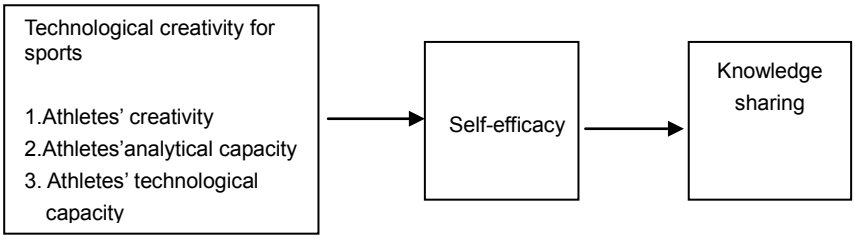
Knowledge Sharing

Sternberg and Lubart (1999) suggested that creativity requires the support of knowledge. Knowledge can be divided as formal and informal knowledge. Knowledge is a complex flow property, which can be used to guide human thinking, behaviors, and communication (van der Spek and Spijkervet, 1997). Beckman (1999) suggested that knowledge is a kind of human logical reasoning for data and information, which can improve human performance at work, in decision-making, problem-solving, and learning; and therefore, innovation and creativity requires new knowledge (Afuah, 1998). Creativity itself is the result of knowledge creation (Wang, 2010). Nonaka & Takeuchi (1995) suggested that knowledge sharing is the process of mutual interactions between implicit knowledge and explicit knowledge. The interaction of different knowledge results in the development of knowledge innovation. Senge (1998) suggested that knowledge is a kind of capacity for effective actions, which is obtained thorough learning, and its purpose is to assist in learning and expand the capacity for effective actions. Nancy (2000) proposed the concept of "sharing" and suggested that sharing is awareness, which is the conveyance of information or knowledge owned by individuals to others, which enables others to possess the same information and knowledge.

DATA AND METHODOLGY

The research framework was established based on the aforementioned research motivations, purposes, and literature reviews. In addition, the data were collected by conducting a questionnaire survey to test whether the hypotheses were supported. The explanations regarding the research framework, research hypotheses, research subjects, and assessment of research variables are described as follows:
The overall conceptual framework is shown in Figure 1. In Figure 1, "-->" denoted the direction of influence. As shown in Figure 1, technological creativity for sports has an influence on both knowledge sharing and self-efficacy. In addition, self-efficacy was used as the mediating variable to analyze the correlations among technological creativity for sports and knowledge sharing.

Figure 1: Research Framework



Note:1. Technological creativity for sports has an influence on both knowledge sharing and self-efficacy. 2.Self-efficacy was used as the mediating variable to analyze the correlations among technological creativity for sports and Knowledge sharing.

Based on literature and the inferences above, the hypotheses of this study were set as follows:

H1: Technological creativity for sports has a significant influence on knowledge sharing.

H2: Technological creativity for sports has a significant influence on self-efficacy.

H3: Technological creativity for sports has a significant influence on knowledge sharing via the mediating effect of self-efficacy.

Assessment of Research Variables

This study referred to relevant literature to choose each research aspect, define variables, and conduct the questionnaire survey to conform to the original research purposes and descriptions acceptable for the subjects. Five physical education (PE) teachers were invited to discuss and amend the questionnaire content to further draw the formal questionnaire. The questionnaire survey was then conducted on 20 athletes to verify the feasibility of the questionnaire. In terms of the questionnaire design, in addition to the individual basic information, a 7-point Likert scale was employed for the assessment of other questions in the questionnaire. The variables were assessed based on the scale ranging from "strongly disagree (1 point)" to "Strongly agree" (7 points). The variables are as follows. Technological creativity for sports: This study referred to the technological creativity scale used by Torrance (1966), Lin and Wang (1994), and Hung (1999) to assess athletes' level of agreement on technological creativity for sports. Regarding self-efficacy: This study referred to the self-efficacy scale for particularities used by Chen, Gully & Eden (2001) to develop the questions. A total of eight assessment questions were developed in order to understand athletes' assessment of self-capacity. Regarding knowledge sharing: This study referred to the knowledge sharing scale used by Nelson & Cooprider (1996), and Senge (1998) to assess the level of mutual knowledge sharing among athletes. A total of eight assessment questions were developed, including the mutual knowledge sharing among athletes and overall sports team knowledge sharing.

RESULTS

This study conducted a questionnaire survey on 250 athletes, with 176 male subjects (70.4%) and 74 female subjects (29.6%). Among them, 153 of the subjects were aged 26-30 (61.2%). Regarding educational background, most were college graduates, including 105 subjects (85.6%). Regarding the years of training and competition participation, 1-3 years was the majority for years of training and competition participation, a total of 170 subjects (68%). Regarding sports categories, the top three sports were tennis, 79 subjects (31.6%), track and field, 51 subjects (20.4%), and volleyball, 49 subjects (19.6%). This study used the Largest Variation Axis of Factor Analysis to obtain the factors with an Eignenvalue > 1, and deleted those questions with low factor loading. In terms of the scale for technological creativity for sports, a total of three factors were extracted, and the cumulative amount of variation explained was 76.78%. Factor 1 was associated with the creative thoughts and innovative thinking of athletes, and was named "athletes' creativity". Factor 2 was associated with analysis, problem-solving, and challenges, and thus was called "athletes' analytical capacity". Factor 3 was associated with self-challenge and technological innovation, and thus was called "athletes' technological capacity".

Cronbach's α of these three aspects were 0.94, 0.91, and 0.91, respectively. In regard to the self-efficacy scale, one factor was extracted, were the cumulative amount of variation explained was 64.83%, and because the factor was associated with athletes' self-efficacy, it was called "self-efficacy". Cronbach's α of the aspect of self-efficacy was 0.91. Regarding the knowledge sharing scale, one factor was extracted, and the cumulative amount of variation explained was 70.28%, and because the factor was associated with knowledge sharing among athletes, it was called "knowledge sharing". Cronbach's α of the aspect of knowledge sharing was 0.93. Cronbach's α for each factor aspect in this study was greater than 0.80, suggesting that the scale had high reliability. The factor aspects extracted based on factor analysis were consistent with the original design of this study, suggesting that the scale had appropriate construct validity. According to the correlation analysis in Table 1, there was a positive correlation between "athletes' creativity" and "athletes' technological capacity" for self-efficacy. In other words, the better athletes' "creativity" and "technological capacity" were, the better their "self-efficacy".

Table 1: Table of Pearson Correlation Analysis

Research variables	Means	Standard deviation	1	2	3	4	5
1.Athletes' creativity	5.55	0.94	1.00				
2.Athletes'analytical capacity	5.87	0.67	-.06	1.00			
3.Athletes' technological capacity	5.60	0.91	.39**	-.09	1.00		
4.Self-efficacy	4.60	0.86	.68**	-.15**	.45**	1.00	
5.Knowledge-sharing	5.36	0.87	-.07	-.04	-.04	-.07	1.00

*Note: 1.**denotes p <0.012. The research used Means to understand athletes' condition , higher Means meant the subjects of this study had higher identification for the research dimension. Therefore , the Means value of athletes' creativity, analytical capacity, and knowledge sharing were higher 5, it meant the identifications of these dimensions were generally higher. 3. The Means of self-efficacy was lower than 5, it meant the identification was lower.*

In order to understand the correlation among athletes' technological capacity for sports self-efficacy and knowledge sharing, and regression analysis was conducted, where self-efficacy and knowledge sharing were used as criterion variables. And athletes' creativity, analytical capacity, and technological capacity were used as predictor variables.

The regression equations were following:

Model 1: Self-efficacy = 1.75+0.68 (athletes' creativity)

Model 2: Self-efficacy = 6.46-0.14 (athletes' analytical capacity)

Model 3: Self-efficacy = 3.08+0.45 (athletes' technological capacity)

Model 4: Knowledge sharing = 4.96 - 0.07 (athletes' creativity)

Model 5: Knowledge sharing = 4.87 - 0.04 (athletes' analytical capacity)

Model 6: Knowledge sharing = 4.81-0.41 (athletes' technological capacity)

It was found in the results of regression analysis that athletes' knowledge sharing had a significant influence on athletes' creativity, analytical capacity and technological capacity of technological creativity for sports (β values were 0.68, -0.14,and 0.45),suggesting that there was a linear relationship, as shown in models 1,2, and 3.(see Table 2)

Table 2: Regression Analysis on Technological Creativity for Sports, Knowledge Sharing, and Self Efficacy

Criterion variables / **Predictor variables**	**Self-efficacy**			**Knowledge sharing**		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
constant term	1.75	6.46	3.08	4.96	4.87	4.81
Athletes'creativity	0.68**			-0.07		
Athletes'analytical capacity		-0.14 +			-0.04	
Athletes' technological capacity			0.45**			-0.41
F value	208.98**	5.24 +	61.73**	1.10	0.30	0.42
R^2	0.457	0.021	0.199	0.004	0.001	0.002

*Note: 1. + denotes p<0.1, ** denotes p<0.01 2. Model 1：y1=1.75+0.68x1, Model 2：y2=6.46-0.14x2, Model 3：y3=3.08+0.45x3 ; The p-value of Model 1,2,3 were lower 0.1, it had significant influence. 3. Model 4：y4=4.96-0.07x4, Model 5：y5=4.87-0.04x5, Model 6：y6=4.81-0.41x6 ; The p- value of Model 4,5,6 were higher 0.1, it had no significant influence.*

According to the vertification of mediating effects proposed by Baron & Kenny(1986),the criteria are as follows: First, the predictor variable has significant influence on the mediating variable. Finally, after the mediator is included, the correlation between the predictor variable and criterion variable should be weaker than before it is inclusive. The correlation in Table 1 indicates that there was no correlation between athletes' creativity, analytical capacity, technological capacity and self-efficacy, and there was not significant correlation between knowledge and self-efficacy, which met the former two criteria proposed by Baron & Kenny, but the second item of this research didn't follow the term. Therefore, the research obtained that athletes' self-efficacy didn't have mediating effect on the correlation among athletes' creativity, analytical capacity, technological capacity, and self-efficacy.

The purposes of this research were to investigate the influence of technological creativity for sports, self-efficacy and knowledge sharing , and to analyze the correlation between technological creativity for sports and knowledge sharing, via the mediating effect of athletes' self-efficacy. This study selected current athletes as the subjects, with a total of 250 athletes. Statistical methods were used to perform analyses, such as Cronbach's α, factor analysis, Pearson's correlation, regression analysis, and path analysis.

It was found that athletes' creativity, technological capacity and analytical capacity in athletes' technological creativity had a positive influence on self-efficacy. The improvement in athletes'

creativity and technological capacity had direct significant influence on athletes' self-efficacy, which was one of the major causes for a significant improvement in athletes' technological creativity. Such results can be provided as references to future training. In addition, athletes' analytical capacity had significant negative influence on self-efficacy, it meant athletes' analytic capacity would reduce the athletes' self-efficacy. And athletes' analytic capacity had no influence on knowledge sharing, it meant that high or low athletes' technological creativity had no influence on knowledge sharing.

The results indicated that there was no significant influence on athletes' technological creativity and knowledge sharing via the mediating variables of self-efficacy. That is, the advancement of athletes' self-efficacy had no assistance for athletes' technological creativity on the influence of knowledge sharing.

CONCLUDING COMMENTS

Technological creativity is the successful fulfillment of creative technology. With effective cultivation and training of creativity and technological capacity, better performance can be obtained. In other words, when athletes constantly try new methods, approaches, and skills, coaches should provide them with guidance or assistance at the right time in order to trigger new ideas and achieve the expected objectives.

To strengthen athletes' self-efficacy, as well as to improve athletes' creativity and technological capacity, athletes' performance can be further increased. Therefore, it is necessary for coaches to constantly strengthen athletes' self-efficacy during training and provide them with the space for the development of creativity and technological capacity. In this way, athletes' specific athletic performances can be improved. Regarding the subjects of questionnaire survey, this study adopted convenience sampling, thus, demographic variables were not upon average distribution. Future studies can adopt stratified sampling. The athletes who fill in the questionnaire might be influenced by subjective or external factors such as environment, emotion, attitude and perception.

This study used path analysis to verify the research hypotheses. Structural Equation Model (SEM) can be included to verify models in future studies. Because there is a lack of relevant studies on technological creativity for sports, it is hoped that these research results can be provided as references for future studies to continuously clarify and investigate technological creativity in sports.

REFERENCES

Afuah, A.(1998),*Innovation Management : Strategies, Implementation, and Profits,* Oxford University Press, Inc.,New York

Amabile, T.M. (1988),"A model of creativity and innovation in organization", *Research in Organization Behavior*, Vol.10, p. 123-167

Amabile, T.M. (1995),"Attributions of creativity: What are the consequences ? ", *Creativity Research Journal,*Vol.8(4),p. 423-436.

Bandura, A. (1977),*Social learning theory*, Prentic-Hall, N.J.

Bandura, A.(1991), "Social cognitive theory of self-regulation", *Organizational Behavior and Human Decision*, Vol. 50,p. 248-287

Beckman, T.J.(1999),"The Current State of Knowledge Management", edited by Liebowitz, J. , *In Knowledge Management Handbook* , CRC Press, N.Y., p.1-22

Campbell, J. (1990),"Modeling the performance prediction problem in Industrial and Organizational Psychology*"*, In Dunnette, M.D . & Hough, L.M (Eds.).*Handbook of industrial and organizational psychology*,Vol.2,Consulting Psychologists Press, Chicago,p. 687-732.

Chen, G., Gully, S. M. & Eden, D.(2001),"Validation of a New General Self-efficacy Scale", *Organization Research Methods*, Vol. 4 (1),p. 62-83

Chi, L.K., Lai, S.L. & Chen, M.Y. (1995)," A Study on the Correlation between College Tennis Players' Sports Objective Orientation and Sports Motivation", *Journal of Physical Education*, Vol. 20, p. 1-12.

Chiu, H.C. & Yeh, Y.C. (1998),"Definition of Technological Creativity", *published at the 1998 Technological Creativity Symposium in Kaohsiung*,Sun Yat-sen University, Kaohsiung, p. 21-34

Feltz, D.L.(1988),"Self-confidence and sports performance", *Exercise and sport science reviews*,Vol.16 , p. 423-457

Hung, J.C.(1999)."An Analysis on Scientific Creativity", *International Scientific Education Integrative Thinking Symposium in Taitung*, Taitung Teachers University, Taitung, p. 43-50

Karlqvist, A. (1997),"Creativity:Some Historical Footnotes from Science and Art" ,eds by Andersson, A. E. & Sahlin, N.E., *In the Complexity of Creativity*, Dordrecht, p.105-114

Kellner, S. (1978),*Taking it to the limit with basketball cybernetics*, Durite, New York

Lee, C. (1988),"Self-efficacy as a predictors of performance in competitive gymnastics", *Journal of Sports Psychology*, Vol. 4, p. 405-409.

Lin, S.C. (2007),"Influence of Image Training on the Psychological Skills, Attitude towards Psychological Skills, and Athletic Performance of College Female Softball Team.", Unpublished Master's Thesis, Taipei Physical Education College, Taipei City

Lin, S.T. & Wang, M.J. (1994), *Manual on Williams Creativity Test*, Psychology, Taipei.

Majaro, S. (1988),*The creative Gap: Managing ideas for profit*, Longman, London

Martin, J. & Gill, D.(1991),"The Relationship among competitive orientation, sport-confidence, self-efficacy, anxiety, and performance", *Journal of Sport & Exercise Psychology*, Vol.13, p. 149-159.

Nancy, M.D.(2000), *Common Knowledge：How Companies thrive by Sharing What They Know*, Harvard Business School Process, Boston.

Nelson, K.M. & Cooprider, J.G. (1996)," The contribution Shared Knowledge to IS Group Performance", *MIS Quarterly*, December, p. 409-432
Nonaka, I. & Takeuchi, H. (1995), *The knowledge-creating company*, Qxford University Press, New York

Robbins, S.P.(1998), *Organizational Behavio(8th ed.)*, Prentice Hall International, N. J.

Runco, M.A.(2000),"Personal explicit theories of creativity", *The Journal of Creative Behavior*, Vol. 32 (1), p.1-17

Schermerhorn, J.R., Hunt, J.G., & Osborn, R.N.(1999), *Managing Organizational Behavior(3th ed)*, John Wiley & Sons, Inc, NY

Senge, P. (1998), "Sharing knowledge", *Executive Excellence*, Vol. 15(6), p.11-13.

Sternberg, R.J. & Lubart, T.I. (1999), "The Concept of Creativity: Prospects and Paradigms", In Sternberg, R.J.(Ed), *Handbook of creativity*, Cambridge University Press, New York,p.3-15

Tierney, P., Farmer, S. M., & Graen, G.B. (1999),"An examination of leadership and employee creativity: The relevance of traits and relationships", *Personnel Psychology*, Vol. 52, p. 591-620.

Torrance, E.P. (1966), *Torrance tests of creative thinking: Norms-technical manual*, Personnel press, Inc., N.J.

Van der Spek & R., Spijkervet, A. (1997),"Knowledge management : Dealing intelligently with knowledge", in Liebowitz, J., Wilcox, L.C. (Eds),*Knowledge Management and its Integrative Elements*, CRC Press, Boca Raton, FL, p.31-59.

Wang, M.S. (2010),"Influence of Knowledge Sharing and Project Complexity on Group Creativity: Taking the Development of Information System for example." , *Journal of e-Business*, Vol. 12 (1),p. 73-102.

Weinberg, R.S., Fouler, C., Bagnall, J., & Jackson, A. (1991),"Effect of goal difficulty on motor performance", *Journal of Sport & Exercise Psychology*, Vol.14, p. 298-308.

Wu, C.Y. (2007), "A Study on Personality Traits, Knowledge Sharing, Organizational innovative atmosphere, and Enterprise Technological Creativity", Unpublished doctoral dissertation, Department of Business Education, National Changhua University of Education, Changhua County

Yeh, Y.C. (2000). "Biological Systemic Model for Creativity Development and the Analysis on the Insight of Its application to scientific and information fields", *Education Psychology*, Vol. 32(1), p. 95-122.

ACKNOWLEDGEMENT

The authors wish to thank the anonymous reviewers for their excellent comments, resulting in a significant improvement in the quality of this paper.

BIOGRAPHY

Chao-Sen Wu, Department of Business Administration, Transworld University, Taiwan. Contacted address: No.1221, Zhennan Rd., Douliu City, Yunlin County 640, Taiwan.
Email: jausen1980@yahoo.com.tw

Li-Fen Tsai, corresponding author, Department of Marketing Management, Transworld University, Taiwan. Contacted address:No.1221, Zhennan Rd., Douliu City, Yunlin County 640, Taiwan
Email: lifen824@yahoo.com.tw

Pei-Wen Wang, Department of Marketing Management, Transworld University, Taiwan. Contacted address: No.1221, Zhennan Rd., Douliu City, Yunlin County 640, Taiwan.
Email: peiwenwang@twu.edu.tw

EMPLOYEE PERCEPTION OF LEADERSHIP STYLES BY LAS VEGAS CASINO-GAMING MANAGERS

Gregory W. Goussak, Roseman University of Health Sciences
Jon K. Webber, University of Phoenix

ABSTRACT

As the casino-gaming industry continues to grow, the understanding of leadership styles becomes even more important because of competition and economic challenges. The purpose of this research study was to examine employee perceptions of managerial leadership styles in Las Vegas casino-gaming operations in conjunction with revenue growth between 2000 and 2006. Participants in the current research study completed the Multifactor Leadership Questionnaire Form 5X (MLQ) to express their perceptions about the leadership styles of casino-gaming managers. The study revealed that Las Vegas casino-gaming employee participants perceived their managers as following a transactional rather than a transformational style of leadership. In addition, revenue growth was not seen as a determining factor in how employees viewed their manager's leadership style.

JEL: M1

KEYWORDS: Leadership, Transformational Leadership, Casinos, Gaming

INTRODUCTION

Leadership is one of the most widely researched topics of the 20th century while being one of the most misunderstood as well (Burns, 1978; Chang, 2005; Masood, Dani, Burns, & Backhouse, 2006). Antonakis, Cianciolo, and Sternberg (2004) claimed that the changing leadership paradigms explained a portion of the 20th century's long confusion related to the study of leadership. The difficulty in defining the most effective style of leadership is two-fold. First, leadership lacks a common definition. Throughout the past century, scholars could only disagree on what the term means (Antonakis et al.). The second issue of concern reflects the ever-changing environment of 21st century organizations (Kupers & Weibler, 2006). One factor believed to play a significant role in the changing environment concerns how emotions play an important role between how leaders and followers relate to one another (Kupers & Weibler).

The study of leadership over the early portion of the 20th century tended to disregard emotions as unimportant distractions (Kupers & Weibler, 2006). Kupers and Weibler believed ignoring emotions was a critical error on the part of leadership scholars; only recently does the literature account for the affect emotions play in the influence leaders have over their followers. The study of 20th century leadership initially focused on the characteristics or styles of leaders as perceived by the environment. The differences between leaders and non-leaders also raised the primary weakness of the Trait School of Leadership. Perceived leadership rely on individual opinions often resulting in negative descriptions preventing an accurate description of leadership (Antonakis et al., 2004).

As the study of leadership progressed from the late 20th century and into the early 21st century, the complexity of analysis increased (Antonakis et al., 2004). Antonakis et al. believed that the study of leadership no longer focused its impetus on individual traits or characteristics. Leadership research of the 21st century focuses on the transformation of an organization from being results-orientated leadership to one interested in the success of individuals and the organization (Antonakis et al.). According to Hack

and Roberts (2003), transforming an organization involves changing the approach taken towards defining and measuring organizational performance.

An important part of assessing key skills in hospitality leaders is the ability to understand and effectively deal with change (Brownell, 2005; Van Wart, 2004). According to Van Wart (2004), the analysis of leadership must focus on how "[leadership] varies significantly from one situation to the next" (p. 173). An example of the constant variation of situations found in the casino-gaming industry began in 1976 when casino style gaming in Atlantic City, New Jersey was legalized and was further expanded with the Indian Gaming Regulatory Act of 1988 (Wenz, 2006). Van Wart's (2004) analysis emphasized that leadership in the casino-gaming industry must remain flexible in its approach to guide an organization through expansive times.

Because of the exponential growth of casino gambling in the past few decades, leadership in the casino-gaming industry has become a topic of interest (Hayles, 2010; Schaap, 2006; Schneider, Macey, Barbera, & Martin, 2009). Over the past 20 years, the casino-gaming industry has grown from a Nevada industry to one encompassing 29 states and 176 Native American Indian reservations (Wenz, 2006). Between 1991 and 1998, casino-gaming revenues grew 134% nationally (Thalheimer & Ali, 2003). During the period 1996 to 2000, some Las Vegas casino-gaming operations experienced growth three times the national average. For example, revenues at the MGM-Mirage Corporation (known today as MGM Resorts International) experienced revenue growth at a rate of 304% (MGM-Mirage, 2000). The continued growth of the Las Vegas casino-gaming industry creates a need to understand if the leadership style of managers plays a significant factor in that growth (Brownell, 2005; Van Wart, 2004). Understanding existing leadership styles at casinos provides management with a tool necessary for the development of future leaders as the business environment of an industry continues to change. Schaap (2006) determined through his empirical research of the Nevada gaming industry that the environment is in a state of constant change requiring flexibility in order to remain competitive. This study provides an exploration of whether managers in 21st century Las Vegas casino-gaming industry exhibit transformational leadership behavior. The significance of this information could develop a model to train future managers for the casino-gaming industry.

Schaap (2006) determined through his empirical research of the Nevada gaming industry that the environment is in a state of constant change requiring flexibility in order to remain competitive. This study provides an exploration of whether managers in the 21st century Las Vegas casino-gaming industry exhibit transformational leadership behavior. The significance of this information could develop a model to train future managers for the casino-gaming industry. The paper will begin by describing the full range leadership model. It will then review literature about the specifics of the transformational leadership style in affecting a paradigm change in an organization. The discussion concludes with study results involving specific employee perceptions about managerial leadership styles in the Las Vegas casino-gaming industry and then describes the methodology of the study, its results, and recommendations for future research.

LITERATURE REVIEW

Significance to Leadership

The significance to leadership this study provides is a focus on employee perceptions of the leadership styles exhibited by managers in the Las Vegas casino-gaming industry. The foundation of this study focused on the theory of transformational leadership included in the Bass and Avolio (2002, 2004) full range leadership model (FRLM). The FRLM consists of three levels of leadership styles defined by eight specific components. The highest level of the FRLM is the transformational level. The transformational

level includes four components: (a) charisma/idealized influence (II), (b) intellectual stimulation (IS), (c) individualized consideration (IC), and (d) inspirational motivation (IM). The middle level of the FRLM is the transactional level consisting of the following two components: (a) contingent reward (CR) and (b) management-by-exception (active) (MBEA). The lowest level of the FRLM is the passive-avoidant non-leadership level, which includes: (a) management-by-exception (passive) MBEP and (b) laissez-faire (Bass & Avolio, 2002).

The FRLM is a building process of the different levels of leadership based on specific leadership behaviors (Bass & Avolio, 2002). For example, the management-by-exception (active) (MBEA) component of transactional leadership centers on the observation of organization activities where the leader specifically looks for problems and errors and takes action only when something negative occurs (Kirkbride, 2006). In contrast, transformational leaders take a more proactive role in organizational observation and direct action and interaction with their followers (Bass & Avolio).

The Multifactor Leadership Questionnaire 5X Short-Form (MLQ) is considered the primary tool for measuring the perception of followers about the leadership style of managers (Antonakis, 2001). This research study focused solely on the MLQ measurements of employee perceptions about the transformational leadership characteristics of managers in the Las Vegas casino-gaming industry. This study attempted to understand if a relationship existed between employee perceived transformational leadership style and revenue growth in Las Vegas casino-gaming operations that exceeded 100% for the period 2000 to 2006. The significance to leadership that this study raised relates to Schaap's (2006) study of Nevada casino executives. Schaap found that the Nevada casino-gaming industry presents a number of unique situations requiring different managerial approaches depending on the situation. Successful leaders combine each of these unique situations into a database of knowledge that enhances itself within the process creating solutions focused on the specific problem.

Transformational Leadership

Transformational leadership gained the attention of the leadership academic community and the social sciences because previous research on leadership failed to identify a single all encompassing style for every environment or situation (Barling, Christie, & Turner, 2008; Bass, 1990; Thompson, 2004). The shift in leadership paradigms began in the late 20th century focused on transforming ineffective leaders into effective leaders through the inspiration and motivation of followers (Spence-Lashinger & Finegan, 2005; Tucker & Russell, 2004). Al-Mailam (2004) found that transforming followers requires "enthusiasm, charisma and dedication" (p. 278) as critical components in successful leadership.

Bass and Avolio (2002) believed that charisma (idealized influence) is central to the transformational leadership process. The key to charismatic leading is the ability of leaders to influence their followers' acceptance of the organization's common vision (Jaskyte, 2004). Charismatic leaders articulate that vision by establishing their individual creditability (Ilies, Judge, & Wagner, 2006). Idealized influence is more than the admiration of one's followers based on popularity or personality. Idealized leaders create an atmosphere of follower desire to emulate the leader because the leader shares in the tasks required for goal attainment and the risks associated with those same goals (Bass & Avolio, 2002; Wu, Neubert, & Yi, 2007). This behavior establishes leadership credibility both internally and externally as all of the organization's stakeholders endow the leader with confidence and support (Bass & Avolio, 2002). Brown-Boone (2006) believed that idealized leaders become role models by establishing their expertise in guiding the organization. Leaders develop a level of confidence within the organization by creating a consistent environment where leaders and followers equally share risk (Brown-Boone).

Inspirational leaders expand their credibility by engaging their followers into accepting new responsibilities necessary for goal attainment (Bass & Avolio, 2002; Bass, 2003). These responsibilities begin with a clear articulation of the organization's vision and follows closely with detailed communication of this vision (Barbuto, 2005; Ozaralli, 2003). Intellectual stimulation uses influence (charisma) and inspiration to entice creativity and innovation among followers (Bass, 2003; Lim & Ployhart, 2004). Transformational leaders encourage followers to integrate creativity and risk-taking as a part of the problem solving process. Individual consideration focuses on the individual improvement of followers. Avolio and Yammarino (2002) equate the individual consideration component of transformational leadership to the contingency paradigm because leaders change styles based on the individual needs of their followers. Transformational leaders encourage creativity, individual responsibility and innovative approaches to support the leader's vision (Bass, 1990). Kouzes and Posner (2007) believed positive change is possible through articulated communication of a supportable vision within an environment relating the organization's vision to follower self-interests. Lester (2007) believed the key to transformational leadership is the ability of top leadership to recognize that transforming an organization depends on change.

Hack and Roberts (2003) discovered that transforming an organization is a "means to change the nature, function, or condition of [an organization's environment]" (p.1). Kirkbride (2006) posited that transactional leaders utilize customary punishment-reward methods to accomplish organizational goals while transformational leaders focus on a vision and process for guiding an organization and its members. Key dimensions of transformational leadership include (a) articulating a vision; (b) fostering group goal acceptance; (c) modeling behaviors in alignment with the articulated vision; (d) providing individualized support and consideration; (e) setting high expectations for performance; and (f) imparting intellectual stimulation. The leader's behavior as a role model is imperative, setting an example for others to follow on the path to a common goal (Gooty, Gavin, Johnson, Frazier, & Snow, 2009).

Transformational leadership is not without controversy. Transformational leaders depend on their ability to influence followers by affecting their beliefs and values (Rowlett, 2005; Vera & Crossan, 2004). Unethical leaders use transformational leadership principles to take advantage of their followers (Homrig, 2005; Rowlett). Bass (2003) called this behavior *pseudotransformational leadership*. Pseudotransformational leadership behavior appears transformational on the surface, but in reality is selfish, ineffective, and immoral (Barling et al., 2008; Smith, Montagno & Kuzmenko, 2004). Examples of pseudotransformational leadership were the corporate scandals of Enron and WorldCom in the early 21st century (Bass, 2003). Homrig believed that transformational leaders could unscrupulously influence followers to abandon their individual desires in favor of the goals of their leaders. According to Action and Golden (2003) and Spence-Lashinger and Finegan (2005), pseudotransformational leaders create a distrustful environment that directly affects organizational performance including a diminished commitment on the part of their followers.

Khatri (2005) postulated that the Bass transformational leadership model includes conceptual and methodological flaws primarily the overlapping found within the four transformational leadership components. For example, Yukl (1999) believed intellectual stimulation is unclear and includes similarities with individual consideration and inspirational motivation. Khatri believed these similarities center on two primary constructs: charisma and vision. Charisma represents the conceptual construct of emotion and vision represents the methodological construct of intellect. Khatri found these constructs form the basis found within each of the Bass (1990) transformational leadership components. Following Khatri's alternative model of transformational leadership, leaders fall within one of four leadership categories: (a) charismatic and visionary (transformational), (b) non-charismatic and visionary, (c) charismatic and non-visionary, and (d) non-charismatic and non-visionary. Central to the Khatri alternative model is the independence between charisma and vision. Khatri expanded his theory by

demonstrating an overlap between transformational leadership and contingent reward transactional leadership. Key to the Khatri model is the presence of both constructs to inspire and lead an organization. Absence of either or both charisma and vision represents non-transformational leadership.

Bass and Avolio (2002) believed that the characteristics of a successful leader include components from each level of the FRLM. Successful leaders minimize their frequency as passive-avoidant leaders while maximizing their transformational leadership style. Many research studies have examined transformational leadership, empirically proving the value of transformational characteristics for effective leadership (Hetland, Sandal, & Johnsen, 2008; Pielstick, 1998; Young, 2004). Northouse (2010) extolled the intuitive appeal of transformational leadership: (a) leaders advocate for others, and (b) leadership is a process between leaders and followers. Transformational leadership also serves as an important mechanism for organizational change (Masood, Dani, Burns, & Backhouse, 2006). Schaap (2006) found there exists "a positive relationship between companies having success in achieving their financial and/or strategic performance targets and a senior-level leader's style of leadership being inspirational to others" (p.21).

Tracey and Hinkin's (1994) research of hospitality industry executives found effective transformational leadership styles include a focused vision of organizational needs. Hartley-Leonard, former chair of Hyatt Hotels, believed that employee creativity is an integral part of a company's success (Tracey & Hinkin). Kouzes (1999) believed that leading people means caring about them. The development of individual followers defines leadership, not the leader's control over followers (Kouzes). In a study of 68 financial services managers, Feinberg, Ostroff and Burke (2005) found a positive correlation between transformational leadership behavior and followers' willingness to adopt the organization's vision. Tesone (2004) believed that hospitality leaders operate in a transformational environment by increasing the learning process of its leaders. Tesone referred to the learning process as the whole brain leadership model. The focus of the whole brain leadership model is learning through knowledge and experience. Successful hospitality leaders that are truly transformational utilize cognitive assimilation of information as the knowledge component. Working closely in conjunction with the knowledge component is the experience component. Tesone (2004) found that transformational hospitality leaders "create and enhance the leadership abilities of all staff members within a given organization" (p. 367).

Schapp (2006) conducted the only known empirical study of leadership behavior in the casino-gaming industry. Schapp studied 126 executives from throughout the Nevada gaming industry focusing on leadership styles in correlation to successful organizational performance. Schapp believed that successful performance encompasses two primary factors. First, leaders need to take an innovative approach to the structure of the organization. The second factor concerned the actual implementation of the organization's strategy. Schapp found that a correlation exists between the transformational leadership trait of inspirational motivation and successful performance. Although a specific leadership style does not explain organizational success in every instance, Schaap's study did determine that inspiring one's followers was a significant key to effective strategy implementation and eventual organizational success. The lack of additional empirical research indicates a need for additional study in the area of leadership in the casino-gaming industry.

METHODOLOGY AND RESULTS

There are many different methods for conducting effective and meaningful research. This study utilized a non-experimental quantitative method of cross-sectional research to examine employee perceptions about managerial leadership styles in the Las Vegas casino-gaming industry. Hair, Bush and Ortinau (2009) believed that survey research is an effective method for measuring a sample or the entire population to

describe specific opinions or perceptions of a topic. Cross-sectional surveys measure existing perceptions at a fixed point-in-time (Hair et al.).

HYPOTHESIS

The focus of this research study was on the MLQ measurements to understand if a relationship exists between perceived transformational leadership characteristics and revenue growth of Las Vegas casino-gaming operations for the period 2000 to 2006. This study compared employee perceptions of transformational leadership styles between Las Vegas casino-gaming operations experiencing growth in revenue exceeding 100% with those operations experiencing revenue growth less than 100% for that time period. The analysis of the data collected for the following hypothesis determined if a statistically significant difference existed in employee perceptions of managerial transformational leadership in Las Vegas casino-gaming operations:

H1: There is no difference in the perception of Las Vegas casino-gaming employees regarding their managers' possessing a transformational leadership style in operations having revenue growth in excess of 100% when compared with operations having revenue growth less than 100% (for the period 2000 to 2006).

Instrumentation

This study utilized the Multifactor Leadership Questionnaire 5X Short-Form (MLQ) to measure the perceptions of casino-gaming employees about their managerial leadership styles (e.g. transformational leadership). The MLQ Form 5X consists of 45 rating statements utilizing a five –point Likert-type scale (0=not at all, 1= once in a while, 2= sometimes, 3= fairly often, 4=frequently, if not always) for measuring employee perceptions about the leadership styles of their managers. Antonakis (2001) verified the effectiveness and validity of the MLQ in his doctoral dissertation. Antonakis found the MLQ provides the most accurate measure of organizational leadership in a broad variety of business and academic environments. This study focused solely on the rating statements measuring the transformational style of leadership.

Population

Hair, Bush and Ortinau (2009) postulated that the target population of a research study encompasses individuals sharing a unique focus or purpose. Leedy and Ormrod (2005) found that the validity of the sample size depends on the level of homogeneity of the population. The more homogeneous the population, the smaller the sample required for a valid quantitative study. The population of this study was randomly selected from a homogenous population of Las Vegas casino-gaming employees. The target population was individuals currently employed in the Las Vegas casino-gaming industry. The sampling of a target population provided this research study with a representative group needed to generalize about the target population (Cooper & Schindler, 2005). The source of this target population originated from two sources: (a) individuals registered in the electronic mail database of the William F. Harrah College of Hotel Administration (Hotel College) located at the University of Nevada, Las Vegas (UNLV) and (b) UNLV alumni currently employed at Harrah's Entertainment.

A total of 71 individuals expressed an interest in participating in the current research study. A total of 18 individuals were eliminated from the results of the current study leaving a net total of 53 qualified participants. Unqualified participants were individuals not currently employed in the Las Vegas casino-gaming industry. Participants failing to complete one or more of the study documents were designated as incomplete responses. Other eliminated participants listed in their demographic survey a non-publicly

traded or unidentifiable employer. The final sample of participants represented individuals that were employees of a publicly traded Las Vegas casino-gaming operation.

Demographics

The demographic distribution of this study included 56.6% female participants. The age distribution of participants included 77.4% between the ages of 18 and 35 years. The educational distribution of participants showed 58.5% currently holding a bachelor's degree. The employment demographics included 49.1% of participants in a line position of a Las Vegas casino-gaming operation. Study participants included 45.3% holding their current position for less than one year and 35.8% working in the casino-gaming industry between one and five years (see Table 1).

Table 1: Summary Statistics

Demographic	Statistics
Gender	Male = 43.4%
	Female = 56.6%
	N (53)
Age	18-25 = 45.3%
	26-35 = 32.1%
	36-45 = 13.2%
	46-54 = 5.6%
	Over 55 = 3.8%
	N (53)
Education Completed	High School = 35.8%
	Bachelor's Degree = 58.5%
	Master's Degree = 5.7%
	N (53)
Employment	Line Position = 49.1%
	Supervisor = 15.1%
	Manager = 28.3%
	Senior Executive = 7.5%
	N (53)
Time in Current Position	Under 1 Year = 45.3%
	1-5 Years = 35.8%
	6-10 Years = 13.2%
	Over 10 Years = 5.7%
	N (53)

This table shows the summary statistics for the demographic variables.

Findings

Bass and Avolio (2004) prescribed a set of guidelines as the benchmark for mean scores of employee perceptions about their leaders (see Table 2). For example, a mean score that is 3.0 or greater for any of the four components of transformational leadership could denote that the employee perceived their managers' leadership style as transformational.

Table 2: Benchmark Guideline for Mean Scores of Full-Range Leadership Model Components

FRLM Component	Mean Range
Idealized Influence	>3.0
Inspirational Motivation	>3.0
Individualized Consideration	>3.0
Intellectual Stimulation	>3.0
Contingent Rewards	>2.0
Management-By-Exception (Active)	<1.5
Management-By-Exception (Passive)	<1.0
Laissez-faire	<1.0

This table shows the benchmark guidelines of the mean scores of the Full-Range Leadership Model.

The resulting descriptive statistics for the transformational leadership style of the FRLM indicate an overall mean score of 2.31 (sometimes). The mean score for the FRLM transformational leadership components of employee perceptions of their managers in Las Vegas casino-gaming operations that experienced revenue growth exceeding 100% was 2.34 (sometimes). In contrast, the mean score of employee perceived transformational leadership components of Las Vegas casino-gaming managers in operations failing to experience revenue growth of at least 100% was 1.91 (once in a while).

To test the hypothesis, The *F* test: two-samples for variances were generated to determine if the variances between the samples were equal or unequal regarding Las Vegas casino-gaming employee perception of the managerial leadership style of the four components of transformational leadership (idealized influence, inspirational motivation, individualized consideration and intellectual stimulation). Once the variances between the samples were determined to be equal or unequal, the appropriate *t* tests: two-samples for equal or unequal variances, were generated for each transformational leadership component. According to Cooper and Schindler (2005) and Creswell (2008), the *t* test: two-samples assuming equal variances or the *t* test: two-samples assuming unequal variances were appropriate because the *t* test measures the difference between the means of two groups with a small sample size (Cooper & Schindler, 2005; Creswell, 2008). The confidence interval for the current study was 95%.

Findings for Hypothesis 1

H1: There is no difference in the perception of Las Vegas casino-gaming employees regarding their managers' possessing a transformational leadership style in operations having revenue growth in excess of 100% when compared with operations having revenue growth less than 100% (for the period 2000 to 2006).

Idealized Influence

The *F* test: two-samples for variances of Las Vegas casino-gaming employee perception about their managers' idealized influence component of transformational leadership indicated the variances between samples were unequal, F (3, 48) = 3.022, p = 0.039 (one-tailed). As the variances were unequal between the samples, the *t* test (unequal variances between means) generated a *t*-statistic less than the *t*-critical value with three degrees of freedom. The result of the *t* test (unequal variances between means) indicates that employee perceptions are the same for both groups of employees and no significant difference exists in conjunction with revenue growth for the period 2000 to 2006 (M = 2.39, SD = 1.04), t (3) = 0.605, p = 0.294 (one-tailed), p = 0.588 (two-tailed) (see Table 3).

Inspirational Motivation

The *F* test: two-samples for variances of Las Vegas casino-gaming employee perception about their managers' inspirational motivation component of transformational leadership indicated the variances between samples were equal, F (3, 48) = 2.353, p = 0.084 (one-tailed). As the variances were equal between the samples, the *t* test (equal variances between means) generated a *t*-statistic less than the *t*-critical with 51 degrees of freedom (pooled variances and observations). The result of the *t* (equal variances between means) indicates that the means of employee perceptions are equal and no significant difference exists between the means in conjunction with revenue growth for the period 2000 to 2006 (M = 2.39, SD = 1.18), t (51) = 0.581, p = 0.282 (one-tailed), p = 0.564 (two-tailed) (see Table 3).

Individualized Consideration

The *F* test: two-samples for variances of Las Vegas casino-gaming employee perception about their managers' individualized consideration component of transformational leadership indicated the variances between samples were equal, F (3, 48) = 1.768, p = 0.166 (one-tailed). As the variances were equal between the samples, the *t* test (equal variances between means) generated a *t*-statistic less than the *t*-critical with 51 degrees of freedom (pooled variances and observations). The result of the *t* (equal variances between means) indicates that the means of employee perceptions are equal and no significant difference exists between the means in conjunction with revenue growth for the period 2000 to 2006 (M = 2.20, SD = 1.06), t (51) = 0.267, p = 0.395 (one-tailed), p = 0.791 (two-tailed) (see Table 3).

Intellectual Stimulation

The *F* test: two-samples for variances of Las Vegas casino-gaming employee perception about their managers' intellectual stimulation component of transformational leadership indicated the variances between samples were equal, F (3, 48) = 2.782, p = 0.051 (one-tailed). As the variances were equal between the samples, the *t* test (equal variances between means) generated a *t*-statistic less than the *t*-critical with 51 degrees of freedom (pooled variances and observations). The result of the *t* (equal variances between means) indicates that the means of employee perceptions are equal and no significant difference exists between the means in conjunction with revenue growth for the period 2000 to 2006 (M = 2.20, SD = 1.06), t (51) = 1.050, p = 0.149 (one-tailed), p = 0.299 (two-tailed) (see Table 3).

Table 3: Summary of t Test: Two-Samples Assuming Equal or Unequal Variances

Leadership Style	***t*-Statistic**	***p*-Value (one-tailed)**	***t*-critical (one-tailed)**	***p*-Value (two-tailed)**	***t*-critical (two-tailed)**
Idealized Influence	0.605*	0.294	2.353	0.588	3.182
Inspirational Motivation	0.581*	0.282	1.675	0.564	2.007
Individualized Consideration	0.267*	0.395	1.675	0.791	2.007
Intellectual Stimulation	1.050*	0.149	1.675	0.299	2.007

** indicates significance at the .05 level. This table shows the results of the t tests: two-samples assuming equal or unequal variance results for each component of the Transformational Leadership Style.*

To confirm the results of the t test: two-samples assuming equal or unequal variances, an ANOVA of the transactional leadership perceptions of Las Vegas casino-gaming employees was generated to determine if a relationship exists between employees working at a Las Vegas casino-gaming operation that experienced revenue growth that exceeded 100% for the period of 2000 to 2006. The results of the ANOVA revealed that no significant difference exists between employee perceptions of their managers transformational leadership traits because of percentage of revenue growth for the period 2000 to 2006 (F = 0.64; F crit. = 4.03; p = 0.42). If a low p value (less than .05) had been found, then the employee perception of transformational leadership traits of their managers may be used to determine a difference in leadership traits rejecting the null hypothesis (see Table 4).

Table 4: Transformational Leadership ANOVA

Groups	**Count**	**Sum**	**Average**	**Variance**		
Revenue Growth Over 100%	49	114.65	2.34	0.97		
Revenue Growth Under 100%	4	7.64	1.91	2.66		
Source of Variation	**SS**	**df**	**MS**	**F**	***p*-Value**	**F crit**
Between Groups	0.69	1	0.69	0.64*	0.43	4.03
Within Groups	54.33	51	1.07			
Total	55.01	52				

** indicates significance at the .05 level. This table shows the results of the ANOVA for the Transformational Leadership Style.*

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

According to Chung-Herrera, Enz, and Lankau (2003), competitive organizations in the 21st century depend on a comprehensive understanding of its leader's abilities and leadership style. Understanding the nuances and characteristics of the existing leadership styles provides management with a necessary tool for developing future leaders. This research study focused on the perceptions of employees working in the Las Vegas casino-gaming industry about the leadership styles found in their managers.

The results of the tests for the hypothesis failed to reject the null hypothesis for each of the four transformational leadership components. The mean scores of each of the transformational leadership components measured by the MLQ rating statements was (a) 2.39 (idealized influence), (b) 2.39 (inspirational motivation), (c) 2.20 (individualized consideration), and (d) 2.20 (intellectual stimulation) resulting in the employee perceptions that managerial leadership style does not include any of the transformational leadership components in conjunction with the percentage of revenue growth for the period 2000 to 2006. The results of the mean scores of each transformational leadership component measured by the MLQ rating statements fell below the range of the leadership benchmark guidelines of the FRLM presented in Table 1.

During the first half of the 20th century, scholars found that individual characteristics defined leadership (McCauley, 2004). The results of the various *t* tests generated in the current study indicated that no significant differences existed between the perceptions of the study's participants about overall leadership styles in Las Vegas casino-gaming managers in conjunction with the percentage of revenue growth for the period 2000 to 2006. This is a significant finding when contrasted with the studies of Lim and Ployhart (2003) and Spinelli (2006). In both studies, the MLQ results indicate a significant focus on the transformational leadership style. Lim and Ployhart found a strong relationship between the Five-Factor Model of Personality factor of extroversion and the components of the transformational leadership. Spinelli initially hypothesized that no difference would exist in the perception about hospital executive leadership traits. Spinelli found the perceptions of hospital employees correlated the four components of transformational leadership to the contingent reward component of transactional leadership. This study did not indicate the same association between transformational and transactional leadership styles in the overall leadership traits of Las Vegas casino-gaming managers.

The mean scores of the four transformational leadership components indicated that employees did not perceive their managers as transformational leaders. The conclusion of this study determined that Las Vegas casino-gaming employees perceived their managers as following the contingent rewards transactional leadership style.

The recommendations of the current study are based on the results and implications of the findings to management in the casino-gaming industry and for further research of this topic. The recommendation of this quantitative study for casino-gaming management is to incorporate the four components of transformational leadership into the training of future managers. This recommendation is the focus of the finding that Las Vegas casino-gaming employees perceive their managers as transactional leaders. According to Bass and Avolio (2004), transformational leaders encourage follower creativity and innovation resulting in a maximization of an organization's overall performance. Barling, Weber, and Kelloway (1996) believed that managers receiving training in the traits of transformational leadership develop an increased level of follower commitment to the goals of the organization. The inclusion of transformational leadership traits in the training of future casino-gaming managers could positively affect organizational performance by encouraging employee advancement.

The lack of previous empirical research of leadership in the casino-gaming industry provides numerous opportunities for future research. The current study focused on the perceptions of employees in the generalized Las Vegas casino-gaming industry about the leadership styles of their managers. Future research might solicit participants from a more diverse sample of casino-gaming employees from operations throughout the United States. Since 1976 and the legalization of casino-gaming in Atlantic City, New Jersey, the industry has expanded exponentially across the country including the implementation of the Indian Gaming Regulatory Act of 1988 (Wenz, 2006). An expanded sample of participants could provide more information about employee perceptions concerning the leadership styles of managers in the casino-gaming industry.

REFERENCES

Action, T. & Golden, W. (2003). Training the knowledge worker: a descriptive study of training practices in Irish software companies. *Journal of European Industrial Training, Bedford,* 27(2), 137-147.

Al-Mailam, F.F. (2004). Transactional versus transformational style of leadership-employee perception of leadership efficacy in public and private hospitals in Kuwait, *Quality Management in Health Care,* 13(4), 278-284.

Antonakis, J. (2001). *The validity of the transformational, transactional and laissez-faire leadership model as measured by the multifactor leadership questionnaire (MLQ-5X).* Unpublished doctoral dissertation, Walden University.

Antonakis, J., Cianciolo, A.T., & Sternberg, R.J. (2004), *The Nature of Leadership.* Thousand Oaks, California: Sage Publications, Inc.

Avolio, B.J., & Yammarino, F.J. (2002). *Transformational and Charismatic Leadership: The Road Ahead,* Elsevier Science, Ltd, Oxford.

Barbuto, J.E. (2005). Motivation and transactional, charismatic and transformational leadership: a test of antecedents. *Journal of Leadership and Organizational Studies,* 11(4), 26-40.

Barling, J., Weber, T., & Kelloway, E.K. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: a field experiment. *Journal of Applied Psychology, 81(6),* 827-832.

Barling, J., Christie, A., & Turner, N. (2008). Pseudo-transformational leadership: towards the development and test of a model. *Journal of Business Ethics,* 81(4), 851-861.

Bass, B.M. (1990). *Bass & Stogdill's Handbook of Leadership: Theory, Research and Managerial Applications,* 3rd ed., New York, New York: The Free Press.

Bass, B.M. (2003). Power to change: a conversation with Bernard M. Bass. *Leadership in Action,* 23(2), 9-11.

Bass, B.M., & Avolio, B.J. (2002). *Developing Potential Across a Full Range of Leadership: Cases on Transactional and Transformational Leadership.* Mahwah, New Jersey: Lawrence Erlbaum Associates.

Bass, B.M., & Avolio, B.J. (2004). *Multifactor Leadership Questionnaire (*3rd ed.), Menlo Park, California: Mind Garden, Inc.

Brown-Boone, V.L. (2006). *Technology workers' perceptions of transformational leadership and the workers' behavioral outcomes: an empirical investigation.* Unpublished doctoral dissertation, University of Phoenix.

Brownell, J. (2005). Predicting leadership: the assessment center's extended role. *International Journal of Contemporary Hospitality Management,* 17(1), 7-21.

Burns, J.M. (1978), *Leadership,* Harper & Row, Inc., New York, New York.

Chang, C.H. (2005). *Effects of transformational leadership on followers' feedback seeking, feedback preference, and reactions to feedback through cognitive and motivational processes,* Unpublished doctoral dissertation, University of Akron, Akron, Ohio.

Chung-Herrera, B.G., Enz, C.A., & Lankau, M.J. (2003). Grooming future hospitality leaders: a competencies model. *Cornell Hotel and Restaurant Administration Quarterly, 44(3),* 17-25.
Cooper, D.R., & Schindler, P.S. (2005). *Business Research Methods.* (9th ed.). New York, New York: McGraw-Hill.

Creswell, J.W. (2008). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research,* (3rd ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.

Engle, P. (2006). What's the world coming to? *Industrial Engineer,* 38(2), 22.

Feinberg, B.J., Ostroff, C., & Burke, W.W. (2005). The role within group agreement in understanding transformational leadership. *Journal of Occupational and Organizational Psychology,* 78, 471-488.

Gooty, J., Gavin, M., Johnson, P.D., Frazier, M.L., & Snow, D.B. (2009). In the eyes of the beholder: Transformational leadership, positive psychological capital, and performance. *Journal of Leadership & Organizational Studies,* 15(4), 353-367.

Hack, S., & Roberts, T. (2003). *Transformational Leadership: Creating Organizations of MeaninG.* Milwaukee, Wisconsin: Quality Press.

Hair, J.F., Bush, R.P., & Ortinau, D.J. (2009). *Marketing Research: Within a Changing Information Environment,* (4th ed.). Boston, Massachusetts: McGraw-Hill Irwin.

Hayles, J.A. (2010). *Casino-gaming leadership styles in Atlantic City.* Unpublished master's thesis, University of the Southwest, Hobbs, New Mexico.

Hetland, H., Sandal, G.M., & Johnsen, T.B. (2008). Followers' personality and leadership. *Journal of Leadership & Organizational Stuides,* 14(4), 322-331.

Homrig, M.A. (2005). *Transformational Leadership.* Retrieved from: http://leadership.au.af.mil/documents/omrig.htm.

Ilies, R., Judge, T., & Wagner, D. (2006). Making sense of motivational leadership: the trail from transformational leadership to motivated followers. *Journal of Leadership and Organizational Studies,* 13(1), 1-22.

Jaskyte, K. (2004). Transformational leadership, organizational culture and innovations in nonprofit organizations. *Nonprofit Management & Leadership*, 15(2), 153-168.

Khatri, N. (2005). An alternative model of transformational leadership. *The Journal of Business Perspective*, 9(2),19-26.

Kirkbride, P. (2006). Developing transformational leaders: the full range leadership model in action. *Industrial and Commercial Training*, 38(1), 23-32.

Kouzes, J.M. (1999). Getting to the heart of leadership. *The Journal for Quality and Participation*, 22(5), 64.

Kouzes, J.M., & Posner, B. (2007). *The Leadership Challenge, (4th ed.)*, San Francisco, California: Jossey-Bass.

Kupers, W. & Weibler, J. (2006). How emotional is transformational leadership?: Some suggestions for a necessary extension. *Leadership & Organizational Development Journal: Bradford,* 27(5), 368-383.
Leedy, P.D., & Ormrod, J.E. (2005). *Practical Research: Planning and Design, (*8th ed.), Upper Saddle River, New Jersey: Pearson Merrill Prentice Hall.

Lester, W. (2007). Transformational leadership and NIMS. *Public Manager,* 36(3), 11-16.

Lim, B.C., & Ployhart, R.E. (2004). Transformational leadership: relationship to the five- factor model and team performance in typical and maximum contexts. *Journal of Applied Psychology*, 89(4), 610-621.

Masood, S.A., Dani, S.S., Burns, N.D., & Backhouse, C.J. (2006). Transformational leadership and organizational culture: the situational strength perspective. *Engineering Manufacture,* 220(6), 941-949.

McCauley, C.D. (2004). Successful and unsuccessful leadership. In J. Antonakis, A. Cianciolo, & R. Sternberg (Eds.), *The Nature of Leadership,* (pp. 199-221). Thousand Oaks, California: Sage Publications.

MGM-Mirage (2000), *Annual Report,* Retrieved from: http://mgmmirage.com/companyoverview.asp.
Northouse, P.G. (2010). *Leadership: Theory and Practice, (*5th ed.), Thousand Oaks, California: Sage Publications,.

Ozaralli, N. (2003). Effects of transformational leadership on empowerment and team effectiveness. *Leadership & Organization Development Journal, Bradford,* 24(5/6), 335-345.

Pielstick, C.D. (1998). The transforming leader: A meta-ethnographic analysis. *Community College Review,* 26(3), 15-24.

Rowlett, R.D. (2005). *Mergers and acquisitions: A phenomenological case study.* Unpublished doctoral dissertation, University of Phoenix.

Schapp, J.I (2006). Toward strategy implementation success: an empirical study of the role of senior-level leaders in the Nevada gaming industry. *UNLV Gaming &Research Journal*, 10(2), 13-37.

Schneider, B., Macey, W.H., Barbera, K.M., & Martin, N. (2009). Driving customer satisfaction and financial success through employee engagement. *People & Strategy,* 22-28.

Smith, B.N., Montagno, R.V., & Kuzmenko, T.N. (2004). Transformational and servant leadership: content and contextual comparisons, *Journal of Leadership &Organizational Studies, Flint,* 10(4), 80-92.

Spence-Laschinger, H.K., & Finegan, J. (2005). Using empowerment to build trust and respect in the work place: a strategy for addressing the nursing shortage. *Nursing Economics*, 23(1), 6-15.

Spinelli, R.J. (2006). The applicability of Bass's model of transformational, transactional, and laissez-faire leadership in the hospital administrative environment. *Hospital Topics,* 84(2), 11-18.

Tesone, D.V. (2004). Whole brain leadership development for hospitality managers. *International Journal of Contemporary Hospitality Management*, 16(6), 363-368.

Thalheimer, R., & Ali, M.M. (2003). The demand for casino gaming. *Applied Economics, 35.*

Thompson, L.A. (2004). Increase your emotional intelligence. *Strategic Finance*, 86(4), 17-20.

Tracey, J.B., & Hinkin, T.R. (1994). Transformational leaders in the hospitality industry. *Cornell Hotel and Restaurant Administration Quarterly*, 35(2), 18-24.

Tucker, B.A., & Russell, R.F. (2004). The influence of the transformational leader. *Journal of Leadership & Organizational Studies, Flint*, 10(4), 102-112.

Van Wart, M. (2004). A comprehensive model of organizational leadership: the leadership action cycle. *International Journal of Organizational Theory and Behavior*, 7(2), 173-208.

Vera, A., & Crossan, M. (2004). Strategic leadership and organizational learning. *Academy of Management Review*, 29(2), 19-43.

Wenz, M. (2006). *Casino gambling and economic development.* Unpublished doctoral dissertation, University of Illinois at Chicago, Chicago, Illinois.

Wu, C., Neubert, M.J., & Yi, X. (2007). Transformational leadership, cohesion perceptions, and employee cynicism about organizational change: the mediating role of justice perceptions", *The Journal of Applied Behavioral Science*, 43(3), 327-351.

Young, P. (2004). Leadership and gender in higher education: A case study. *Journal of Further and Higher Education*, 28(1), 95-106.

Yukl, G. (1999). An evaluation of conceptual weaknesses in transformational and charismatic leadership theories. *The Leadership Quarterly*, 10, 285-305.

BIOGRAPHY

Dr. Gregory Goussak is an Assistant Professor of Accounting at the Roseman University of Health Sciences. He can be contacted at: Roseman University of Health Sciences, MBA Program 11 Sunset Way, Henderson, Nevada 89014, US Email: ggoussak@roseman.edu.

Dr. Jon Webber is a Professor at the University of Phoenix. He can be contacted at: Webber Impact Management, 5015 Sunset Trail, Cumming, Georgia 30040, US Email: drjonwebber@gmail.com.

SUCCESSION PLANNING: EVIDENCE FROM "BEST COMPANIES IN NEW YORK"

Susan J. Kowalewski, D'Youville College
Linda Moretti, D'Youville College
Denny McGee, D'Youville College

ABSTRACT

Succession planning, as defined by Butler and Roche-Tarry (2002), is an ongoing dynamic process that assists a business or organization in aligning its goals and its human capital needs. Succession planning can prepare companies for future critical vacancies of middle and senior management positions. Forecasting the talent necessary for these roles can provide the groundwork and understanding of the characteristics needed to maintain and grow a company's strategic plan. Both short and long-term strategies must take into account the many forces at work both internally and externally, domestically and globally during planning. This paper presents survey results from New York State companies (N = 25) related to succession planning. This paper will also explore and review the importance of incorporating succession planning into every organtions business processes.

JEL: M12

KEYWORDS: Human Resources, Succession Planning, Organization

INTRODUCTION

Succession planning involves the identification and development of potential successors in an organization. This planning prepares for future critical vacancies of management positions by forecasting the talent necessary for these roles to provide the groundwork and understanding of the characteristics needed to maintain a company's strategic plan. Historically, succession planning concentrated on upper level management. Today, companies are utilizing this planning for all levels of their organization. It is important to continually evaluate and update the tools utilized to track, mentor, and train future leaders for an organization as employees retire, find jobs elsewhere, are promoted from within, are terminated, leave the workforce. Organizations cannot plan for everything, but existing software tools streamline the tasks associated with succession planning. Regulatory changes and, to a degree, competition can be monitored; with strategic planning at the forefront. This strategy must be forward thinking, anticipating the advances in technology that are possible and the changes in society that are probable. Decisions need to be determined about the qualifications and skills not only for the present, and for the future of the organization. Succession planning considers these areas, in conjunction with the company's mission, vision, values, goals and desired outcomes. Succession planning is not only useful in large global corporations, all companies (large and small) can benefit from the process.

This paper considers succession planning in relation to organizations; both large and small. Following the introduction is a literature review. The next section presents an explanation of the problem, methodology, and results for survey results related to succession planning of the "Best Companies to Work for in New York 2010". Subsequently an overview of succession planning and its importance in strategic analysis is presented, followed by the conclusion.

LITERATURE REVIEW

Orellano & Miller (1997) state that the three basic goals of succession planning include: "identification of critical management positions within the organization, identification of future vacancies in those positions, and identification of managers who would potentially fit into these vacancies" (p.2). Successful workforce planning may include sweeping changes to old processes and procedures; demanding the commitment and cooperation of all levels of management. The approach is systematic and a multi-step process which includes gaining a thorough understanding of the current workforce, envisioning the operating environment that will most likely exist in the future, identifying the competencies needed that will move the company forward to seize those future opportunities and thrive, and developing strategies for building that future workforce (Morfeld, 2005). Huxtable & Cheddie (2001) stress the importance of the level of the human resource function as positioned in the organization. They maintain that human resource management play a strategic role and must have the staffing to produce the data and the ability to analyze it to produce results. Depending on the expertise and/or size of the company's own staff and budgetary constraints, a succession management specialist may need to be obtained to initiate or manage the entire process.

The work of Shen & Cannela (2003) described a form of succession planning within the corporate environment. The authors analyzed the effect of relay succession planning on the shareholder response. This article demonstrated that the devotion of resources to ensure that management is prepared for turnover is directly proportional to shareholder satisfaction. This research shows that the sudden death of a key executive can negatively influence the shareholder wealth. This loss can be mitigated if a new successor is put into place within a short period.

Bower (2007) and Davis (2008) point out that both insiders and outsiders have strengths and weaknesses in entering new positions. Employees know the company and its inner workings, but may not recognize the need for change. New ideas can come from the outside, but many times these newcomers do not know the company well enough to foster the changes needed. A report by Cutting Edge Information (Howe, 2004) reported that over two thirds of organizations do not currently have a formal succession planning process; almost half of these organizations have no approach in developing their next CEO (as cited in Succession Planning Facts and Fantasies 2005, p. 5).

Lewis (2009) asks the question as to why more organizations are not instituting succession planning if there are so many benefits. Succession planning has been shown to boost employee retention leading to increased employee performance. Planning decreases recruiting costs because recruitment can be completed during periods of lowered stress, recruiting the "best" talent, not a body to fill a seat. He exudes the importance of good talent planning set these organizations up for success, not failure (p. 439). Recruiting talent from a local area may not meet the needs of the organizations requirements. As Lewis notes, "we must realistically cast a wider net" (p. 443).
There are different ways of classifying and ranking the importance of positions within an organization. Conlon suggests that the first step is to evaluate and decide which positions are critical roles in a company (Conlon, 2008). Once the positions are recognized as key,
Conlon (2008) separates these roles into one of the four following categories and suggests that specific actions be taken by the organization regarding each role type:

Strategic: These functions are critical to driving the organization's long-term competitive advantage. Employees in these roles have specialized skills or knowledge. Action: Build capability in these roles by hiring new staff or implementing targeted development.

Core: The so-called "engine of the enterprise", these roles are unique to the company and core to delivering its products or services. Action: Protect these roles by ensuring the company will always have adequate capabilities through rigorous in-house development.

Requisite: Although the organization cannot do without these roles, their value could be delivered through alternative staffing strategies. Action: Streamline or outsource these roles.

Non-core: People in these roles have skill sets that no longer align with the company's strategic direction. Action: Shed these roles. (p. 39)

PROBLEM AND METHODOLOGY

The purpose of this study was to examine succession planning utilized by the 2010 "Best Companies to Work for in New York". A survey process managed by Best Companies Group determined the "Best Companies" to Work for in New York 2010. The designation as a "Best Company" is a two-part survey process where the information garnered is evaluated to determine the final rankings. Organizations that completed the survey tool were then eligible for consideration as a "Best Company". Companies were divided between small/medium companies (15-249 employees) and large companies (250 + employees). "The assessment consisted of an employer survey that collected information about each company's benefits, policies, practices and other general data. Part two of the assessment consisted of a confidential employee survey used to evaluate the employees' workplace experience. The two assessments undergo an in-depth analysis of the strengths of each company and the opportunities to build a better workplace" (Best Companies to Work for in New York, p. 3). There are no specific categories for types or organizations. We examine 25 companies listed as "Best Companies to Work for New York 2010" determined by a survey of all public and private, profit and not-for-profits that have been in business at least one year with locations in New York State employing a minimum of 15 employees (Best Companies to Work for In New York, p. 3). The 40 companies named to this list is a fragment of the number of organizations in New York State, yet we wanted to garner information related to succession planning as it related to the "Best Companies to Work for New York", with the assumption that they would be incorporating strategies related to maintaining or improving their viability for the future.

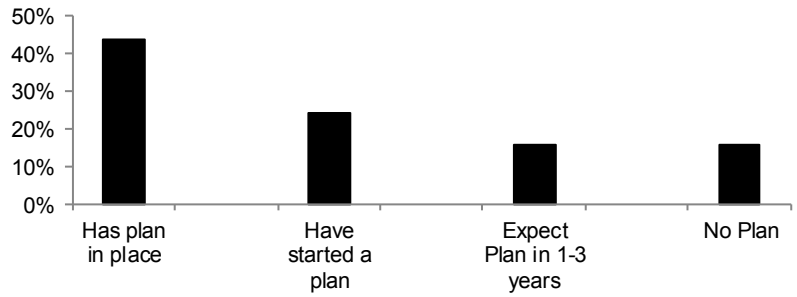
A survey was developed consisting of 12 questions and distributed via the online survey tool "Zoomerang" to the contacts listed for each individual organization. Forty companies were awarded the distinction of being named to the list for 2010, twenty-five companies responded to the survey in this research; providing a 62.5 percent response rate. For the purpose of this research, the two categories designated by the Best Companies Group of small/medium and large were further divided to those companies with 2-50 employees, 51-150 employees, 151-300 employees, 301-499 employees, 500-999 employees, and more than 1,000 employees. This further division was initiated to determine differences at a more in-depth level. The surveys were emailed to the 40 companies named as a "Best Company to Work for in New York" using Zoomerang to the contact person noted for each organization named as a "Best Company" in the 2010 Edition of the newsprint publication. The 12 survey questions related to whether the organizations had implemented a succession plan and general data related to these plans.

RESULTS

This study was designed to evaluate consistencies or inconsistencies regarding succession planning data as reported by "Best Companies". PASW (Predictive Analysis SoftWare) Statistics 18 was employed for demographic and statistical analysis. Demographically, survey respondents reported that their organizations were founded as early as the 1820s to as recently as 2006 providing companies that had been in business for a significant time period versus a relative short time (five years). Figure 1 presents a bar graph of the results of the 25 companies and their succession plan, or lack of a succession plan. The

data notes that 84% of the respondents have or will have a succession plan in place in the next three years. This is a significant percentage that would support Lewis (2009) in regard to organizations incorporating succession plans with the expectation of experiencing increased employee retention and performance, and permitting a more strategic process for recruitment. A frequency table provided results that there was no difference on the size of the organization and whether a succession plan was in place. The size of an organization did not influence an organization implementing succession strategies.

Figure 1: Company Results as to Whether the Organization Has a Succession Plan in Place



This figure shows what the company responses were to the questions "Does your company have a succession plan in place?"

Companies that responded to the survey ranged in size from 2 employees to over 1,000 employees, were family owned and corporations, as well as for-profit and not-for-profit organizations. A broad array of companies were represented; insurance, financial services, manufacturing, health services, retail, and higher education.. No names of organizations or respondents were utilized at any time during the research to ensure confidentiality while gathering pertinent information related to demographics and succession plan information. Table 1 provides the survey questions and the company responses.

Another question asked on the survey was ""Does your organization have a formal mentoring program?" A cross-tabulation analysis, or contingency table analysis, was completed to compare the population companies that have a formal versus informal mentoring program. The findings of this analysis is that there was no difference in the number of companies having a succession plan versus not having a succession plan based on the size of the organization related to having a formal mentoring program. This result was the same for the question, "Does your organization have an informal mentoring program?" In conclusion, size of an organization did not have an impact on whether a company had or did not have a succession plan in place. It could be inferred that individuals within organizations are self-identifying the mentor/mentee relationship seeking the association independently, without the human resources division "matching" individuals. Previous research (Husain, 2009) supports that "mentoring enhances sense of self-esteem; leads to fulfillment of development needs-satisfaction in leaving part of themselves to the next generation; improves professional, leadership and collaborative skills; makes mentors better listeners; helps reaffirm own successes, and the mere fact of being asked to be a mentor is a powerful compliment" (p. 301). From the point of view of the mentee, the mentor provides "career and psychosocial support; exposure to ideas and connections to the community; improved morale and increased leadership capabilities; valuable insights into building businesses as well as new information technical expertise and managerial skills (Husain, 2009, p. 301).

Table 1: Survey Questions and Responses

Size of Company (# of employees)	**2-50 16%**	**51-150 16%**	**151-300 12%**	***301-499* 24%**	**500-999 16%**	**>1000 16%**
Is your Company:	Family owned 28%	Corporation 48%	Subchapter S 0	LLC 12%	Sole Prop 0	Other 12%
The President/CEO has been with the Company	< 1 yr 0	1-3 yrs 0	4-6 yrs 40%	7-10 yrs 0	11-15 yrs 0	>16 yrs 60%
Regarding a succession plan for your organization	Has a written plan in place 44%	Have started a plan & will soon complete 24%	Expected to have a plan in place in 1-3 yrs 16%	Expected to have a plan in place in 4-6 yrs 0	No plan 16%	
If your company does not have a succession plan, reason(s)	Sr. partners do not feel younger members of the company are ready to step into role 20%	Multiple owners have conflicting personal goals 0	Retirement age employees are unwilling to retire 0	Don't know 16%	Management hasn't made the decision to institute plan 16%	Company has a plan 44%
Does your organization offer training and development for employees earmarked in future leadership roles related to succession planning	Yes 72%	No 28%				
If your organization does plan for future succession, note all attributes evaluated for future leaders(number of companies noting attribute)	Education Attainment 7	Organization experience 8	Gender, race, ethnicity 1	Teamwork 7	Behavior traits 7	Personal traits 6
Does your organization have a FORMAL mentoring program	Yes 16%	No 84%				
Does your organization have an INFORMAL mentoring program	Yes 60%	No 40%				
Does your organization have a system for performance evaluation, an evaluation, an appraisal on an annual basis	Yes 72%	No 12%	has plan, but not completed yearly 16%			
Does your organization have a time line for succession, both for organizational need and for individual readiness	Yes 32%	No 68%				

This table shows the survey questions and results of the 25 companies responding from the "Best Companies to Work for in New York 2010"

An interesting finding related to the length of time that chief executive officers (CEOs) held their positions. All of the presidents or chief executive officers (CEOs) had been with the companies from four to more than 16 years. However, the distribution related to the CEOs was very distinct; forty percent of the organizations reported that their CEO had been in this position for four to six years, with the remaining sixty percent of the CEOs holding this position for more than sixteen years.

A question was asked in the survey pertaining to what the organization looks for in recruiting upper management positions. Experience within the organization was ranked number 1, followed by educational attainment, teamwork, and behavior traits noted equally, personal traits were ranked third. This information would support individuals either who self-identify or identified by their organization for leadership positions to obtain or learn these pertinent attributes.

SUCCESSION PLANNING AND ITS IMPORTANCE IN STRATEGIC ANALYSIS

The U.S Department of Labor Bureau of Labor Statistics (BLS) (Succession Planning Facts and Fantasies, 2005) project there will be 162.3 million people in the workforce by 2012. This number is increasing by approximately 1% each year. Increasing at a rate nearly four times this is the baby-boom generation (persons born between 1946 and 1964) at a growth rate of 4.1%. Essentially, the median age of the US population will increase to 45.3, up from 40.1 in 1992. This growth means that the age group most likely to hold senior management jobs, the segment 55 years and older, will have increased to 19.1%. The clear problem is that the aging workforce will cause a shortage in senior managers as the current ones retire. According to the BLS, 2010 will bring a shortage of 10 million qualified workers. The approximate 12 million family-owned businesses in the United States will also face problems. Only one third of family-owned companies survive transfer to the second generation; and, only 10-15% of those businesses exist into the third generation (Succession Planning Facts and Fantasies, 2005). Birthrates are also declining. This workforce transformation and these trends should be considered related to succession planning.

From the small company to the international conglomerate, leadership development is important in business. In large organizations the typical personnel planning process begins with job analysis, from which a job description is developed along with job specifications. During this analysis, data is produced which determines the duties of the job and the characteristics of the people who should be hired for each position (Dessler, 2010). This is where the leadership more than just identifies positions that will need to be filled and potential employees who might fill them. A comprehensive corporate succession plan will identify both a company's current talent needs along with its future needs and the organizational direction. This is a change from most companies' past practice. Traditionally, when a vacancy occurred, human resources would seek to fill the position as fast as possible completing this task either internally, staffing and personnel agencies, or recruiters. With the implementation of succession planning, many employers now have well conceived training and development programs to be certain to have qualified employees ready to fill key positions. Organizational success depends on having the right employees ready to take over with the right competencies at the right time. This planning allows managers to anticipate changes and act, rather than react to events (Eskenazi & Henson, 2005). Through internal programs, employers can identify employees who may be potential candidates to move up in the system and mentor. Some employees may not have all the qualities needed for these key positions, and that is what makes the leadership development program all the more important to prepare these employees to step in and take charge (Shaefer, 2007). This planning results in management making informed staffing decisions that benefit the company in both the short and long-term. It also provides a framework for other programs such as training, compensation, and diversity management. An organization can then recognize and optimize its human capital by creating a workforce that is and will continue to be flexible and responsive (Morfeld, 2005).

Forecasting the talent needed is much more difficult. This may explain why 60% of large companies in the United States (US) do not even have a plan in place to replace their most important position of Chief Executive Officer (CEO) (Bower, 2007). Talent forecasting includes accounting for not only the current workforce, but also the anticipated workforce; while factoring in the supply and demand dynamics of the industry. It is also imperative to consider the internal and external forces that may influence the availability of qualified individuals to not just fill, as well as have the potential to exceed the expectations

of the position. In the current economic environment, forecasting can be a significant challenge. This can be achieved by ranking positions by priority. The highest priority role is critical to the company's initial strategy and should be filled before other positions (Ruse & Jansen, CUPA 2008). In the smaller business, only the CEO or the position of president may be included in the strategic plan for succession planning purposes. As the business becomes larger, middle and senior level positions could also be included. Today with global businesses, comprehensive employee data is gathered to recruit not only top-level positions, but also several levels below the top. For any strategic plan to be successful, the entire organization needs to be aware of the plan and be familiar with the parts of the plan that they are responsible for in order to achieve results. Information about the organization must be gathered both internally and externally. Competition, technology, regulatory changes, company priorities, market trends, the economy, turnover, retirements, promotions, and retention efforts are just some of the challenges that influence succession planning. The factors that affect the pool of available talent do not just come from within the company's corporate headquarters, but in this modern marketplace, are global (Conlon, 2008).

There are large numbers of skilled workers nearing retirement and the competition for skilled employees is growing. Expectations among Generation-X and Generation-Y workers regarding early responsibility and work/life balance are dramatically different from in the past (Cotton, 2007). Employees entering the workforce are more likely to say "no" to the 60-hour workweek and the "fast track" of previous generations. The previous methods of recruiting, retaining, training, and promoting employees are inadequate to meet the challenges of today and the future.

Another area that organizations need to observe is deregulation and its effects. Deregulation may seem to be a positive influence for an industry. However, the competition from new companies entering the marketplace, with state of the art technology, may end up putting established companies out of business. The companies that remain could view this as a positive for their succession planning to fill their key roles. Mergers and acquisitions, while eliminating duplication of top-level positions, also create opportunities to put the best of the best in the surviving company's key executive roles. These events also result in more talent in the pool for other top-level positions. Company priorities, such as a focus on diversity or the promotion of women into top-level positions will further influence a company's succession plan.

Companies that manage succession well understand that the process starts years before the event. They know how to think outside the box. These companies may look internally for potential candidates to fill their key positions from within to develop them to the level needed. There is a price to develop talent from within. Resources must be dedicated early in an employee's tenure, and there is no guarantee they will stay with the organization after time and money has been invested. Instead of hiring someone from the outside that would take a full year to understand the inner workings of the company, organizations are breeding their own. Companies realize that to be effective, individuals have to know the business and know the players. In a fast changing, competitive world, time cannot be sacrificed (Flander, 2008). An essential element of the mentoring process is anticipating situations and giving the successor the tools he or she will need to be successful in their position. Something as simple as taking the opportunity to introduce the individual to board of director members can make the person comfortable when they later have to present to the board. Acknowledging gaps in the person's career and exposing them to situations they have not experienced prior will make their success even more likely. The replacement will need to manage contradictory tasks along with the ability to judge, identify, understand and know all the possible solutions to a problem. This makes for a well-rounded replacement that has all the tools necessary to make their tenure a success. Companies have created innovative plans to provide the tools to grow and keep their talent. For example, Verizon Wireless provides college education onsite; offering classes toward associate, bachelors' and M.B.A. degrees (Yovovich, 2008). This is an expensive venture, but one that Verizon Wireless has determined to provide the strategic direction the company is looking to obtain.

Companies that view education as an investment and a logical step in their succession plan are seeing this investment pay off. Their employees recognize that they can become strategic planners, managers, and future leaders of their company (Yovovich, 2008). It is imperative to remember that succession planning is a continual process, with organizations creating a continuing cycle.

CONCLUSION

The goal of this paper is to examine succession planning in relation to organizations. The results of a survey of the "Best Companies to Work for in New York" conducted for this paper concur with previous suggestions and strategies related to succession planning in the US.

Limitations of this paper include the number of companies that the survey was distributed was relatively small; although it included all of the organizations receiving the distinction of "Best Company to Work for in New York. A larger number and/or extending the scope of the survey may have presented different results. Future research in this area could include a larger sample size, different population, and additional questions to add additional depth and breadth to this area of research. Including a survey question related to the specific industry an organization is a member of could lead to additional industry data. Additional qualitative and/or quantitative research regarding the impact of succession planning in organizations would also be beneficial to organizations. Future research could include an analysis of succession planning in today's economic conditions and analysis of specific industries. In addition, completing a survey with a larger population may produce different results; with research comparing those companies noted as a "Best Company to Work For" to "other" organizations. This may have produced results that provided data related to "Best Company" practices and if these companies were in the forefront of business practices.

.

The human resource professional has come a long way from just monitoring policies and procedures to being a strategic partner in the plan of an organization. Succession planning focuses on growth through natural forces, but in times of uncertainty a reduction in the workforce is a common occurrence. When an organization is cutting back, it must ask some of the same questions when eliminating positions: Is management well equipped to carry out the procedure? How will the company justify its actions? What is the goal, short-term benefits or long-term advantages? Whether the economy is experiencing a peak or a valley, every organization needs a successful strategy for acquiring, developing and retaining talent. As the talent pool shrinks, business leaders need to continue to recognize that employees are their most important assets.

REFERENCES

Bower, J. (2007, November). Solve the succession crisis by growing inside-outside leaders. *Harvard Business Review,* 90-96.

Best Companies to work for in New York (2010). Best Companies Group and SHRM. Journal Publications.

Butler, K., & Roche-Tarry, D. (2002). Succession planning: Putting an organization's knowledge to work. *Nature Biotechnology*, *20*(2), 201. Retrieved from Academic Search Complete database.

Conlon, R. (2008, June 2). Planning for tomorrow. *Human Resource Executive,* 38-41.

Cotton, P. (2007). Seven Steps of Effective Workforce Planning. *Human Capital Management Series,* 9-10.

Davis, N. (2008, April). Succession planning not limited to the C-suite. *HR Magazine,* 69-70.

Dessler, G. (2010). *A Framework for Human Resources Management.* Upper Saddle River, NJ. Pearson Education Inc.

Eskenazi, J. & Henson, M. (2005, August). Workforce planning: The key to true staff forecasting and strategic staffing. *SHRM*.

Flander, S. (2008, July). Succession Success. *Human Resource Executive,* 23-29.

Howe, T (2004). Succession Planning and Management. CharityVillage.com

Husain, J. (2009). Lessons Learnt from business mentoring practices. *The Business Review. 14 (1).* Cambridge, England.

Huxtable, J. & Cheddie, M. (2001, August). Strategic staffing plans

Lewis, D. (2009). Who's next? Succession planning paves the path to your organization's future. *Biomedical Instrumentation & Technology,* November/December, 438-443.

Morfeld, C. (2005, February). Workforce planning: the strategy behind "strategic staffing". *SHRM*.

Orellano, T. & Miller, J. (1997, April). Succession planning: Lessons from Kermit the frog. SHRM HR Resources Information Center.

PASW Statistics 18, (2010). Chicago, IL.

Ruse, D. & Jansen, K. (2008). Using human capital planning to predict future talent needs. *CUPA-hr Journal,* 59, 28-33.

Shaefer, B. (2007, July). Succession planning: identifying and developing talent for the future. *SHRM*.

Shen, W. & Cannela, A. (2003) Will succession planning increase shareholders wealth? *Strategic Management Journal, 24(2),* 191-198.

Succession planning facts and fantasies. (2005) *Journal for Quality & Participation*, *28*(3), 4-6. Retrieved from Academic Search Complete database.

United Stated Department of Labor (US DOL) (2008, 2010), Bureau of Labor Statistics (BLS). http://www.bls.gov

Yovovich, B. (2008). Golden opportunities. *Human Resource Executive, 6/2:* 30-34.

BIOGRAPHY

Susan Kowalewski is an Assistant Professor in the Business Department at D'Youville College in Buffalo, New York. She graduated from Rivier College with an MBA, then attended the State University of New York at Buffalo where she earned a Masters Degree in Education and a PhD in Leadership and Policy. Email: kowalews@dyc.edu

Linda Moretti is the Director of Human Resources at D'Youville College and has worked in various capacities at D'Youville College since 1981. She received her MBA from D'Youville College. Email: morettil@dyc.edu

Denny McGee is completing his MBA at D'Youville College. Email: mcgeed26@dyc.edu

REVIEWERS

The IBFR would like to thank the following members of the academic community and industry for the much appreciated contribution as reviewers.

Uzma Ashraf
University of Hong Kong
Vera Adamchik
University of Houston-Victoria
Yousuf Al-Busaidi
Sultan Qaboos University
Glyn Atwal
Groupe Ecole Supérieure de Commerce de Rennes
Susan C. Baxter
Bethune-Cookman College
Karel Bruna
University of Economics-Prague
Surya Chelikani
Quinnipiac University
Leonel Di Camillo
Universidad Austral
Steven Dunn
University of Wisconsin Oshkosh
Frank D'Souza
Loyola University Maryland
Lucia Gibilaro
University of Bergamo
Danyelle Guyatt
University of Bath
Gregory Goussak
University of Southern Nevada
Zheng-Feng Guo
International Monetary Fund
Ann Galligan Kelley
Providence College
Halil Kiymaz
Rollins College
Bohumil Král
University of Economics-Prague
Christopher B. Kummer
Webster University-Vienna
Xin (Robert) Luo
Virginia State University
Andy Lynch
Southern New Hampshire University
Tony Mutsune
Iowa Weslleyan College
Avi Messica
Holon Institute of Technology
Cameron Montgomery
Delta State University
Bilge Kagan Ozdemir
Anadolu University
Dawn H. Pearcy
Eastern Michigan University
Rahim Quazi
Prairie View A&M University
Anitha Ramachander
New Horizon College of Engineering
Kathleen Reddick
College of St. Elizabeth
Matthew T. Royle
Valdosta State University
Tatsiana N. Rybak
Belarusian State Economic University
Rafiu Oyesola Salawu
Obafemi Awolowo University
Paul Allen Salisbury
York College, City University of New York
Sunando Sengupta
Bowie State University
Smita Mayuresh Sovani
Pune University
Jiří Strouhal
University of Economics-Prague
Ramona Toma
Lucian Blaga University of Sibiu-Romania
Jorge Torres-Zorrilla
Pontificia Universidad Católica del Perú
K.W. VanVuren
The University of Tennessee – Martin
Veronda Willis
The University of Texas at San Antonio
Eduardo Sandoval
Universidad de Concepción
M. Shahadat Hossain
SUNY Potsdam

REVIEWERS

The IBFR would like to thank the following members of the academic community and industry for the much appreciated contribution as reviewers.

María Antonieta Andrade Vallejo
Instituto Politécnico Nacional
Olga Lucía Anzola Morales
Universidad Externado de Colombia
Antonio Arbelo Alvarez
Universidad de la Laguna
Hector Luis Avila Baray
Instituto Tecnologico De Cd. Cuauhtemoc
Graciela Ayala Jiménez
Universidad Autónoma de Querétaro
Sheila Nora Carrillo Incháustegui
Univ. Peruana Cayetano Heredia
María Antonia Cervilla de Olivieri
Universidad Simón Bolívar
Semei Leopoldo Coronado Ramírez
Universidad de Guadalajara
Tomás J. Cuevas-Contreras
Universidad Autónoma de Ciudad Juárez
Javier de León Ledesma
Univ. de Las Palmas de Gran Canaria -Tafira
Carlos Fong Reynoso
Universidad de Guadalajara
Arturo Hernández
Universidad Tecnológica Centroamericana
Lourdes Jordán Sales
Universidad de Las Palmas de Gran Canaria
Santiago León Ch.,
Universidad Marítima del Caribe
Graciela López Méndez
Universidad de Guadalajara-Jalisco
Virginia Guadalupe López Torres
Univ. Autónoma de Baja California
Angel Machorro Rodríguez
Instituto Tecnológico de Orizaba
Omaira Cecilia Martínez Moreno
Univ. Autónoma de Baja California
Alaitz Mendizabal Zubeldia
Univ. del País Vasco/ Euskal Herriko U.
Juan Nicolás Montoya Monsalve
Univ Nacional de Colombia-Manizales
Alberto Elías Muñoz Santiago
Fundación Universidad del Norte
Juan Carlos Robledo Fernández
Universidad EAFIT-Medellin
Universidad Tecnologica de Bolivar
José Gabriel Ruiz Andrade
Univ. Autónoma de Baja California
Juan Manuel San Martín Reyna
Univ. Autónoma de Tamaulipas
Francisco Sanches Tomé
Instituto Politécnico da Guarda
Deycy Janeth Sánchez Preciado
Universidad del Cauca
María Cristina Sánchez Romero
Instituto Tecnológico de Orizaba
Pol Santandreu i Gràcia,
Universitat de Barcelona
Santandreu Consultors
Victor Gustavo Sarasqueta
Universidad Argentina de la Empresa UADE
Jaime Andrés Sarmiento Espinel
Universidad Militar de Nueva Granada
Lorena Vélez García
Universidad Autónoma de Baja California
Alejandro Villafañez Zamudio
Instituto Tecnologico de Matamoros
Hector Rosendo Villanueva Zamora
Universidad Mesoamericana
Alfonso Rodríguez Ramírez
Universidad Libre Seccional Cali
Neyda Cardozo Sánchez
Universidad Nacional Experimental de Táchira
Benjamin Castillo Osorio
Universidad del Sinú-Sede Monteria
Luz Stella Pemberthy Gallo
Universidad del Cauca
Adolfo León Plazas Tenorio
Universidad del Cauca
Luis Eduardo Sandoval Garrido
Universidad Militar de Nueva Granada
Oskar Villarreal Larrinaga
Univ. del País Vasco/Euskal Herriko Univ.
Adriana del Carmen Rodríguez Guardado
Universidad de Guadalajara

HOW TO PUBLISH

Submission Instructions

The Journal welcomes submissions for publication consideration. Authors wishing to submit papers for publication consideration please visit our website at http://www.theibfr.com/dsubmission/dsubmission.htm. Complete directions for manuscript submission are available at the Journal website www.theIBFR.com. Papers may be submitted for initial review in any format. However, authors should take special care to address spelling and grammar issues prior to submission. Authors of accepted papers are required to precisely format their document according to the guidelines of the journal.

There is no charge for paper reviews. The normal review time for submissions is 90-120 days. However, authors desiring a quicker review may elect to pay an expedited review fee. Authors of accepted papers are required to pay a publication fee based on the length of the manuscript. Please see our website for current publication and expedited review rates.

Authors submitting a manuscript for publication consideration must guarantee that the document contains the original work of the authors, has not been published elsewhere, and is not under publication consideration elsewhere. In addition, submission of a manuscript implies that the author is prepared to pay the publication fee should the manuscript be accepted.

Subscriptions

Individual and library subscriptions to the Journal are available. Please contact us by mail or by email to: admin@theibfr.com for updated information.

Contact Information

Mercedes Jalbert, Managing Editor
The IBFR
P.O. Box 4908
Hilo, HI 96720
editor@theIBFR.com

Website

www.theIBFR.org or www.theIBFR.com

PUBLICATION OPPORTUNITIES

REVIEW of BUSINESS & FINANCE CASE STUDIES

Review of Business & Finance Case Studies

Review of Business and Finance Case Studies publishes high-quality case studies in all areas of business, finance and related fields. Cases based on real world and hypothetical situations are welcome.

All papers submitted to the Journal are double-blind reviewed. The RBFCS is listed Cabell, Ulrich's Periodicals Directory. The Journal is distributed through SSRN and EBSCO*Host* publishing, with presence in over 70 countries.

The journal accept rate is between 15 and 25 percent

EBA Business Education & Accreditation

Business Education and Acreditation (BEA)

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 Cabell, Ulrich's Periodicals Directory. The Journal is distributed through SSRN and EBSCO*Host* publishing, with presence in over 70 countries.

The journal acceptance rate is between 15 and 25 percent.

Accounting & Taxation

Accounting and Taxation (AT)

Accounting and Taxation (AT) publishes high-quality articles in all areas of accounting, auditing, taxation and related areas. Theoretical, empirical and applied manuscripts are welcome for publication consideration.

All papers submitted to the Journal are double-blind reviewed. AT is listed Cabell, Ulrich's Periodicals Directory. The Journal is distributed through SSRN and EBSCO*Host* publishing, with presence in over 70 countries.

The journal acceptance rate is between 5 and 15 percent.