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An alternative lattice algorithm for option pricing

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Abstract: This paper proposes a dimension reduction technique on lattice model, an extension of the discrete CRR (1979) model, for option pricing. Applications are demonstrated on pricing some vulnerable options with the payoff functions including two stochastic processes: the underlying stock price and the assets value of the option writer. Instead of building a bivariate tree structure for these correlated processes, a univariate binomial tree for the underlying stock price is only constructed. The proposed univariate binomial tree model is sufficient to undertake, though two underlying assets are involved.

Key words: lattice model; intrinsic expected value; vulnerable options

1. Introduction

Most exotic options can be easily and efficiently evaluated by the discrete Cox-Ross-Rubinstein (CRR) (1979) model, which is a powerful numerical technique for option pricing. Later, Rubinstein (1994) utilized a joint bivariate binomial tree structure, which is called Binomial Pyramid, for option with two risky underlying assets. Despite its successful approximation, when the dimension of the underlying assets increases, the computation becomes more complicated and time consuming.

The purpose of this paper is to develop a simpler lattice model to price options with multiple underlying assets. The ideal is originated from the double expectation technique which could reduce the dimension of the lattice model construction. Application on some vulnerable option pricing, with the pay off function constituted by, the underlying stock price variable and the liability variable of the option writer, is presented. The proposed univariate binomial tree algorithm, instead of a Binomial Pyramid, is sufficient to compute the option price. Further, it is analytically proved that the univariate binomial tree result will converges to the analytical formula derived by Klein (1996).

The rest of this paper is organized as follows. Section 2 describes the background of the proposed algorithm and a quick review of the CRR model. Application on some vulnerable option model is introduced in section 3. In section 4, a proposed univariate binomial pricing algorithm, an extension of the CRR model, is presented. Finally, section 5 gives the conclusion.

2. The background

2.1 Review of some preliminary results

Suppose \( \{ Y_l \}_l \), \( l = 1, 2, \ldots, L \), is a family of stochastic processes. We are interested in evaluating the

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expectation $f_T = E[g(V_T)]$, here $V_T = (V_T^{(1)}, \Lambda, V_T^{(L)})$. For computational convenience, $V_T$ will be suitably divided into two non-overlapping parts—$V_{T,1}$ and $V_{T,2}$, such that $\{V_{T,1} \cup V_{T,2}\} = \{V_T^{(1)}, \Lambda, V_T^{(L)}\}$. Then $f_T$ is re-expressed as:

$$f_T = E[g(V_{T,1}, V_{T,2})] = E_{V_{T,2}} \left\{ E_{V_{T,1}} \left[ g(V_{T,1}, V_{T,2}) | V_{T,2} \right] \right\} = E_{V_{T,2}} \left[ h(V_{T,2}) \right]$$

where $h(V_{T,2}) = E_{V_{T,1}}[g(V_{T,1}, V_{T,2}) | V_{T,2}]$.

Furthermore, if the joint distribution of $\ln V_T$ follows a multivariate normal distribution—$\ln V_T \sim MN(m, \Sigma)$, where $\ln V_T = (\ln V_T^{(1)}, \ln V_T^{(2)}, \Lambda, \ln V_T^{(L)})$. Some conditional expectation property for multivariate normal distribution stated as follows helps to evaluate $h(V_{T,2})$:

**Proposition 1:** A conditional property for multivariate normal distribution.

Let $U_i$ be a $L - \text{dim}$ random vector, and the distribution of $U = (U_1^T, U_2^T)^T$ follows $MN(\theta, \Sigma)$, here $E(U) = \theta = (\theta_1^T, \theta_2^T)^T$ and $\text{Var}(U) = \Sigma = \begin{bmatrix} \Sigma_{11} & \Sigma_{12} \\ \Sigma_{21} & \Sigma_{22} \end{bmatrix}$. Then the conditional distribution of $U_1$, given $U_2 = u_2$, is also $MN(\theta_{1|2}, \Sigma_{1|2})$ distributed, with $\theta_{1|2} = \theta_i + \Sigma_{12} \Sigma_{22}^{-1}(\theta_2 - u_2)$ and $\Sigma_{1|2} = \Sigma_{11} - \Sigma_{12} \Sigma_{22}^{-1} \Sigma_{21}$.

According to the result of Proposition 1, once the conditional expectation $E_{V_{T,2}}[h(V_{T,2})]$ is obtained, either analytically or numerically, the remaining is to compute $E_{V_{T,1}}[h(V_{T,2}) | V_{T,1}]$, which could be evaluated by the lattice model. Before presenting some application, a review of the CRR model, is presented in the next subsection.

### 2.2 Brief review of the regular CRR model

Suppose $\{k_n\}_{n=1}^{\infty}$ is a positive increasing sequence with $\lim_{n \to \infty} k_n = \infty$, and the time interval $[t, T]$ is divided into $k_n$ subintervals of equal length $\Delta_n$, with $\Delta_n = (T - t)/k_n$. Trading is supposed to occur at the equidistant time points denoted by $t_i = t + i \Delta_n$, for $0 \leq i \leq k_n$. In the regular CRR model, only the underlying stock price $S_u$ is assumed random, and all possible outcomes are discretized as a binomial tree. The one-period returns of the stock price are modeled by a family of discrete random variables $\{Z_{i,n}\}_{i=1}^{k_n}$ defined by $Z_{i,n} = (S_{i,n} - S_{i-1,n})/S_{i-1,n}$, taking values $\{u_n, d_n\}$ with probabilities $P(Z_{i,n} = u_n) = p_n$, and $P(Z_{i,n} = d_n) = 1 - p_n$, where $0 < p_n < 1$. Then the stock price is given by

$$S_{i,n} = S_t \prod_{m=1}^{i-1} (1 + Z_{m,n}) \ , \ \text{for} \ 1 \leq i \leq k_n$$

here $S_{0,n} = S_t$.

To satisfy an arbitrage-free assumption, the parameters $u_n$, $d_n$ and $p_n$ are chosen as:

$$u_n = e^{\sigma \Delta_n} - 1 \ , \ d_n = e^{-\sigma \Delta_n} - 1 \ , \ r_n = e^{\Delta_n} - 1 \ , \ r \text{ is the constant riskless interest rate} \ , \ d_n < r_n < u_n \ , \ \text{and} \ \ p_n = \left( e^{\sigma \Delta_n} - e^{-\sigma \Delta_n} \right) / \left( e^{\Delta_n} - e^{-\sigma \Delta_n} \right).$$

A simple binomial tree model for computing $f_T$ with applications to some vulnerable options pricing will be discussed in the following sections.

### 3. Applications on some vulnerable options pricing

#### 3.1 Notations and assumptions

The following notations will be used throughout our financial market models:

- $S_u$—the time $u$ price of the underlying stock price;
- $V_u$—the time $u$ price of the assets value;
- $D_u$—the time $u$ price of the liability of the option writer;
- $r$—the constant riskless interest rate;
- $K$—the strike price of
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the option contract; \(t\) — the present time point; \(T\) — the maturity date of the option contract; \(N_L(\mu, \Sigma)\) — the \(L\)-variate normal distribution, with mean \(\mu\) and variance \(\Sigma\); \(\Phi_L(\cdot)\) — the \(L\)-variate normal cumulative distribution function.

A continuous trading economy with trading interval \([t,T]\) is considered, where \(t\) denotes the present time, and \(T\) is the maturity date of the option contract. All random variables introduced are defined on a suitable probability space \((\Omega, \mathcal{F}, P)\) with a standard filtration \(\{\mathcal{F}_u : u \in [t,T]\}\). The financial market is assumed to be frictionless, arbitrage-free and complete, so that all securities are perfectly divisible; there is no short-sale restriction, transaction cost, or tax. The existence and uniqueness of the equivalent martingale measure \(Q\) is guaranteed by no-arbitrage and completeness assumptions, respectively. Also, it is assumed that the stock upon which the option is written pays no dividend.

3.2 The discussed vulnerable option model

Consider a vulnerable European option with the possibility of the option writer that defaults on its obligations from the option contract. The related stochastic process, of the underlying stock price, the assets value of the option writer and the liabilities value of the option writer. For simplicity, the option writer’s liabilities value is assumed to be constant so that \(\tau = D\), for \(t \leq u \leq T\). Similar to the Black-Scholes framework, the stochastic processes of the underlying stock price, \(S\), and option writer’s assets value, \(V\), are assumed to follow a bivariate geometric Brownian motion satisfying the stochastic difference equations:

\[
\begin{align*}
\frac{dS_u}{S_u} &= \left(\mu_s + \sigma_s dW_u\right) \\
\frac{dV_u}{V_u} &= \left(\mu_v + \sigma_v d\hat{Z}_u\right)
\end{align*}
\]

where \(\mu_s\) and \(\sigma_s\) are respectively the instantaneous expected return on the stock and instantaneous volatility of the stock return, and \(\mu_v\) and \(\sigma_v\) are respectively the instantaneous expected return and instantaneous volatility of the assets value of option writer. The \((\hat{W}, \hat{Z})\) is a bivariate Wiener process under the measure \(P\), with \(\text{cov}(\hat{W}_u, \hat{Z}_u) = u \rho\). All the parameters, say \(\mu_s\), \(\sigma_s\), \(\mu_v\), \(\sigma_v\) and \(\rho\), are assumed constant.

By applying Itô formula and Girsanov theorem, it can be verified that under the equivalent measure \(Q\), the following relationship is established:

\[
\begin{align*}
\ln S_T &= \ln S_u + \left(r - \frac{\sigma_s^2}{2}\right)(T-u) + \sigma_s W_{T-u} \\
\ln V_T &= \ln V_u + \left(r - \frac{\sigma_v^2}{2}\right)(T-u) + \sigma_v Z_{T-u}
\end{align*}
\]

for \(t \leq u \leq T\), where \((W,Z)\) is a bivariate Wiener process under the measure \(Q\), with \(\text{cov}(W_u, Z_u) = u \rho\). It can be proved that the covariance of \(W_u\) and \(Z_u\) are the same under both measures \(P\) and \(Q\) (Durrett, 1996, p.93). Thus, an immediate result is as follows: Given the current time point \(t\), the distribution of \((\ln S_T, \ln V_T)\) is bivariate normally distributed as:

\[
\begin{pmatrix}
\ln S_T \\
\ln V_T
\end{pmatrix} \sim N_2(\mu_T, \Sigma_T)
\]

with \(\mu_T = \begin{pmatrix}
\ln S_u + \left(r - \frac{\sigma_s^2}{2}\right)(T-t) \\
\ln V_u + \left(r - \frac{\sigma_v^2}{2}\right)(T-t)
\end{pmatrix}\) and \(\Sigma_T = \begin{pmatrix}
\sigma_s^2 (T-t) & \rho \sigma_s \sigma_v (T-t) \\
\rho \sigma_s \sigma_v (T-t) & \sigma_v^2 (T-t)
\end{pmatrix}\).

The payoff function of a vulnerable European call option at the maturity date is:

\[
C_T = (S_T - K)^+ \left[1_{[V \geq D]} + 1_{[V < D]}(1 - \alpha)\right] V / D_t
\]

Here, \(a^+ = \max(a,0)\) and \(1_A\) is the indicator function of an event \(A\). The parameter \(\alpha\), \(0 \leq \alpha \leq 1\), represents
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4. A proposed univariate binomial algorithm for option pricing

There are two stochastic processes included in the discussed vulnerable option model, the stock price process and the assets value process. A straightforward pricing algorithm is to construct a Binomial Pyramid model. However, it is time-consuming to handle a bivariate tree structure. For simplicity, in this paper, a univariate binomial tree structure for the stock price only, is suggested.

By double expectation property, equation (3) can be re-expressed as:

\[ \Pi(t) = e^{-r(T-t)} E^Q_t \left( \sum_{i=1}^{n^T} \Phi_i \left( S_{T_i} - K \right) \left( 1 - \alpha \right) V_{T_i} / D_i \right) \]  

where \( E^Q_t [ ] = E^Q_t \left[ \mathbb{S} \right] \). An analytical pricing formula given by Klein (1996) is:

Proposition 2: Klein pricing formula for vulnerable European options.

\[ \Pi(t) = S_t \Phi_2 \left( a_1', a_2'; \rho \right) + \left( 1 - \alpha \right) e^{(r + \sigma^2/2)(T-t)} S_t \Phi_2 \left( c_1, c_2; -\rho \right) / D_t \]

\[ - Ke^{-r(T-t)} \Phi_1 \left( b_1, b_2; \rho \right) - \left( 1 - \alpha \right) K V_t \Phi_2 \left( d_1, d_2; -\rho \right) / D_t \]

with \( a_1 = \frac{\ln(S/K) + (r + \sigma^2/2)(T-t)}{\sigma \sqrt{T-t}} \), \( a_2 = \frac{\ln(V/D) + (r + \rho \sigma \sigma - \sigma^2/2)(T-t)}{\sigma \sqrt{T-t}} \), \( b_1 = a_1 - \sigma_s \sqrt{T-t} \), \( b_2 = a_2 - \rho \sigma_s \sqrt{T-t} \), \( c_1 = a_1 + \rho \sigma_v \sqrt{T-t} \), \( c_2 = -a_2 - \sigma_v \sqrt{T-t} \), \( d_1 = b_1 + \rho \sigma_v \sqrt{T-t} \), and \( d_2 = -b_2 - \sigma_v \sqrt{T-t} \).

4. A proposed univariate binomial algorithm for option pricing

By double expectation property, equation (3) can be re-expressed as:

\[ \Pi(t) = e^{-r(T-t)} E^Q_t \left( \sum_{i=1}^{n^T} \Phi_i \left( S_{T_i} - K \right) \left( 1 - \alpha \right) V_{T_i} / D_i \right) \]

The inner expectation is with respect to \( V_T \), while the outer is with respect to \( S_T \). The value of \( \Pi(t) \) depends mainly upon the conditional expectation:

\[ \xi_{k,j} = E^Q_t \left[ C_T | S_T = S_{k,j} \right] = \left( S_{k,j} - K \right) e^{(r + \sigma^2/2)(T-t)} \left( 1 - \alpha \right) V_{k,j} / D_{k,j} \]

where \( \psi_{k,j} = E^Q_t \left[ V_{k,j} | S_T = S_{k,j} \right] \) and \( \pi_{k,j} = E^Q_t \left[ V_{k,j} | S_T = S_{k,j} \right] \). In this paper, \( \xi_{k,j} \) is referred to as the intrinsic expected value.

Let \( f_{i,j} \) be the arbitrage value of the vulnerable European call option at the \((i,j)\)-th node, then the risk-neutral valuation principle induces:

\[ f_{i,j} = e^{-r \Delta t} \left[ p_n f_{i+1,j} + (1 - p_n) f_{i,j+1} \right], \text{ for } 0 \leq j \leq i < k_n \]

with initial conditions \( f_{k_n,j} = \xi_{k_n,j} \) for \( 0 \leq j \leq k_n \).

Beginning with the initial values \( \{ f_{k_n,j} \}_{j=0}^{k_n} \), and moving backwards throughout every node of the binomial tree, the arbitrage price of a vulnerable European call option at the current time point results. The time \( t \) arbitrage price in the suggested \( n\)-th binomial model is given by \( \Pi_n(t) = f_{0,0} \). To help understand how to recursively utilize the proposed binomial tree model, a special case of a two-step tree, with \( k_n = n \) and \( n = 2 \), is demonstrated in Fig. 1.
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Fig. 1  Two-step vulnerable European binomial tree

Notes: At each node, \( f_{i,j} \) is the arbitrage value of a European call option, and \( S_{i,j} \) is the stock price.

The backward procedure is summarized by the following four steps:
1. Calculate the intrinsic expected values \( \xi_{0,0} \), \( \xi_{1,0} \) and \( \xi_{2,0} \);
2. Obtain the corresponding initial values \( f_{0,0} \), \( f_{1,1} \) and \( f_{2,2} \);
3. Repeat using equation (6) in turn to obtain \( f_{1,0} \), \( f_{1,1} \) and finally \( f_{0,0} \);
4. The current time \( t \) arbitrage price is then given by \( \Pi_n(t) = f_{0,0} \).

In general, by recursively using equation (6), the arbitrage price of the vulnerable European call option at time \( t \) can be re-expressed as:

\[
\Pi_n(t) = e^{-r(t-t_n)^n} \sum_{j=0}^{k_n} C_{j}^{k_n} \left( p_n \right)^j \left( 1 - p_n \right)^{(k_n-j)} \xi_{i,j}
\]

where \( C_j^{k_n} = \frac{k_n!}{j!(k_n-j)!} \).

It is well-known that the limiting case of the discrete CRR pricing formula is the Black-Scholes formula. Since the proposed vulnerable binomial tree model is adopted from the Klein (1996) credit risk framework, one would expect that it should converge to Klein (1996) formula as the period number \( k_n \) passes to infinity. The result is stated as follows.

Theorem 1: Convergence of the proposed CRR model to Klein formula (a sketch of the proof is given in the Appendix).

\[
\lim_{n \to \infty} \Pi_n(t) = \Pi(t)
\]

Theorem 1 provides a firmly convergence-based version under which the Klein (1996) credit risk pricing formula can be approximated by a suitable binomial tree structure. The proposed computational algorithm provides a rather simple and efficient method for pricing options with two underlying assets, involving calculations of a univariate normal cumulative distribution function, instead of a bivariate normal cumulative distribution function. The reduction of dimension avoids the computation error caused by a numerical integral of a cumulative bivariate normal distribution function.

5. Conclusions

In this paper, a simpler lattice algorithm for option pricing involving multiple underlying assets, is suggested. The dimension of the lattice model is reduced by using the double expectation technique. Applications on some vulnerable options model discussed by Klein (1996) are demonstrated. The payoff function includes two
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stochastic processes, the underlying stock price and the assets value of the option writer. Instead of building a bivariate tree model for the two correlated processes, a univariate binomial tree model that is an extension of the CRR model, is constructed for the underlying stock price process. It is analytically verified that the proposed binomial tree model contains the Klein (1996) formula as a limiting case.

References:

Appendix:
Proof of Theorem 1:
From equation (2), the conditional distribution of \( \ln V_T \) given \( \ln S_T \) is:
\[
\ln V_T \mid \ln S_T = \ln S_{k,j} + d \sim N_i(\alpha_{k,j}, \beta^2), \quad 0 \leq j \leq k_i
\]
where \( \alpha_{k,j} = m_v + \rho \sigma V (\ln S_{k,j} - m_s) / \sigma_S \), \( \beta = \sigma V (T - t) \), \( m_v = \ln V_i + \left( r - \sigma^2 / 2 \right) (T - t) \), \( m_s = \ln S_i + \left( r - \sigma^2 / 2 \right) (T - t) \) and \( \sigma_S > 0 \).

From equation (7), \( \Pi_n(t) = e^{-r(T-t)} \sum_{j=0}^{k_i} C_{j} \left( p_n \right) \left( 1 - p_n \right)^{k_i-j} \left( S_{k,j} - K \right) \left( \Phi_i \left( -g_{k,j} \right) + \left( 1 - \alpha \right) h_{k,j} \Phi_i \left( g_{k,j} - \beta \right) / D_i \right) \),
where \( x_{k,j} = \left( S_{k,j} - K \right) \left( \psi_{k,j} + \left( 1 - \alpha \right) \pi_{k,j} / D_i \right) \). After algebra, \( \pi_{k,j} = h_{k,j} \Phi_i \left( g_{k,j} - \beta \right) \), \( \psi_{k,j} = \Phi_i \left( -g_{k,j} \right) \), \( g_{k,j} = \left( \ln D^* - \alpha_{k,j} / \beta \right) / \beta \) and \( h_{k,j} = \exp \left( \alpha_{k,j} + \beta^2 / 2 \right) \). Therefore, the arbitrage price under the designed tree model is re-written as:
\[
\Pi_n(t) = e^{-r(T-t)} \sum_{j=0}^{k_i} C_{j} \left( p_n \right) \left( 1 - p_n \right)^{k_i-j} \left( S_{k,j} - K \right) \left[ \Phi_i \left( -g_{k,j} \right) + \left( 1 - \alpha \right) h_{k,j} \Phi_i \left( g_{k,j} - \beta \right) / D_i \right] \]
where \( \gamma = \min \left\{ j \in \{0,1,2,3,4\} : \gamma_{k,j} = S_i \left( 1 + u_n \right) \left( 1 + d_n \right)^{k_i-j} > K \right\} \).

Now, equation (3) can be decomposed as \( \Pi(t) = \Pi_1 - \Pi_2 + \Pi_3 - \Pi_4 \),
where \( \Pi_1 = S_i \Phi_i \left( a_i \right) - S_i \Phi_i \left( a_i - \alpha_{i,j} \right) \), \( \Pi_2 = K e^{-r(T-t)} \left[ \Phi_i \left( b_i \right) - \Phi_i \left( b_i - \beta_{i,j} \right) \right] / D_i \), \( \Pi_3 = \left( 1 - \alpha \right) e^{-r(T-t)} \left[ \Phi_i \left( c_i \right) - \Phi_i \left( c_i - \beta_{i,j} \right) \right] / D_i \), and \( \Pi_4 = \left( 1 - \alpha \right) K V_i \Phi_i \left( d_i \right) / D_i \).

Define \( \tilde{p}_n = p_n \left( 1 + u_n \right) / \left( 1 + r_n \right) \), then \( \left( 1 - \tilde{p}_n \right) = \left( 1 - p_n \right) \left( 1 + d_n \right) / \left( 1 + r_n \right) \). And equation (7) can be decomposed as \( \Pi_n(t) = \Pi_{n,1} - \Pi_{n,2} + \Pi_{n,3} - \Pi_{n,4} \),
where
\[
\Pi_{n,1} = e^{-r(T-t)} \sum_{j=0}^{k_i} C_{j} \left( \tilde{p}_n \right) \left( 1 - \tilde{p}_n \right)^{k_i-j} S_{k,j} \Phi_i \left( -g_{k,j} \right) \]
\[
= S_i \sum_{j=0}^{k_i} C_{j} \left( \tilde{p}_n \right) \left( 1 - \tilde{p}_n \right)^{k_i-j} \left[ -\Phi_i \left( g_{k,j} \right) \right] \], \( \Pi_{n,2} = K e^{-r(T-t)} \sum_{j=0}^{k_i} C_{j} \left( p_n \right) \left( 1 - p_n \right)^{k_i-j} \left[ -\Phi_i \left( g_{k,j} \right) \right] \), \( \Pi_{n,3} = \left( 1 - \alpha \right) e^{-r(T-t)} \sum_{j=0}^{k_i} C_{j} \left( p_n \right) \left( 1 - p_n \right)^{k_i-j} S_{k,j} h_{k,j} \Phi_i \left( g_{k,j} - \beta \right) / D_i \), \( \Pi_{n,4} = \left( 1 - \alpha \right) K V_i \Phi_i \left( d_i \right) / D_i \).
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\[ = (1 - \alpha)S_t \sum_{j=7}^{k} \left\{ C_{j}^{k}(\hat{p}_n)^{(j-1)}h_{k,j}\Phi\left(g_{k,j} - \theta\right)\right\}/D_t, \]

and

\[ \Pi_{n,4} = (1 - \alpha)Ke^{-r(T-t)} \sum_{j=7}^{k} \left\{ C_{j}^{k}(p_n)^{(j-1)}h_{k,j}\Phi\left(g_{k,j} - \theta\right)\right\}/D_t. \]

It suffices to show that \( \lim_{n \to \infty} \Pi_{n,j} = \Pi_j \), for \( 1 \leq j \leq 4 \). Let random variables \( X_n \) and \( Y_n \) are distributed respectively as:

\[ X_n \sim \text{Binomial}(k, p_n), \quad Y_n \sim \text{Binomial}(k, \hat{p}_n), \]

and \( S_t = S_0(1 + u_n)^{x_t}(1 + d_n)^{y-x_t} \). Let random variables \( X_n \) and \( Y_n \) be distributed as:

\[ E\left[1_{\{x \leq x_{k} < y\}}\Phi\left(g_{x,y}\right)\right], \quad \Pi_{n,2} = Ke^{-r(T-t)}\left[E\left[1_{\{x \leq x_{k} < y\}}\Phi\left(g_{x,y}\right)\right] - E\left[1_{\{x \leq x_{k} < y\}}\Phi\left(g_{k,x}\right)\right]\right]/D_t, \]

and \( \Pi_{n,4} = (1-\alpha)Ke^{-r(T-t)}\left\{E\left[1_{\{x \leq x_{k} < y\}}h_{k,y}\Phi\left(g_{k,y} - \beta\right)\right]\right\}/D_t. \)

To complete the proof of \textit{Theorem 1}, it is sufficient to show the following results.

Proposition 3:

\[ \lim_{n \to \infty} E[1_{\{x < x_{k} < y\}}] = \Phi_1(a_1), \quad \lim_{n \to \infty} E[1_{\{x < x_{k} < y\}}\Phi_1(g_{x,y})] = \Phi_2(a_1, -a_2; -\rho), \]

\[ \lim_{n \to \infty} E[1_{\{x < x_{k} < y\}}] = \Phi_1(b_1), \quad \lim_{n \to \infty} E[1_{\{x < x_{k} < y\}}\Phi_1(g_{k,x})] = \Phi_2(b_1, -b_2; -\rho), \]

\[ \lim_{n \to \infty} E[1_{\{x < x_{k} < y\}}h_{k,y}\Phi_1(g_{k,y} - \beta)] = e^{(r+\rho)(T-t)}\Phi_2(c_1, c_2; -\rho), \]

and

\[ \lim_{n \to \infty} e^{-r(T-t)}E[1_{\{x < x_{k} < y\}}h_{k,y}\Phi_1(g_{k,y} - \beta)] = \nu_1\Phi_2(d_1, d_2; -\rho). \]

Applying the binomial distribution properties of \( X_n \) and \( Y_n \) and the Central Limit Theorem, results of Proposition 3 are straightforward obtained. Thus proofs are omitted.
The effect of leadership on performance management, good governance, internal and external satisfaction in study programs

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Abstract: Rapid changes in business environment have increased the needs of graduates who have capabilities of anticipating to the changes. The faculty, especially at the level of study program, has an important role in affecting the quality of graduates, because the study program is the core element in the higher education institution which involves directly in planning, organizing, executing and controlling the teaching and learning activities. This dissertation is to examine the effect of leadership on performance management and good governance, and also to examine the effect of performance management and good governance on internal and external satisfaction. The data for this causal research is collected by questionnaire. Unit of analysis in this research is all study programs in all accredited faculty of economics in East Java. The respondents are academic staffs, students and administrative staffs in the study program. There were 83 of 125 accredited study program which has been successfully contacted and agreed to participate in the research. There were 900 students and 285 academic staffs filling up the questionnaires. The data analysis is conducted by Path Analysis with the SPSS 11.5 version software to measure construct validity and reliability and to test causal relationships between variables in the model. The findings of the research showed that: (1) Leadership affects performance management significantly; (2) Leadership affects good governance significantly; (3) Leadership affects internal satisfaction significantly; (4) Performance management affects internal satisfaction; (5) Good governance significantly affects external satisfaction; (6) Internal satisfaction does not affect external satisfaction. Based on the findings in this research, it is suggested that the study programs take into account the implementation of performance management in order to undertake improvement continuously considering that performance management supports the quality assurance activity. It is also suggested that the faculty implements good governance formally. However, the implementation should empower the study program to undertake the improvement.

Key words: leadership; performance management; good governance; internal satisfaction; external satisfaction

1. Introduction

The definitely rapid changes have driven increasing demands in the community for better quality graduates with highly dynamic, responsive, competent and creative characteristics in order to be capable of anticipating such quick changes in various and unpredictable dimensions. It is certainly not easy to satisfy such demands under such lively changing environments in a global scope. To create graduates qualifying the market demands, the study
programs in higher schools are supposed to hold strategic positions since they are the ones who directly handle the academic and operational functions to secure better quality graduates in terms of the major, personality, metal, ethics and morale as well as competences to socialize with their community.

The study programs play absolutely important roles to create high quality graduates, since they are the ones who directly involve in planning, designing and implementing educational programs. Accordingly, it is necessary for higher schools to better focus on the developments of each study programs under their controls.

In his research to analyze the perceptions of employees towards the leadership and performance of their management in public service organizations in Botswana, Hope (2003) found that perceptions of employees towards the quality of the leadership and performance management affected the attainment of the objectives of their organizations. In other words, the performance management is a determinant factor to support the leadership in the activities of strategy implementation. In short, the performance management will support the leadership competence in implementing the strategies for attaining the objectives of the organizations.

Harris (1997, p.190) advocated that the performance management in practice was utilized by the organizations for organizational purposes, such as, human resources decisions, feedback and development, various human resources design and evaluation systems and personnel decision documentations. Performance management is a strategic and integrated approach to address successes by improving the human resource job performances in the organizations. The performance improvement through the implementation of performance management is supposed to enhance the management of related organizations. Good organizational governance is supposed to lead to organizational performance as expected.

With reference to the aforementioned researches, reviews and theories, it is identified that there are relationships among leadership, management of performance and internal management to attain the objectives of the organizations. This research is proposed to study the effects of leadership towards the performance management, and the effect of performance management towards internal organizational satisfaction to further show whether or not the internal management of an organization is successful.

The next related concept is good governance. The creation of good governance will never be separated from the stakeholders of the organizations. The relationship between an organization and its stakeholders, especially how an institution satisfies its stakeholders justly and adequately is clearly an important issue in a concept of good governance. The presence of good governance will drive performances that reflect the success of a process of strategy implementation in the operation, i.e., satisfaction of external customers.

Lynall, et al. (2003) advocated that corporate governance represents the relationship among stakeholders to direct and control the strategy and performance of an organization. The advocacy highlighted that corporate governance was important for directing and securing the strategy that could be implemented in consistence with the predetermined and planned strategy. It also supported the address by Finegold, et al. (2001) stating that principally corporate governance concerned with an effort to ensure that the strategic decisions were effective, in the sense that the implementation of the strategy was consistence with the plans when supported with good governance. In other words, the more effective the leadership in the implementation of the strategy was, the more drivers to the creation of corporate governance would be. Besides, it would also secure that the strategy could be implemented in consistence with the plans.
Ramaswamy, et al (2002) addressed the relationship between leadership and elements of good governance, i.e., effective leaders comprehended the accountability of corporate business performance and gave positive responses to the mechanism of good governance.

Hope (2003) reviewing the management of public services in Botswana concerning with the perception of employees to leadership and management of performance stated that it required reformation in implementing the management of performance and good governance in order to be able to enhance the quality public services.

The aforementioned review advised that it certainly called for establishment of management of performance and creation of good governance to effectively support leadership to improve quality public services.

In the article *Does corporate governance influence performance? Some evidences from U.K. insurance company*, Diacon and O’Sullivan (1995) addressed that based on the results of researches held in some insurance companies, it showed that there was relationship between some factors of corporate governance, and the performance of companies as represented in their better business profitability and growth of their market share.

Referring to the findings from the research by Diacon and O’Sullivan (1995), it was concluded that corporate governance also affected the enhancement of the company business performance and the wider markets they served.

David (2003, p.222) stated that the definition of governance referred to the one addressed by a manager association in USA defining that governance is a guarantee that the strategic objectives and predetermined plans would be attained and the proper management structure had been designed for attaining such strategic objectives. In addition, it also aims to maintain the integrity, reputation and accountability to the organization stakeholders.

The aforementioned definition stressed on the effects of good corporate governance to the management structure aims to secure satisfactions to the organization stakeholders.

Syakhroza (2000) advocated that there was a positive relationship between good governance and organization achievements, i.e., good corporate governance affected the good end results (stakeholders’ satisfaction).

Considering the importance of governance in an organization to secure the successes in attaining the organizational objectives with respects to the values, integrity, reputation and accountability to the organization stakeholders, it certainly requires a leader with adequate leadership skills, i.e., the one smartly capable of understanding and implementing strategies in order to attain the objectives of the organization. To build integrity and reputation favorable to the organization, it also calls for good governance. The good governance will be much dependent on the contributions given by the whole stakeholders of the organization. The good governance is supposed to drive good organization performance. Syakhroza addresses it as good end result that is represented with stakeholders’ satisfaction.

However, there was a research failing to prove the relationship between good governance and organization performance, which was *Good corporate governance: Is it successfully applied in Indonesia?* By Sulistyanto and Haris (2003). The researchers failed to identify the effects of good corporate governance to organization performance.

Different opinions about the relationship between good corporate governance and performance of various organizations turn the relationship between the two to be a topic worth studied, i.e., the effects of good
The effect of leadership on performance management, good governance, internal and external satisfaction in study programs

The achievements of an organization are real parameters that might be treated as determinants to the success or failure of a company. The success is certainly expected by any of those involved in the organization. In other words, the success of an organization is also the one of its employees, as they are the ones contributing to better organization achievements. The same also works in a study program that is supposed to attain success stories in governing favorable teaching and learning processes.

1.1 Leadership

The goal of this research is to analyze the effects of leadership, especially the competence of an organization leader in smartly implementing strategies through strategic leadership, power of leader, more conducive organizational culture building, performance management and good governance in study programs in faculties of economics in East Java province. In the strategy implementation, the leadership through performance management and good governance will affect the attainment of both internal and external satisfactions in the study program in those faculties.

Various definitions about leadership have been exposed by some authors within the spectrums of characters of individual, behaviors of individual, influences to others, interaction patterns, relationship between roles and designations in an administration position. Navahandi (2004, p.4) defined that a leader is one influencing individuals and groups in an organization, assisting them in setting organization objectives and directing them to attain such objectives.

With reference to the aforementioned, it is conclusive that there are some identified elements. The first is that leadership influences individual and groups by inviting and directing them towards attainment of organizational objectives. The second is that leadership involves groups of people directed to undergo interpersonal interactions. The third is that a leader is an individual perceived as an agent contributing better values to subordinates.

The role of leadership commences through organization vision and mission setting. In order to satisfactorily realize such organization vision and mission, it requires ample supports and incentives served available to others invited to participate in the achievement of optimum performance, in regard with both personal potencies and organization vision and mission.

Peter and Waterman (1982) stated that a leadership concerns with three inherent messages, namely:
(1) Leadership concerns with sensitiveness to direction and vision and implants such vision to each of the organization members.
(2) Leadership covers cooperation with others, probably in teams, and maintains relationship with organization members.
(3) Leadership is a careful process requiring attention to minor through major problems in details.

The idea about importance of leadership came up from the thought of Peter and Waterman (1982) who advocated that leadership concerned with ability to direct and cooperate with other parties.

Next, Wright (1998, p.245) stated that the need of leadership in implementing strategies required three important factors, namely: strategic leadership, power and ability to create conducive organizational culture in implementing the strategies. In considering the idea of Peter, Waterman and Wright, it is conclusive that...
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leadership, especially in terms of ability to utilize powers and influences to ensure that the organization members can undertake the program activities effectively, which is supposed to be an important factor to assure that the strategy implementation is consistence with the predetermined plans. The competence of a leader to assure that the strategy implementation is effective is characterized with his capacities in terms of strategic leadership, power and ability to build organizational culture.

In regard with the socialization of vision and mission and assurance good undertakings of required activities in implementing the strategies, there are three important issues to consider. The first is strategic leadership where the leader is identified as an agent that leads all organization members. The second is power that is supposed to be under the possession of a leader to drive the employees to properly cooperate while implementing the predetermined plans. The third is organization culture. Each organization has its own culture that is supposed to be a key factor for a leader and his/her staff for understanding and managing the organization culture that supports the strategic activities of the company as advocated by Wright, et al (1998, p.245).

The following are five leadership roles in the agenda of strategy implementation (Thomson, Jr., 2003, p.441):

1. Staying on top of what is happening and closely monitoring progress ferreting out issues, and learning what obstacles lay in the path of good execution.
2. Promoting a culture and esprit the corps that mobilizes and energizes organizational members to execute strategy in a competent fashion and perform a high level.
3. Keeping the organization responsive to changing conditions, alert for new opportunities and bubbling with innovative ideas.
4. Exerting ethics leadership and insisting that the company conduct its affairs like a model corporate citizen
5. Pushing corrective action to improve strategy execution and overall strategic performance.

In regard with definition on strategic leadership Hitt (2005, p.376) defined it as follows:

Strategic leadership is the ability to anticipate, envision, maintain flexibility, and empower other to create strategic changes as necessary.

Based on the aforementioned definition, it is conclusive that the duty of a leader in terms of strategic leadership is directing the organization by directing and communicating the vision in the future and giving motivation and driving inspiration to the organization members to move towards such direction.

1.2 Performance management

The performance management is a process controlled by line managers for improving organization performance and team works as well as individual performance. In the performance management the management collaborates with the employees to set the objectives and evaluation, direct the performance, provide feedback, evaluate performance and give rewards to the employees.

Campbell and Garfinkel (1996) stated that the performance management helped integrating the objectives of the company and the individuals as well as team work in order to support the attainment of the objectives effectively by involving the employees and management in the processes of performance evaluation and objective integration that, in turn, will minimize conflicts in the practice of performance management.

On the other hands, Lawson (1995) stated that performance management was a strategic and integrated approach for attaining organization success through enhanced performance of those hired in the organization,
development of team competence and contribution of individuals in the organizations.

The performance management is supposed to be strategic as it views business in a broader scope and longer span of time. It concerns wider scope of business as a whole in the sense that it drives the functions in an organization to be effective for adapting with ever changing conditions in the organization environment.

Armstrong (1998, p.52) elaborated that the performance management was supposed to attain sustainable improvements in the organization performance by:

1. Serving as a supporting agent of changes in developments directed towards job-oriented culture in an organization;
2. Improving motivation and commitment to workforce;
3. Securing that individuals are capable of developing themselves and improving their own job satisfactions as well as fully exploiting available potencies of both individuals and organization as a whole;
4. Enhancing inter group and job integration;
5. Developing constructive and open relationship between the individuals and managers in the process of consistent dialogues related with the jobs actually done during one year;
6. Giving opportunities to individuals to express their aspiration and expectation about their jobs.

1.3 Good governance

The issue on good corporate governance has been initially identified by the emergence of agency theories addressed as a result to the separation between business owner (principal) and business management (agent). The agency theory assumes that, firstly, in every decision making, all individuals tend to take profits for their own interests, and secondly, the involved individuals have rational way of thinking. Consequently, it drives various costs, such as excessive dividends, bankruptcy charges, asset appraisal charges for new loans and monitoring fees.

The good corporate governance has come up as a result of dissatisfactions among the stakeholders of the organization, such as management, stockholders, creditors and employees as well as society. The more dependent an organization to their external parties, the more crucial for the organization to assure that the management has done the best endeavors for the interests of the organization. Such assurance is definitely subject to corporate governance. A good corporate governance system provides effective protections to the stakeholders of the organization.

In short, corporate governance can be defined as a set of rules set forth for controlling the relationship among the stockholders, board (management), creditors, government, employees and other internal and external stakeholders in regard with their rights and obligations. In other words, it is a system regulating and controlling the company. Accordingly, the corporate governance is supposed to create value added to all stakeholders (FCGI, 2001, p.3).

With reference to the aforementioned development, i.e., the more complexity of stakeholders of an organization and expectation of the whole stakeholders on the assurance of the best organizational management, it is conclusive that it requires a system regulating the relationship among the stakeholders.

Good governance is a terminology arising from stronger demand of the public on good and clean governance. In case such governance is applied in government authorities, the public expectation will be good, clean and accountable governance (Widodo, 2001, p.18).
James, Lawrence and Weber (2002, p.2) stated that:

The term corporate governance refers to the overall control of a company’s action. Several key stakeholder groups are involved in governing the corporation.

(1) Managers occupy strategic position because of their knowledge and day to day decision making.
(2) The board of directors exercises formal legal authority over company policy.
(3) Stockholders, whether individuals or institutions, have a vital stake in the company.
(4) Employees, particularly those represent by unions or who own stock in the company, can affect some policies.
(5) Government is involved through its laws and regulations.
(6) Creditors who hold corporate debt may also influence company’s policies.

Referring to the aforementioned statement by Lawrence, it is clear that the governance concerns with overall controls to the activities of the company. Various parties related with the organization involve in these activities in consistence with the roles they have to play with.

Tjager, et al (2003, p.53) stated that the principles of good corporate governance applied in State Owned Companies pursuant to the Decision of Minister of State Owned Companies, Number: Kep-117/M-MBU/2002, comprise 5 components below:

(1) Transparency concerning with the openness in the process of decision making and the one in addressing material and relevant information about the company.
(2) Independence concerning with a circumstance where a company is managed professionally and free of conflicts of interests or any sort of coerce from any other parties that are inconsistency with the prevailing laws and jurisprudence as well as principles of healthy corporation.
(3) Accountability concerning with clear functions, implementations and responsibilities in the organization so that the company is managed effectively.
(4) Responsibility concern with the consistence in managing the company pursuant to the prevailing laws and jurisprudence and principles of corporation.
(5) Fairness concerning with the justness and impartiality in satisfying the rights of the stakeholders arising from agreements and prevailing laws and jurisprudence.

Good governance is required for improving organization performance in terms of two points. The first is supervision mechanism on the performance management. The second is attempts to strengthen and justify the responsibilities of board of directors and management team to stockholders and stakeholders of the company (Keasey & Wright, 1997).

![Fig. 1 The relationship between good corporate governance and good end result](Data source: Syakhroza (2000).)

Both of the points are closely inter-related for attaining the final objectives of the company management
The effect of leadership on performance management, good governance, internal and external satisfaction in study programs

system, namely:

(1) Stakeholder satisfaction covering efficiency, effectiveness, profit, customer satisfaction, supplier satisfaction and community satisfaction;

(2) Employee satisfaction concerning with employee satisfaction.

The relationship between good corporate governance and good end result is schematically presented in Fig. 1.

1.3.1 Good governance in higher schools

The new paradigm on the national higher education strategy in Indonesia is presented through 5 pillars: quality, autonomy, accountability, accreditation and self evaluation (see Fig. 2). Referring to these pillars and considering the importance of performance management practice for supporting the attainment of the objectives of an organization in general and the ones of higher school specifically, it is very urgent to include the concepts related with the aforementioned problem, i.e., good corporate governance in an organization or university governance.

![Fig. 2  New paradigm in higher education management (1999-2005)](image)


This concept is worth included into the analysis in a context of higher education reformation in Indonesia. The central issue in terms of autonomy is management of resources and programs. In consistence with its legal status, a state higher school remains completely subject to the prevailing national financial laws and civil servant regulations that definitely no longer suitable for state high schools. In the mean time, the foundations in private higher schools tend to intervene the operational management of the higher schools and induce various problems and disputes that in turn decrease the credibility of private higher schools (Brodjonegoro, 2002).

1.4 Internal customer satisfaction and external customer satisfaction

A market-oriented company focuses to external customers, responds and anticipates the needs of customers in the future (Kohli & Jaworski, 1990). In short the organization is to stress on the centrality of customers by positioning them in a top priority (Mohn & Jacson, 1992).

A number of researchers and practitioners in human resources management field focus more on the employees as a way to earn sustainable competitiveness (Arthur, 1992; Arthur, 1994; Guzzo, et al., 1985; Huselid, 1995; Morison, 1996; Pfefer, 1996; Pfefer, 1998; Van Buren & Waren, 1998).
The loyalty of employees is strictly subject to the orientation of the company to relational development. In case the relational development is clearly focused, there will be no more important internal marketing issue in an organization. It is consistent with the following statement:

It used to be a business conundrum: “Who comes first? The employee, customer or shareholders?” That’s never been an issue to me. The employees come first. If they’re happy, they come back. And that makes the shareholders happy (O’Reilly & Pfeffer, 2000).

Benjamin Schneider and David Bowen conducting researches in 28 bank branches stated that the climate for service and climate for employee are well being, it would bring high correlation with the perception of customers towards quality of the service.

Referring to the theoretical reviews and results of some researches, it was identified that employees in a service company were clearly determinants to quality service delivery. The personality of the employees was a very important factor, since their personality could either contribute or disrupt the image on the company. In delivering quality services, a service company needs to comprehend the needs of their external customers and their own employees that are further referred as internal customers.
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According to Crawford and Getty (1991), there are 5 main categories, i.e., resources, specific responsibilities, communication standards, freedom in decision making and motivation. The needs of internal customers of a service company are unique when compared to the ones of other sorts of service companies. The following shows the needs on services for internal customers in a professional organization. Study program is an institution supported by academic staff comprising of professionals. Accordingly, in order to satisfy the professional lecturers it is strictly required to consider the following dimensions.

(1) Resources. They cover trainings, clarity of information sources, personnel supports to expertise, well functioning equipment and tools and adequate material supply.

(2) Specific accountability. It concerns with availability of a manager or superior to be in charge to responsibly undertake every single job specification. The charge is to be interpreted that when there is any distortion in the undertaking of duties, there will be a manager of direct superior to take necessary measures to fix it and ensure sound process of such undertaking.

(3) Communication standards. They are supposed to present in an organization. Every single activity in a service company is to be regulated under a number of standards with the following characteristics:
- Clear statement on each service activity supported with accurate descriptions about predetermined degree of services;
- Supply of supports and explanations since there will be responses from the employees in case of absence of clear directions and supports;
- Clearly written standards;
- Realistic and attainable standards.

(4) Freedom to make decision. It is supposed to be given to employees directly encountering the public so that they can address their own opinions. The decisions are then presented in a quality assurance meeting to share with other employees, and when favorable to be employed as a basis for setting policies.

(5) Motivation. It is to consistently enhance the talents and expertise of the employees and supposed to release them from conflicts and stress as well as inducing motivation and creativeness. Various endeavors may be taken to ensure such motivation, among other things, by letting the employees to read comments from external customers, giving compliments, recording outstanding job performance, sending them to attend training programs or implementing incentive packages.

In a study program, the internal customers are academic staff. As professionals, lecturers in a study program require those aforementioned factors to enjoy job satisfaction. They need to have personal improvement through training programs or higher grade of education. In addition, the availability of required lecturing facilities with ample support of lecturing material sources are definitely helpful for developing their capacities to deliver better quality lecturing. Besides, good communication channels in a study program also plays an important role to deliver real quality lecturing that is consistent with the vision, mission and objectives of the study program.

Academic staff will be definitely satisfied when what they need is well supplied. Such satisfaction is at last supposed to present quality services during the course of both lecturing in classes and consultancy to assure external customer satisfaction. The external customers of a study program are admitted college students in the program.
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Fig. 5 presents elements that are supposed to be well considered in order to assure external customer satisfaction.

![Diagram](image)

**Fig. 5** The marketing of services: A quality perspective


2. Conceptual model

This study examines the effect of leadership on performance management, good governance, internal and external satisfaction in study programs. Based on the study objectives and approaches, the following conceptual model is drawn.

Fig. 6 describes the conceptual model showing the relationship among the examined variables, i.e., leadership, performance management, good governance, internal satisfaction, external satisfaction based on empirical facts (inductive thinking) and descriptions of concept and theoretical reviews (deductive thinking) as represented in the thinking process schema and review to the predetermined conceptual model.

![Diagram](image)

**Fig. 6** Conceptual model

Based on the conceptual model of this research and the framework of thinking process in consistence with
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the theoretical study and empirical study, the following hypotheses are proposed:

H1: Leadership significantly affects the performance management in the study program.
H2: Leadership significantly affects the good governance in the study program.
H3: Leadership significantly affects the internal satisfaction in the study program.
H4: Performance management significantly affects the internal satisfaction in the study program.
H5: Good governance significantly affects the external satisfaction in the study program.
H6: Internal satisfaction significantly affects the external satisfaction in the study program.

3. Methodology

The populations of this study program are under the control of the accredited faculties of economics of higher schools in East Java province. This research requires data supplied by the study programs in order to identify the leadership, performance management, good governance, internal satisfaction and external satisfaction of the study program.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership (X1)</td>
<td>X1.1 Strategic leadership</td>
</tr>
<tr>
<td></td>
<td>X1.2 Power</td>
</tr>
<tr>
<td></td>
<td>X1.3 Culture building</td>
</tr>
<tr>
<td>Performance management (Y1)</td>
<td>Y1.1 Setting of objectives</td>
</tr>
<tr>
<td></td>
<td>Y1.2 Feed back</td>
</tr>
<tr>
<td></td>
<td>Y1.3 Performance appraisal</td>
</tr>
<tr>
<td>Good governance (Y2)</td>
<td>Y2.1 Creation of fairness</td>
</tr>
<tr>
<td></td>
<td>Y2.2 Creation of transparency</td>
</tr>
<tr>
<td></td>
<td>Y2.3 Creation of accountability</td>
</tr>
<tr>
<td></td>
<td>Y2.4 Creation of openness</td>
</tr>
<tr>
<td></td>
<td>Y2.5 Creation of participation</td>
</tr>
<tr>
<td>Internal satisfaction (Y3)</td>
<td>Y3.1 Satisfaction to motivation</td>
</tr>
<tr>
<td></td>
<td>Y3.2 Satisfaction to facilities</td>
</tr>
<tr>
<td></td>
<td>Y3.3 Satisfaction to special assignments</td>
</tr>
<tr>
<td></td>
<td>Y3.4 Satisfaction to communication standards</td>
</tr>
<tr>
<td></td>
<td>Y3.5 Satisfaction to freedom to make decision</td>
</tr>
<tr>
<td>External satisfaction (Y4)</td>
<td>Y4.1 Satisfaction to physical conditions</td>
</tr>
<tr>
<td></td>
<td>Y4.2 Satisfaction to service punctuality</td>
</tr>
<tr>
<td></td>
<td>Y4.3 Satisfaction to study program reliability</td>
</tr>
<tr>
<td></td>
<td>Y4.4 Satisfaction to value gained</td>
</tr>
<tr>
<td></td>
<td>Y4.5 Satisfaction to Study program competence</td>
</tr>
</tbody>
</table>

In order to collect data on the leadership, performance management, good governance and internal satisfaction, it requires direct survey to academic staff in study programs.

The data concerning external satisfaction were collected through direct survey to college students attending
semester 6 or more senior in the study programs. The appointment of students attending semester 6 or more senior is in attempt to collect reliable data after they have attended pretty long process of study for about 3 years.

The number of study programs in faculties of economics in East Java province is 115.44 of them are study program on accounting, 56 of them are study program on management, and the rest 15 are study program on economic development (see Table 1).

3.1 Validity and reliability testing

The testing to validity and reliability is to examine the items of questions set forth in a questionnaire. It is to identify whether the items of questions are valid and reliable. If so, the items can measure its relevant factors. The following is elaboration on the results of testing on the validity and reliability of measurement instruments by a means of software called SPSS 11.5.

3.1.1 Validity testing

The testing on validity in this research adopted 2 approaches for identifying whether the questionnaire that had been designed satisfied the requirements on validity. The first required that, according to Masrun (1979) in Solimun (2005), the questioner regarded to be valid when the value of the resulted correlations between each of the score of the item and the total score represented in by the product moment correlation (inter-correlation method) was positive and greater than 0.3. The second provided that the testing was to be conducted by identifying whether the items of the questions had satisfied the requirements on uni-dimensionality. The questionnaire was regarded valid when the items of the questions were effective for measuring a dimension predetermined in consistence with the prevailing theories. The following is an elaboration of each of the two approaches to the validity testing.

Table 2, Table 3, Table 4, Table 5 and Table 6 show the results of validity testing on each of the items of questions related with variable of leadership, performance management, good governance, internal satisfaction and external satisfaction.

<table>
<thead>
<tr>
<th>Items</th>
<th>Total item correlations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic decision 1</td>
<td>0.7914</td>
<td>Valid</td>
</tr>
<tr>
<td>Strategic decision 2</td>
<td>0.7988</td>
<td>Valid</td>
</tr>
<tr>
<td>Strategic decision 3</td>
<td>0.7163</td>
<td>Valid</td>
</tr>
<tr>
<td>Power 1</td>
<td>0.6651</td>
<td>Valid</td>
</tr>
<tr>
<td>Power 2</td>
<td>0.7076</td>
<td>Valid</td>
</tr>
<tr>
<td>Power 3</td>
<td>0.6989</td>
<td>Valid</td>
</tr>
<tr>
<td>Power 4</td>
<td>0.5790</td>
<td>Valid</td>
</tr>
<tr>
<td>Power 5</td>
<td>0.6550</td>
<td>Valid</td>
</tr>
<tr>
<td>Culture building 1</td>
<td>0.7285</td>
<td>Valid</td>
</tr>
<tr>
<td>Culture building 2</td>
<td>0.7120</td>
<td>Valid</td>
</tr>
<tr>
<td>Culture building 3</td>
<td>0.7289</td>
<td>Valid</td>
</tr>
<tr>
<td>Culture building 4</td>
<td>0.7014</td>
<td>Valid</td>
</tr>
<tr>
<td>Culture building 5</td>
<td>0.7209</td>
<td>Valid</td>
</tr>
</tbody>
</table>
The effect of leadership on performance management, good governance, internal and external satisfaction in study programs

### Table 3  Internal consistency of performance management items

<table>
<thead>
<tr>
<th>Items</th>
<th>Total item correlations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting of objective 1</td>
<td>0.5426</td>
<td>Valid</td>
</tr>
<tr>
<td>Setting of objective 2</td>
<td>0.6600</td>
<td>Valid</td>
</tr>
<tr>
<td>Setting of objective 3</td>
<td>0.6507</td>
<td>Valid</td>
</tr>
<tr>
<td>Setting of objective 4</td>
<td>0.6526</td>
<td>Valid</td>
</tr>
<tr>
<td>Feedback 1</td>
<td>0.5112</td>
<td>Valid</td>
</tr>
<tr>
<td>Feedback 2</td>
<td>0.5112</td>
<td>Valid</td>
</tr>
<tr>
<td>Job appraisal 1</td>
<td>0.4396</td>
<td>Valid</td>
</tr>
<tr>
<td>Job appraisal 2</td>
<td>0.4396</td>
<td>Valid</td>
</tr>
</tbody>
</table>

### Table 4  Internal consistency of good governance items

<table>
<thead>
<tr>
<th>Items</th>
<th>Total item correlations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness</td>
<td>0.6549</td>
<td>Valid</td>
</tr>
<tr>
<td>Transparency</td>
<td>0.7377</td>
<td>Valid</td>
</tr>
<tr>
<td>Accountability</td>
<td>0.6454</td>
<td>Valid</td>
</tr>
<tr>
<td>Openness</td>
<td>0.6351</td>
<td>Valid</td>
</tr>
<tr>
<td>Participation</td>
<td>0.5155</td>
<td>Valid</td>
</tr>
</tbody>
</table>

### Table 5  Internal consistency of internal satisfaction indicator items

<table>
<thead>
<tr>
<th>Items</th>
<th>Total item correlations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction on motivation improvement</td>
<td>0.7390</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on motivation improvement</td>
<td>0.7390</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on facility availability</td>
<td>0.5360</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on facility availability</td>
<td>0.5360</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on communication standards</td>
<td>0.6490</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on communication standards</td>
<td>0.7043</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on communication standards</td>
<td>0.6373</td>
<td>Valid</td>
</tr>
</tbody>
</table>

### Table 6  Internal consistency of external satisfaction indicator item

<table>
<thead>
<tr>
<th>Items</th>
<th>Total item correlations</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction on physical conditions</td>
<td>0.5697</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on physical conditions</td>
<td>0.6054</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on physical conditions</td>
<td>0.4960</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on study program reliability</td>
<td>0.4870</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on study program reliability</td>
<td>0.4870</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on value gained</td>
<td>0.4075</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on value gained</td>
<td>0.4075</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on study program competence</td>
<td>0.5637</td>
<td>Valid</td>
</tr>
<tr>
<td>Satisfaction on study program competence</td>
<td>0.5637</td>
<td>Valid</td>
</tr>
</tbody>
</table>

3.1.2 Reliability
Table 7 shows the result of the reliability testing for all of the variables in the model, and Table 8 shows the result of outlier testing. The result of the outlier testing indicates that there is no outlier in it.

Table 7  Results of reliability testing

<table>
<thead>
<tr>
<th>Variables</th>
<th>Indicators</th>
<th>Alpha cronbach</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership (X1)</td>
<td>X1.1 Strategic leadership</td>
<td>0.8801</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>X1.2 Power</td>
<td>0.8503</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>X1.3 Culture building</td>
<td>0.8827</td>
<td>Reliable</td>
</tr>
<tr>
<td>Performance management (Y1)</td>
<td>Y1.1 Setting of objectives and plans</td>
<td>0.8082</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Y1.2 Feedback</td>
<td>0.6762</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Y1.3 Performance appraisal</td>
<td>0.6099</td>
<td>Reliable</td>
</tr>
<tr>
<td>Internal satisfaction (Y3)</td>
<td>Y3.1 Satisfaction on motivation</td>
<td>0.8499</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Y3.2 Satisfaction on facilities</td>
<td>0.6894</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Y3.4 Communication standards</td>
<td>0.8129</td>
<td>Reliable</td>
</tr>
<tr>
<td>External satisfaction (Y4)</td>
<td>Y4.1 Satis. on physical conditions</td>
<td>0.7328</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Y4.3 Satisfaction on reliability</td>
<td>0.6481</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Y4.4 Satisfaction on value gained</td>
<td>0.6012</td>
<td>Reliable</td>
</tr>
<tr>
<td></td>
<td>Y4.5 Satis. on study program competency</td>
<td>0.7170</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Table 8  Result of outlier testing

<table>
<thead>
<tr>
<th>Variables</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>-1.7104</td>
<td>1.8631</td>
<td>No outliers</td>
</tr>
<tr>
<td>Performance management</td>
<td>-1.7069</td>
<td>1.8592</td>
<td>No outliers</td>
</tr>
<tr>
<td>Good governance</td>
<td>-2.5911</td>
<td>1.8893</td>
<td>No outliers</td>
</tr>
<tr>
<td>Internal satisfaction</td>
<td>-2.1448</td>
<td>1.7252</td>
<td>No outliers</td>
</tr>
<tr>
<td>External satisfaction</td>
<td>-2.2219</td>
<td>2.0298</td>
<td>No outliers</td>
</tr>
</tbody>
</table>

Fig. 7  The result of path analysis
Referring to the linearity testing on each of the relationship, it was identified that the relationship between data in the analyzed paths was linear.

The result of the model testing with SPSS 11.5 is shown in Fig. 7.

4. Conclusion

Based on the collected research data and post descriptive analysis on the related variables and indicators it showed that the five analyzed variables were all valid and reliable to be further analyzed for proving the research hypothesis.

The first hypothesis stating that leadership significantly affects the performance management in the study program was accepted. It meant that the trend to implement performance management in the study program would be linear to the degree of competence of a leader or manager in implementing strategies in the study program. In other words, the higher degree of competence a leader or manager of a study program had, the more drivers towards performance management in the study program would be. The research finding supported the research conducted in public service companies in Botswana by Hope advising that base on the reviews to the management of public services in Botswana, i.e., perception of employees towards leadership and performance management, it was necessary to reform the implementation of performance management for enhancing the quality public service deliveries (Hope, 2003).

The second hypothesis stating that leadership significantly affects the good governance in the study program was accepted. It meant that the creation of formal governance mechanism would be affected by the degree of qualification of leadership in the study program. Creating good governance through the creation of formal faculty governance mechanism called for competence and strong desires to fix things better, including willingness to create mechanism for collecting inputs and criticisms from the stakeholders of the study program, among other things: senior academic staff, student representatives and external parties for the sake of the study program progresses. The significant effect of leadership towards good governance supported the advocacy by Finegold, Lawler and Conger (2001) stating that corporate governance concerned with identification on how to assure that strategic decisions making would be effective. In addition the findings of this research also supported the one conducted by Ramaswamy, Li and Veliyath (2002) stating that an effective leader or manager was the one comprehending the accountability of company business performance and positively responding to corporate governance mechanism.

The third hypothesis was accepted in the sense that the leadership in the study program affected the internal satisfaction in the study program. The research findings supported the opinions of a number of authors, such as Tosti (1994), Day and Lord (1988) and Lord and Maher (1991) that similarly stated the leadership affected the achievement of a company (organization) through implementation of strategies in consistence with the predetermined plans, and assurance of internal customer satisfaction. Such a circumstance highlighted the needs on superior competences on leadership factors of a leader of manager of a study program in order to gain trust from the members of the study program and serve as a point of reference for undertaking duties as parts of the activities set forth in the strategic plans of the study program. Next, power was also required in order to bring significant effects, since the effect of power would generally be meaningful when supported with outstanding
The effect of leadership on performance management, good governance, internal and external satisfaction in study programs

expertise, wide range knowledge and strong charisma. Unfortunately, those factors could probably difficult to present in academic environment as the among the members of the organization, there were a lot of individuals with more outstanding expertise, wider range of knowledge and stronger charisma compare with the ones of the leader or manager of the study program.

The fourth hypothesis stating that the performance management significantly affected the internal satisfaction in the study program was accepted. This research proved that the performance management affected internal satisfaction. Accordingly, it would be necessary to formalize the performance management. Referring to the statement by Armstrong advocating that performance management was a strategic and integrated approach. It not only affected the internal satisfaction but also the satisfaction of the whole organization in the sense that it turned the functions in the organization to be effective to adapt with the changes in the business environment. The result of testing to this hypothesis supported the statement by Armstrong (1994), Schwartz (1999) that performance management played an important role in attaining the expected job performance in terms of individual, team and organization scopes.

The fifth hypothesis stating that good governance significantly affected the external satisfaction of the study program was accepted. The researcher found that the effect of good governance to external satisfaction of the study program was significant. The results of this research supported the statement addressed by Diacon and Sullivan (1995) and Syakhrosa (2000). However, it was inconsistent with the results of research conducted by Sulistyanto and Harris (2003) questioning the successes in implementing good governance in Indonesia.

The sixth hypothesis stating that there were effects of internal satisfaction to external satisfaction was rejected. Such finding did not support the research conducted by O’Reilly and Pfefer (2000), Bansal and Sharma (2001), and Crawford and Getty (1991), stating that there was direct effects and relationship between internal satisfaction and external satisfaction. Referring to this research finding it was concluded that the degree of external satisfaction was more dependent on good governance in the study program.

5. Implication

A study program is a unit in a higher school that holds the close relationship with and is determinant to the degree of quality of their graduates. Consequently, leadership is supposed to be a determinant factor to the creation of quality management in the study program. The leadership related with a study program concerns with tactical management, i.e., dealing with academic operations and allocations of resources available in a higher school. Accordingly, leadership is a definitely determinant factor to sound management in the study program. The leadership, concerning with a study program, deals with tactical management, i.e., dealing with academic operations and allocations of resources available in the study program.

It is necessary to consider applying practical performance management formally in the study program for identifying and responding feedback as a basis of sustainable enhancement. The performance management activities will be harmonious and support the implementation of quality assurance in both faculty and study program perspectives.

It is necessary to build good faculty governance mechanism or system through a committee or board (senate) comprising the leaders of faculties, study programs, selected lecturers and student representatives as well as
alumni as controlling partners to assure proper strategy implementation in consistence with the plans to attain high level academic performance.

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FCGI (Forum for Corporate Governance in Indonesia). (2001). Corporate governance, seri tata kelola perusahaan (Jilid-1). Jakarta, 12950.
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*Journal of Marketing, 63*(2).


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Academy of Management review, 28, 416-431.
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Market orientation for the hotel segment: The Portuguese case

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Abstract: In view of the importance of the hotel segment for the tourism and for the economy of countries such as Portugal, the objective of this study was to measure the level of orientation for the market of the largest hotel groups of Portugal. This investigation initially emphasized the importance of the marketing for the organizations, mainly the orientation for the market. After a brief explanation on the hotel segment in Portugal, an empirical study was presented, of quantitative, exploratory and traversal character, performed with the largest groups of 20 hotels of Portugal, using as an instrument of collection data, the traditional Markor scale (market orientation) adapted to the hotel sector. After analyzing the data, it was found in the investigated organizations that a good capacity to generate market information and response to the market, which formed two of the three constructs of Markor scale. However the results obtained with the construct of the dissemination of market information were below the expectations. It was possible to conclude that marketing professionals of the large hotel groups in Portugal are well oriented to the market, something not shared by other investigated departments of the hotels. So the current challenge for the main networks of hotels in Portugal is to improve the internal dissemination of information that marketing professionals gathered at the market.

Key words: marketing management; orientation to the market; Markor; hotel sector in Portugal

1. Introduction

The awakening of the consumption brought economical, politics, social changes, where previously they governed the forms of production and administration of small scales, typical from the centuries XVIII and XIX. With the mass production to assist to the growing consumers’ needs around the globe appeared the marketing inside of the organizations (Kohli & Jaworski, 1990), after all the first function of any company is to maintain its activity, being this way, necessary to generate and to maintain consumers (Levitt, 1986). In the first two decades of the XX century, the marketing had as function the facilitation of the trade and distribution of products (Bartels, 1988). From 1920, the marketing starts to try to understand the reasons that took the consumers to acquire products and services, something that only solidifies from the 1940’s.

Thereafter, it started to be fundamental for the companies the implementation of the marketing not only as...
one more organizational function, but mainly as a philosophy that includes the whole company, in all of the hierarchical levels (Narver & Slater, 1990). Nowadays, it is not an exaggeration to affirm that the administration of the marketing is the most important function in the organizations (Jocz & Quelch, 2008). According to Kotler and Armstrong (1996), currently managing of the marketing companies are used to satisfy their consumers, planning products, services and appropriate programs and determining the actions of organizations in the market, and the other areas of businesses subject to the decisions of marketing managers, after all the needs and desires of customers have become crucial to the survival and growth of any organization in the market, this fact that justifies studies regarding this theme.

Among the marketing organizations, the companies of the hotel sector stand out because they are important for the tourism development of any nation, including Portugal, a major European tourist destination. In this country, tourism grows year by year, and has earned significant representation in the Portuguese economy. As being a strategic sector for this nation, to investigate the market orientation of hotels in Portugal, a key element for the development of tourism, it is important for actions that motivate the tourism in Portuguese soil.

Being this, it is questioned—What is the degree of implementation of the marketing concept in the major hotel groups in Portugal? To answer this question, this study had to measure the general level of the market orientation for the largest hotel networks in Portugal. As specific objectives, it was sought to: (1) compare the level of generation and dissemination of marketing information and response to the market between the hotels of Portuguese origin versus hotels of foreign origin; (2) compare the level of generation and dissemination of marketing information and response to the market between the professional marketing of Portuguese hotels versus the same professional organizations, but acting in departments other than marketing; (3) to identify the elements that can be improved for the optimization of the generation levels and the spread of marketing information and of answer to the market of the large hotel groups present in Portugal.

The study in question intended to contribute to the companies of the Portuguese hotel segment, when indicating the orientation level of the main representatives of the market sector. The contributions extend to the marketing apprentices, when establishing the importance of the implementation of the marketing concept for all of the organizations, and for the academy, when demonstrating the importance of the studies in marketing for the organizational environment and for society in general.

For the accomplishment of this study, the marketing was contextualized as a function of the company and as an administration philosophy. Following, the orientation was described for the market, and the models developed to measure the orientation level for the market in the organizations positioning them presently. After a brief characterization of the current state of the Portuguese hotel sector, followed by the presentation of the methods and research techniques used. Soon afterwards came the analysis of the collected data. It finishes the study with the conclusions and implications of the accomplished study, as well as the recommendations of future lines of continuity investigation in this study.

2. The philosophy of marketing and management organizations

Since its conception, the marketing has become a business function, over time to a business philosophy. Since the 1960s, the incapacity of distinguishing between the two has been mentioned by several authors (Kotler & Levy, 1969; Howard, 1983; Levitt, 1986; Brown, 1987; Grönroos, 1989; McKenna, 1991; Kotler & Armstrong, 1996; Baker, 2003; Kotler & Keller, 2005; Wilkie & Moore, 2007), as one of the key factors in the promotion of the
incomprehension on the nature of the marketing and its role in the business administration (Brown, 1987). For Kotler and Armstrong (1996), the administration of the marketing in an organization is not limited to identifying the company consumers’ needs, but it also involves the planning of products, services and appropriate programs. In other words, it is not an isolated function in the organization, but an advisor of all of the actions of the company, as well as an agent propeller of external associations to the organization with views to provide a superior value to their consumers. The marketing actually is a work of everyone in the company (McKenna, 1991).

This role of the marketing inside of the organizations was the study object of Brown (1987). For the author, the true role of the marketing in the organization, in reality, is to act as a bridge among several functions of the company about how they interpret its role, and how they see the company customers’ needs. The author concluded that the marketing has the task of understanding the customer’s needs and of communicating and guiding their discoveries to other areas of the company, in order to guarantee that all become truly guided to the customers, as it can be visualized in Fig. 1, which presents the model proposed by Brown (1987).

Agreeing to point out that the marketing is not only the blind search of any client at any price, and wrong interpretation and very common among the professionals that do not understand the marketing (Baker, 2003). The functional managers should not feel that the marketing implications are supposed to satisfy all the potential clients, independently of the cost. The marketing involves the identification and resumption of the objectives clearly defined by the clients, those in which the company is more suited to serve in a competitive market (Brown, 1987).

For Thomas (2006), the marketing as an organizational culture, preserves all the company as a uniform way, the active is more important for an organization—its relationship with its global clients. According to Greenly, Hooley and Saunders (2004), the marketing professionals have a critical role as the clients internal defenders and for a value system that puts the client in first place, after all, the most important resource of any company is the consumer public—something that should be present in the minds of all organization collaborators, independent of its function.
Knowing and interpreting the current needs and the potential consumers of the product and/or services of an organization, it is possible to establish policies and plans, develop competences, guide resource and sectors of the company, or focus all the organization actions for the needs and desires of the clients, increasing the probability of the company’s success (Pearson, 2002). The management of all this process is led by marketing professionals (Kotler & Keller, 2005). However, in order to be possible, the management focused on the client is necessary with the marketing concept be implemented in all of the organization. This implementation is traditionally known as orientation for the marketing (Kohli & Jaworski, 1990).

3. Organizations guided to the market

The evolution of the marketing concept having as its main focus the client in the center of the enterprise strategy, made with that, the organizations started to have a strategic turned for the marketing (Kotler & Armstrong, 1996). The term “orientation for the marketing” appeared as an organizational culture, therefore, as a set of values and creeds which puts the consumer in the first place, in the moment of elaboration of the organization strategic (Deshpandé & Webster, 1989). In the beginning of the 1990's, many definitions and models appeared around this concept, namely through the developed work by Kohli and Jaworski (1990), Narver and Slater (1990), Desphandé, Farley and Webster (1993) and Day (1994) and which remain valid until today.

3.1 Orientation for the marketing according to Kohli and Jaworski (1990)

Kohli and Jaworski (1990) defined the concept of orientation for the market as being the information generation of the market for all the organization related to the current and future clients needs, the dissemination of the market information through the departments and the answer of the company to this information. The study of these authors about the orientations for the market identified three components: (1) information generation; (2) dissemination of the information; (3) answer to the market. The generation of the market information related to the exogenous factors to the organization, in which all the departments should collect and treat the information concerning of the current and future needs and demands of the clients, and about the factors that can directly achieve the consumer desires, namely competitors, technological-political suppliers, socio-cultural factors, among others, a way of the organization be able to monitoryes the conjuncture and the external environment.

With the information collected, this should be transmitted by various sectors of the organization in order to be known and parted in the core of the organization as vision presented for the dissemination of information. Later, the two first components surge the construction of the answer to the market which consists in the formulation and execution of logical actions with the market study, therefore, it consists in the transformation of the acquire knowledge in the previous stage in real actions, which reflect itself in the current needs and desires and future and real and potential consumers.

According to Kohli and Jaworski (1990), a guided organization for the guided market implements and acts according with the concept of marketing, in other words, it is that which the actions are consistent with the concept of marketing. The initial proposal of the authors resulted in the scale, known as Markor—Market orientation, which it was proposal initially with 3 constructs and 32 variables (generation of the marketing intelligence—10 variables, dissemination of marketing intelligence—8 variables, and answer to the market—14 variables) and which measures the level of orientation for the market of a determined organization. This scale was tested (Jaworski & Kohli, 1993) and later adjusted for 20 variables and statistically valid (Kohli, Jaworski & Kumar, 1993), being the Markor scale the most used for the academics and the marketing observers when it tries
to find the marketing concept of the implementation level in all the organization, in other words, the company for its market (Koller, 2002).

3.2 Orientation for the market according to Narver and Slater (1990)

For Narver and Slater (1990), the orientation for the market is considered as an organizational culture, which stimulates the behaviors necessary to the creation of the superior value for the client, providing that a competitive advantage for the organization. According to these authors, the orientation for the market is constituted by three components: (1) client orientation; (2) competition orientation; (3) interfunctional coordination, which two decision criterion: (1) long-term orientation and (2) profitability.

The orientation for the customer means to make an effort in the sense of understanding its chain of value, as well as creating value, it could happen in two ways: (1) increasing the customer’s benefits in relation to the offer; (2) reducing the costs in the acquisition of a property or service. The orientation for the competition corresponds to the knowledge, on the part of the organization, of the actions of their main current and competitive potentials, as well as of their forces and weaknesses, potentialities and strategies. The third component of the orientation definition for the market, the coordination interfunctional, links itself with the so mentioned the function of all in the organization, leaving the idea behind that the marketing or the concern with the consumer, be the function of a single sector. Each individual that participates in the organization has essential responsibility in accomplishing their activities with the purpose of providing benefits with reduced costs to the customer (Narver & Slater, 1990).

The authors pointed out that the development of the three behavioral orientation components to the market, as well as the results originating from this orientation happening in the long term, as dealing with the alteration of the organizational culture. The creation and maintenance of relationships for a long period, induce the organization to a superior development, offering to their customers a superior value. As to the profitability, this is the objective for the market orientation. The profitability is seen as a desirable consequence of the orientation for the market and, in nonprofit organizations it is a synonymous of survival (Narver & Slater, 1990).

3.3 Orientation to the market according to Desphandé, Farley and Webster (1993)

According to Desphandé, Farley and Webster (1993), the orientation for the market is a group of faiths that puts in the first place the consumer’s interests, not excluding all the other relevant publics, such as proprietors, managers and collaborators, in order to develop a long term lucrative organization. This approach was substantiated in the relationship between market orientation and organizational culture, where according to Deshpandé and Webster (1989), the individuals who are part of the organization centralize all the organizational activities in the customer value construction, not simply focusing on needs and desires of consumers. According to these authors, organizational culture is the set of shared values and beliefs that assist individuals in understanding the functioning of the organization, in addition to providing the same standards of behavior of the organization.

Market orientation is seen as more than a simple idea. It is regarded as the organizational functions guide, by clearly showing that the path being developed daily must be justified in understanding by all parts of the organization, that the consumer is the beginning and end of the business enterprise (Desphandé, Farley & Webster, 1993). The study developed by these authors, as well as the theoretical foundation relevant to the issue involved in the field of quantitative research, which had as the objective to examine the impact of organizational culture, guiding the consumers and innovation in relation to company’s performance. The contribution of this study relates to the internal awareness development, to be spread by the company, the importance of consumer-oriented actions, being considered and advocated as higher value for the organization towards its own organizational culture.

3.4 The second market orientation
Day (1994) defined guidelines for the market as a skill in understanding the customers’ superior satisfaction. This skill is obtained through the development of organizational capabilities. Thus Day (1994) considered that businesses become more market-oriented insofar as they identify and develop special capabilities, establishing advantages in relation to competition. Day (1994) ranked capabilities into three categories: internal, external capabilities and capacity expansion capabilities. Internal capabilities correspond to the development of organizational skills for the environment, for example: cost, finance, logistics, production, human resources among others. External capabilities relate to skills to manage aspects of the market: technology, channels, consumers, etc. Finally, the authors unite emphasis internal external emphasis, which are integrated through expansion capabilities, which are activities that comprise the process used to meet anticipated needs of consumers, identified capabilities.

The development of these capabilities is the crux of a market-oriented company. There are five steps to achieve this goal: diagnose current capacities to anticipate future needs, capacities of process redesign at operational level staff, direct the senior management and monitor progress (Day, 1994). Second Day (1994), the overall goal was to demonstrate a commitment to the organizational capacity development, both the internal to external environment, reflecting the philosophy that all decisions starting with the consumer and which are guided by a deep and shared understanding of the needs of these consumer behavior, capabilities and intentions of competing for the purpose of achieving superior performance, satisfying the consumers better than the competition.

3.5 Orientation for the 21st century market

According to Foley and Fahy (2009), operationalizing the concept of market orientation for researchers such as Kohli and Jaworski (1990) and Narver and Slater (1990) had a significant benefit for marketing thinking progression by influencing it until now. Even today, the backgrounds on the market-orientated represent important levers to increase the orientation within a company on the market. This background knowledge certainly helps the managers in their efforts to implement a market orientation (Raiij & Stoelhorst, 2008).

Major studies on market orientation are from the 1990s, now this issue continues to deserve close attention from researchers, although new models that arise not outweigh the models developed in the 1990s. It was the case of Lafferty and Hult (2001), which gave great importance to the definition of concepts about market orientation and affirmed that many research projects have set up the constructs and exploited their application and implementation in companies. Over time, the orientation of the market has become synonymous of how to implement the marketing concept.

Lafferty and Hult (2001) presented a framework which brought together contemporary conceptions of market orientation from a summary of its components. Although there are some differences between models, the emphasis of market orientation is to meet the needs and create value for the customer. A second element is the importance of information within the organization. This information is all that can be generated on customers and competitors, to help the company’s search for the internal market for which they are oriented. As soon as this information is accessible through the concerted effort of all the different roles within the company, the organization must then disseminate this knowledge to all strategic business units of the organization and its departments. This interfunctional coordination is the third principle unifying models. Finally, the four perspectives on the direction of market stress the need to take appropriate measures by the company to implement the strategies required for the market that it is searched. Considering the importance of this construct for the performance of the organization and its potential to provide a competitive advantage, it is likely that the concept of market orientation
will continue to evolve, but following the principles developed in the last decade of the 20th century (Lafferty & Hult, 2001).

4. The Portuguese hotel segment

Cooper, et al (2008) affirmed that the newly created segment is the largest sector within the touristic economy, as an important supportive structure for a tourist destination. The hotel can also appear as an important element in broader strategies of economic development. The PITER Report (2005) reaffirms that the hotel is a basic sector to support tourist, being very important in the development of the tourism industry. It is to highlight the role that the accommodation is in the local economy (since it is this sector that are made the biggest expenses) helping to increase incomes in local communities (multiplier effect).

![Table 1 Hotels rankings in Portugal](image)

<table>
<thead>
<tr>
<th>Hotel Group</th>
<th>Number</th>
<th>Total (%)</th>
<th>Housing Units</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Pestana Hotels &amp; Resorts/Pestana Hostels</strong></td>
<td>64</td>
<td>5.3</td>
<td>4,677</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>2. Vila Galé Hotels</strong></td>
<td>14</td>
<td>1.2</td>
<td>3,191</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>3. Accor Hotels</strong></td>
<td>28</td>
<td>2.3</td>
<td>2,945</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>4. Espírito Santo Hotels</strong></td>
<td>10</td>
<td>0.8</td>
<td>2,393</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>5. Vip Hotels</strong></td>
<td>13</td>
<td>1.1</td>
<td>2,309</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>6. Hotti Group</strong></td>
<td>14</td>
<td>1.2</td>
<td>1,877</td>
<td>1.8</td>
</tr>
<tr>
<td><strong>7. Starwoods Hotels &amp; Resorts</strong></td>
<td>6</td>
<td>0.5</td>
<td>1,789</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>8. Luna Hotels</strong></td>
<td>16</td>
<td>1.3</td>
<td>1,693</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>9. Iberotel Group</strong></td>
<td>5</td>
<td>0.4</td>
<td>1,645</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>10. Dom Pedro Hotels</strong></td>
<td>7</td>
<td>0.6</td>
<td>1,399</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>11. Continental Group</strong></td>
<td>12</td>
<td>1.0</td>
<td>1,347</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>12. Sana Hotels</strong></td>
<td>9</td>
<td>0.7</td>
<td>1,275</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>13. Riu Hotels &amp; Resorts</strong></td>
<td>3</td>
<td>0.2</td>
<td>1,176</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>14. Marriott</strong></td>
<td>4</td>
<td>0.3</td>
<td>1,139</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>15. Porto Bay Hotels &amp; Resorts</strong></td>
<td>6</td>
<td>0.5</td>
<td>1,099</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>16. Real Hotels</strong></td>
<td>7</td>
<td>0.6</td>
<td>1,087</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>17. Fenix Hotels</strong></td>
<td>7</td>
<td>0.6</td>
<td>1,062</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>18. Bensaude Tourism</strong></td>
<td>8</td>
<td>0.7</td>
<td>1,058</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>19. Fernando Barata Hotel Group</strong></td>
<td>6</td>
<td>0.5</td>
<td>886</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>20. Petchey Leisure</strong></td>
<td>3</td>
<td>0.2</td>
<td>875</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>242</td>
<td>20.0</td>
<td>3,4920</td>
<td>32.6</td>
</tr>
<tr>
<td><strong>Other Hotel Groups</strong></td>
<td>305</td>
<td>25.2</td>
<td>3,1086</td>
<td>29.0</td>
</tr>
<tr>
<td><strong>Independents</strong></td>
<td>662</td>
<td>54.8</td>
<td>4,1165</td>
<td>38.4</td>
</tr>
</tbody>
</table>


In Portugal, in accordance with the Atlas Hotel 2009 (2009), the provision of accommodation comprised 1,209 hotels until the date of 31 December 2008, including tourist resorts, hotels, hotel apartments and inns of Portugal. In that, Atlas was presented with a ranking of 20 major hotel groups (see Table 1) where the base of ranking was the total number of housing units (number of rooms and apartments). Table 1 reveals that the Pestana Group (hereinafter Pestana Hotels & Resorts/Pestana Inns) tops the ranking in Portugal. At the 2nd and 3rd place
these rankings arise, respectively, Vila Gallé Hotels and Accor Hotels. The groups the Espírito Santo and VIP Hotels complete the top 5 hotels in Portugal. One hotel group also presents in the top 20 representing 32.6% together of the national offer available in housing units, and other 67.4% of households divided between 305 establishments belonging to small groups hotels and also 662 independent hotels. This leads to the conclusion that the 20 largest hotel groups in Portugal are highly significant for tourism in the country. Therefore, a strong market orientation of these hotels groups encourages important Portuguese tourism market, benefiting economically local communities, reflecting positively on the Portuguese economy as a whole.

5. Search methods and techniques

The field research conducted quantitative personality-descriptive and cross-section (Hair, et al., 2003) had intended to apply the traditional Markor model from studies of Kohli and Jaworski (1990), Jaworski and Kohli (1993) and Kohli, Jaworski and Kumar (1993), the Portuguese Hotel segment. This generic scale measures the market orientation of a particular organization, regardless of what it produces. The measurement scale of an endpoint for the current market reflects the degree of implementation of the marketing concept in the organization. The development of the Markor scale arose from the need for the practice of marketing and its management on market organizations, i.e., the model proposed by Kohli and Jaworski (1990) subsequently validated and adjusted empirically (Jaworski & Kohli, 1993; Kohli, Jaworski & Kumar, 1993), identifies three modern organizational actions geared to its target market: the generation of market information (marketing intelligence), and the spread of this information throughout the organization, and based on the information raised and disseminated, the response to market with products and/or services appropriate to the needs and desires of their clients.

The scale Markor was originally proposed initially with 32 variables in 3 constructs (generation of information, dissemination of information, market response). Subsequently, in 1993, being adjusted, keeping three modern, however measured by 20 variables, all tested and validated empirically (Kohli, Jaworski & Kumar, 1993). In the case of this study, it was sought to evaluate the implementation of the marketing concept in the Portuguese hotel segment, target population of this research. For this, it was measured the sample significantly representing this sector, market orientation of the 20 largest hotel groups in the country, as the ranking presented in the Atlas Hotel 2009 (2009), by the latest Markor scale, the 1993 version. This type of sample configures itself as a non-probability sampling for trial, because it sought to realize the research qualitatively with representative elements of a particular sector (Hair, et al., 2003).

The choice of the hotel segment is justified because it is an important segment for the Portuguese economy; being one of the sectors where there is greater employability and being one of the main segments to attract external resources and investments for the country. In this way, choosing the largest hotel groups that have Portuguese soil units, as well as the research was entitled to the Portuguese market orientation in these groups, because several of them are subsidiaries of foreign groups. These groups were surveyed on head executives and professional operating in the main areas of a hotel group (marketing, business, shopping, materials, accommodations, receivables, groups, reservations, corporate events and general direction), following the same strategy adopted Kohli, Jaworski and Kumar (1993).

The investigation applied tried to answer a series of questions: How the degree of the generation of marketing information in the largest hotel chains in Portugal? How the degree of dissemination of marketing information in these hotel groups? How the degree of response to the market for these groups? What are the
elements that can be enhanced for the optimization of the degrees of generation and marketing information and also the response to the market for large hotel group present in Portugal?

Answering to these questions, data were collected through a questionnaire by following the precepts of the Markor scale of 20 variables (Kohli, Jaworski & Kumar, 1993). The translation of the scale for the Portuguese language was previously drawn up and validated by Koller (2002). Thus constructed a questionnaire structured, not disguised (Hair, et al., 2003), containing statements followed by the Likert scale of 5 points (1 totally disagree to totally agree), where the respondents should identify the degree of agreement for each statement.

The data collection instrument was divided into four parts (attached):
- Part 1: Characterization of the hotel group (group name, city headquarters, number of units in Portugal, classification, role in the hotel group responsible for completing the investigation);
- Part 2: Marketing information generation (6 specific affirmation, collected from the Markor scale, and 1 general statement—capacity to generate marketing information);
- Part 3: Marketing information dissemination (5 specific affirmations, collected from the Markor scale, and 1 general statement—general capacity to disseminate marketing information);
- Part 4: Response to the market (9 specific affirmations, Markor scale, and 1 general statement—general capacity to respond to market).

Because it is an instrument of data collection which has been already often tested and validated, they have dismissed themselves from the pretest step. The data were collected from 11 to 26 May 2009. 60 questionnaires were emailed, three for each network present in the ranking of the 20 largest hotel groups in Portugal (an investigation for the marketing manager of the chain, two surveys for the managers from other areas of group). These 30 questionnaires returned filled in. These were analyzed individually, and 28 were considered valid. Overall, 17 out of 20 major hotel groups in Portugal participated voluntarily on the research, with at least a completed questionnaire. In contrast, three hotels groups indicated that they had an interest in participating in the research, not responding to any of the three surveys sent.

6. Analysis of results

With the completion of the data collection, these were duly tabulated realization of the as of the tests. For analyzing the results used basic descriptive analyses and multivariate-analyses, especially the multiple linear regression (Hair, et al., 2003), which led to identify the elements that can be enhanced for the optimization of the degrees of generation and the dissemination of the marketing information and response to the market for large groups of hotels in Portugal.

6.1 Descriptive analyses

The first step in the analysis of data was to calculate the statistics basics for each construct and variable. To view more deeply of the market orientation of the large Portuguese hotel groups the results were divided in the following way: medium and standards deviation of all participating groups in the survey; after it was considered only as groups genuinely Portuguese groups; another division were the results obtained exclusively from marketing professionals to compare with professionals in other areas of the organizations investigated. The results can be observed in Table 2.

Through the analysis of Table 2, especially the column “All hotels”, it was observed that the capacity perceived by the large Portuguese hotels generate market information is very high (4.07 on average, which
corresponds to the maximum value of 81.4%), as even happening perceived ability to respond to market (average of 4.18; 83.6% of maximum value).

### Table 2 Statistical descriptive

<table>
<thead>
<tr>
<th>Constructs and variables</th>
<th>All hotels</th>
<th>Foreign hotels</th>
<th>Portuguese hotels</th>
<th>Marketing professionals</th>
<th>Other departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation of market information</td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
</tr>
<tr>
<td>Regular meetings with customers</td>
<td>4.32</td>
<td>0.77237</td>
<td>4.40</td>
<td>0.894</td>
<td>4.30</td>
</tr>
<tr>
<td>Market research</td>
<td>3.96</td>
<td>0.96156</td>
<td>4.00</td>
<td>1.000</td>
<td>3.96</td>
</tr>
<tr>
<td>Slowness in detecting changes in preferences</td>
<td>1.68</td>
<td>0.86297</td>
<td>1.20</td>
<td>0.447</td>
<td>1.78</td>
</tr>
<tr>
<td>Researches next to the customers</td>
<td>4.00</td>
<td>1.05409</td>
<td>4.00</td>
<td>1.000</td>
<td>4.00</td>
</tr>
<tr>
<td>Slowness in detecting changes in the market</td>
<td>1.75</td>
<td>0.79931</td>
<td>1.20</td>
<td>0.447</td>
<td>1.87</td>
</tr>
<tr>
<td>Periodic assessment of the effects of changes in market/customers</td>
<td>4.18</td>
<td>0.94491</td>
<td>4.60</td>
<td>0.548</td>
<td>4.09</td>
</tr>
<tr>
<td>General capacity to generate market information</td>
<td>4.07</td>
<td>0.85758</td>
<td>4.60</td>
<td>0.894</td>
<td>3.96</td>
</tr>
<tr>
<td>Dissemination of market information</td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
</tr>
<tr>
<td>Periodic meetings between departments</td>
<td>4.32</td>
<td>.90487</td>
<td>4.40</td>
<td>0.894</td>
<td>4.30</td>
</tr>
<tr>
<td>Problems with customers quickly transmitted to all</td>
<td>3.64</td>
<td>1.09593</td>
<td>4.80</td>
<td>0.447</td>
<td>3.91</td>
</tr>
<tr>
<td>Customer satisfaction regularly disseminated across the enterprise</td>
<td>3.64</td>
<td>1.22366</td>
<td>5.00</td>
<td>0.000</td>
<td>3.35</td>
</tr>
<tr>
<td>Slowness of depts. to communicate about market issues</td>
<td>2.11</td>
<td>0.99403</td>
<td>1.60</td>
<td>0.894</td>
<td>2.22</td>
</tr>
<tr>
<td>General capacity of dissemination of market information</td>
<td>3.71</td>
<td>0.85449</td>
<td>4.20</td>
<td>0.837</td>
<td>3.61</td>
</tr>
<tr>
<td>Response to the market</td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
<td>Std. deviation</td>
<td>Mean</td>
</tr>
<tr>
<td>Slowness of response to competitors</td>
<td>1.79</td>
<td>1.06657</td>
<td>2.00</td>
<td>1.732</td>
<td>1.74</td>
</tr>
<tr>
<td>Ignore recognition of new needs of customers</td>
<td>1.68</td>
<td>0.86297</td>
<td>1.20</td>
<td>.447</td>
<td>1.78</td>
</tr>
<tr>
<td>Continuous review of the hotel services</td>
<td>4.21</td>
<td>0.83254</td>
<td>4.60</td>
<td>.548</td>
<td>4.13</td>
</tr>
<tr>
<td>Meetings of depts. to respond to market changes</td>
<td>4.04</td>
<td>0.83808</td>
<td>4.60</td>
<td>.548</td>
<td>3.91</td>
</tr>
<tr>
<td>Responding to the communication campaigns of competitors</td>
<td>3.50</td>
<td>1.23228</td>
<td>3.40</td>
<td>1.517</td>
<td>3.52</td>
</tr>
<tr>
<td>Coordinated activities between depts.</td>
<td>3.61</td>
<td>0.78595</td>
<td>4.60</td>
<td>.548</td>
<td>3.39</td>
</tr>
<tr>
<td>Customers complaints not heard</td>
<td>1.46</td>
<td>1.17006</td>
<td>1.80</td>
<td>1.789</td>
<td>1.39</td>
</tr>
<tr>
<td>Failure to implement a great plan of MKT</td>
<td>1.64</td>
<td>0.86984</td>
<td>1.40</td>
<td>.548</td>
<td>1.70</td>
</tr>
<tr>
<td>Discovering the need of changes the depts. perform them</td>
<td>4.00</td>
<td>0.72008</td>
<td>4.20</td>
<td>.837</td>
<td>3.96</td>
</tr>
<tr>
<td>General capacity to respond to market</td>
<td>4.18</td>
<td>0.77237</td>
<td>4.80</td>
<td>.447</td>
<td>4.04</td>
</tr>
</tbody>
</table>

Data source: The authors’ elaboration.

Already the ability to disseminate the information obtained from the rest of the company (one of the constructs that characterize the implementation of the marketing concept in organizations) was lower than the
other constructs, receiving 3.71 average memo (equivalent to 74.2 % of maximum value). With regard to the variables, it was noted:

- Market research got few consensus among the respondents, i.e., there are hotel groups that perform little or no market research (or some of the professionals that act in the working group did not know the existence or frequency of carrying out such surveys);
- The high dispersion of answers in the variables “research with clients” reflects the ignorance of the professional part that act in these groups, as regarding to the evaluation with customers the quality of services offered;
- Two variables of the construct of market information dissemination (relating to the disclosure for all the enterprise the major problems with clients and client satisfaction results) received underperforming values (3.64, equivalent to 72.8% of maximum value) and great dispersion of answers which reflects that these information, in some of the major hotel groups are not properly disseminated;
- As regarding the construct response to market, also two variables stood out with medium value lower than expected: “response to competitors’ communication campaigns” and “coordinated across departments’ activities”. These variables present themselves as more fragile when it is intended to reply to the market;
- Also highlighting for the high dispersion of answers in two variables: “slowness in response to competitors” and “customers” complaints are not heard”. This high dispersion configures that part of the individuals that act in these groups of hotels are unaware of the speed of their companies” response before their competitors, as well as the treatment of complaints from customers.

To deepen the understanding on the overall results, two comparisons were made: foreign groups versus Portuguese groups; marketing professionals versus professionals from other sectors. In the first comparison, it was noted that the highest average (for positive aspects) or lower ones (for negative aspects) were predominantly of foreign groups. Likewise happened with the dispersions of responses (standard deviation), where the smallest one has been noticed in foreign groups. In relation to the Portuguese groups which were met averages less than to the foreigners and greater dispersal of answers. This leads to concluding that the market-orientated foreign groups are more evident than Portuguese groups. Varying the responses showed that in the organization not all claim the same discourse.

With the comparison among marketing professionals and professionals from other areas, it was found better results and less dispersal of responses among their active marketing networks investigated. On the other hand, the professionals from other areas gave more scattered answers, what brought to light, that the discourse of the Marketing Department is not accompanied by other sectors of the organization. In short, a good ability to generate information market (marketing intelligence) and to respond to market (most answers between I totally agree and I partially agree), but the spread of information collected is not a consensus (most answers in neutral position) among professionals operating in the various departments of large hotel groups in Portugal.

### 6.2 Multivariate analysis

In this moment, the initial analysis focused on establishing the correlations between general research variables (“General capacity to generate market information”; “General ability to disseminate market information”; “General capacity to respond to the market”). It was used as the support tool of SPSS software (Statistical Package for the Social Sciences).

Performing the Pearson correlation test between the three variables, a significant correlation between the “General capacity to generate market information” and “General capacity to respond to market” was found. The construct “General capacity to disseminate market information” was not correlated to any of the two other, when
the database were all respondents. Separating the databases (foreign hotels, Portuguese hotels, marketing professionals, professionals from other areas), the only significant correlation was with the construct “General capacity to disseminate market information” which was on the basis of marketing professionals and the correlation of this construct it was with the construct “General capacity of response to the market”.

Another multivariate analysis used was the cluster analysis. This analysis aimed at grouping similar cases, highlighting two clusters: the cluster of international hotels and of marketing professionals (Group 1). In this cluster, the best values were obtained on all items that measured the tendencies of the largest hotel groups in Portugal. The other cluster (Group 2) was characterized by grouping hotels of Portuguese origin and professionals from distinct areas of the marketing. The second cluster showed the lowest value in all the variables, i.e., less market-oriented (see Table 3).

### Table 3  Cluster analysis

<table>
<thead>
<tr>
<th>Ward method</th>
<th>Regular meetings with customers</th>
<th>Market research</th>
<th>Slowness in detecting changes in preferences</th>
<th>Researches next to the customers</th>
<th>Slowness in detecting changes in the market</th>
<th>General assessment of the effects of changes in market/customers</th>
<th>Periodic meetings between departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mean</td>
<td>4.53</td>
<td>4.06</td>
<td>1.35</td>
<td>4.29</td>
<td>1.29</td>
<td>4.65</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>0.717</td>
<td>0.748</td>
<td>0.606</td>
<td>0.772</td>
<td>0.470</td>
<td>0.493</td>
</tr>
<tr>
<td>2</td>
<td>Mean</td>
<td>4.00</td>
<td>3.82</td>
<td>2.18</td>
<td>3.55</td>
<td>2.45</td>
<td>3.45</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>0.775</td>
<td>1.250</td>
<td>0.982</td>
<td>1.293</td>
<td>0.688</td>
<td>1.036</td>
</tr>
<tr>
<td>Total</td>
<td>Mean</td>
<td>4.32</td>
<td>3.96</td>
<td>1.68</td>
<td>4.00</td>
<td>1.75</td>
<td>4.18</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>0.772</td>
<td>0.962</td>
<td>0.863</td>
<td>1.054</td>
<td>0.799</td>
<td>0.945</td>
</tr>
</tbody>
</table>

**Discussion**

- **MKT/other depts. on future customers needs**: Problems with customers quickly transmitted to all.
- **Customer satisfaction regularly disseminated across the enterprise**: Slowness of dept. to communicate about market issues.
- **General capacity of dissemination of market information**: General capacity of response to competitors.
- **Ignore recognition of new needs of customers**: Continuous review of the hotel services.

<table>
<thead>
<tr>
<th>Ward method</th>
<th>Discussion MKT/other depts. on future customers needs</th>
<th>Customer satisfaction regularly disseminated across the enterprise</th>
<th>Slowness of dept. to communicate about market issues</th>
<th>General capacity of dissemination of market information</th>
<th>Slowness of response to competitors</th>
<th>Ignore recognition of new needs of customers</th>
<th>Continuous review of the hotel services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mean</td>
<td>4.76</td>
<td>4.12</td>
<td>4.18</td>
<td>1.76</td>
<td>4.12</td>
<td>1.41</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>0.437</td>
<td>0.781</td>
<td>0.951</td>
<td>0.903</td>
<td>0.781</td>
<td>1.004</td>
</tr>
<tr>
<td>2</td>
<td>Mean</td>
<td>3.00</td>
<td>2.91</td>
<td>2.82</td>
<td>2.64</td>
<td>3.09</td>
<td>2.36</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>1.000</td>
<td>1.136</td>
<td>1.168</td>
<td>0.924</td>
<td>0.539</td>
<td>0.924</td>
</tr>
<tr>
<td>Total</td>
<td>Mean</td>
<td>4.07</td>
<td>3.64</td>
<td>3.64</td>
<td>2.11</td>
<td>3.71</td>
<td>1.79</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Std. deviation</td>
<td>1.120</td>
<td>1.096</td>
<td>1.224</td>
<td>0.994</td>
<td>0.854</td>
<td>1.067</td>
</tr>
</tbody>
</table>

**Meetings of depts. to respond to market changes**

- Responding to the communication campaigns of competitors.
- Coordinated activities between depts.
- Customers complaints not heard.
- Failure to implement a great plan of MKT.
- Discovering the need of changes the depts. perform them.
- General capacity to respond to market.

(to be continued)
The last multivariate analysis was the multiple linear regressions. It was objectified to find the variables that most contribute for the three constructs of Markor scale: “Generation of market information” (6 independent variables); “Market information dissemination” (5 independent variables); and “Market response” (9 independent variables).

For performing this analysis, some validity tests need to be carried out. The tests described in the following were made:

- The first tests examined three key characteristics to validate the regression analysis which were normality of waste, waste constant variance and randomness of waste. Generated in SPSS charts for the three regressions have shown normality of waste, the consistency of the variance of waste and the randomness of waste. These three factors validated the regression analyses;

- Then the test examined the ANOVA test results. In the data generated by SPSS, it was realized that the three models are useful to explain the relationship between each of the three dependent variables and their independent variables. Considering that the null hypothesis of the ANOVA test is that the model is not useful, rejected the null hypothesis, since the significance, in all three cases, it was less than 0.05.

Having the validity confirmed a new realization of the linear regression took place, using the stepwise method. The results obtained for the construct “Generation of market information” are in Table 4.

**Table 4  Construct linear regression generation of market information**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>4.156</td>
<td>0.574</td>
<td>-0.594</td>
<td>7.238</td>
</tr>
<tr>
<td></td>
<td>-0.637</td>
<td>0.155</td>
<td>0.317</td>
<td>-4.121</td>
</tr>
<tr>
<td></td>
<td>0.258</td>
<td>0.117</td>
<td>2.198</td>
<td>0.037</td>
</tr>
</tbody>
</table>

**Model summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Std. error of the estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.697b</td>
<td>0.486</td>
<td>0.444</td>
<td>0.639</td>
</tr>
</tbody>
</table>

Notes: a Dependent Variable: General capacity to generate market information; b Predictors: (Constant), Velocity in detecting changes in the market, Researches next to the customers.
Data source: SPSS Version 17.0.

Observing Table 4, it was realized that the $R^2$ adjusted which demonstrates how the independent variables...
explain the variance of the dependent variable was 44.4%, a good adjustment of the model. Thus, one can adjust
the regression equation, where only the variables “slowness in detecting changes in the market” and “customer
researches” have shown to be significant, because its significance was less than 0.05 per cent (Table 4, last
column). Other variables were not significant. This way, the regression equation was determined through
performing the regression with only the significant variables, and the following equation:

\[
\text{Market information generation} = 4.156 - 0.637 \times \text{Slowness in detecting market changes} + 0.258 \times \text{Research next to the customers.}
\]

This equation represents each negative increment (negative sign) of a unit of the variable “slowness in
detecting changes in the market” increases positively in 0.637 the ability of generating market information. The
same reasoning is used for the variable “researches next to the client”, where the positive increment of a unit of
this variable increases positively in 0.258 the generation of market information.

In the sequence, for the construction “market information dissemination” regression results were presented in
Table 5.

Analyzing Table 5, noted that the \( R^2 \) adjusted was 49.7%, also a good adjustment of the model. In this case,
only the variable “Discussion MKT/other depts. on the future needs of customers” and “Periodic meetings between
departments” which showed to be significant, because its significance was less than 0.05% (see Table 5, last
column). The other variables were not significant. Thus the regression equation was determined by performing the
regression with only the significant variables, and the following equation:

\[
\text{Market information dissemination} = 0.670 + 0.354 \times \text{Discussion MKT/other depts. on future customers needs} + 0.371 \times \text{Periodic meetings between departments.}
\]

<table>
<thead>
<tr>
<th>Constructs linear regression market information dissemination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
</tr>
<tr>
<td>Discussion MKT/Other depts. on future customers needs</td>
</tr>
<tr>
<td>Periodic meeting between departments</td>
</tr>
</tbody>
</table>

**Model summary**

<table>
<thead>
<tr>
<th>Model</th>
<th><strong>R</strong></th>
<th><strong>R square</strong></th>
<th><strong>Adjusted R square</strong></th>
<th><strong>Std. error of the estimate</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.731b</td>
<td>0.534</td>
<td>0.497</td>
<td>0.606</td>
</tr>
</tbody>
</table>

Note: * Dependent Variable: General capacity of dissemination of market information; ^ Predictors: (Constant), Discussion MKT/Other depts. on future customers needs, Periodic meeting between departments.

Data source: SPSS Version 17.0.

Therefore, for each positive increment of a variable unit, “discussion MKT/others depts. on future needs of
customers” increases positively in 0.354 the ability of the market information dissemination. The same reasoning
is used for the variable “Periodic meetings between departments”, where the increment of a unit of this variable
increases in 0.371 the dissemination of the market information.

Finally, for the construct “Response to the market”, the regression results were presented in Table 6.
Table 6  Construct linear regression response to the market

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1.807</td>
<td>0.657</td>
<td>0.528</td>
<td>3.420</td>
</tr>
<tr>
<td>Coordinated activities between depts.</td>
<td>0.657</td>
<td>0.143</td>
<td>0.669</td>
<td>4.589</td>
</tr>
</tbody>
</table>

Model summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Std. error of the estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.669</td>
<td>0.447</td>
<td>0.426</td>
<td>0.585</td>
</tr>
</tbody>
</table>

Notes: a Dependent Variable: General capacity to respond to market; b Predictors: (Constant), Coordinated activities between depts. Data source: SPSS Version 17.0.

In the last construct, the $R^2$ adjusted resulted in 42.6%, a proper adjustment of the model (see Table 6). The analysis made identified only one significant variable (“Activities coordinated among depts.”). Performing again the regression with only the significant variable, the following equation:

Responding to the market = 1.807+0.657 * coordinated activities among depts..

7. Conclusions and recommendations

At present, marketing shows relevance both for organizations and for society (Kotler, 2005). The evolution of this important concept, which initially sought to facilitate transactions between buyers and sellers, reached a point of positioning itself as the main function within the companies, being considered as an organizational philosophy of action (Brown, 1987; Narver & Slater, 1990).

Considering the importance of marketing for the business community, the perfect understanding and implementation of its concept for all of those involved in an organization becomes crucial to the success of a company (Lafferty & Hult, 2001). It is what Kohli and Jaworski (1990) have called market orientation.

In this study, as a general objective, it was sought to measure the degree of market orientation of the main representatives of an important sector for the Portuguese economy—the hotel segment. From an empirical research with 17 out of 20 major hotel groups in Portugal, and using as an instrument of traditional data collection Markor scale (Kohli & Jawoski, 1990), it was noticed that for the market information generation (marketing intelligence), as to the ability to respond to market, they are well recognized by professionals who act in managing the several areas of the hotel groups investigated.

However, one has noticed that the dissemination of information from the market, one of the constructs market orientation, requiring greater attention, after all, empirical investigation has shown that not all collaborators’ research were unaware of the information generated, because this construct was not correlated with two other constructs (market information generation and response to the market, which correlated with each other). It is concluded in this way that the implementation of the concept of marketing for the hotels in Portugal, translated as orientation for the market, can be considered, but it needs to be better produced internally by the managers in particular by the marketing executives responsible for these hotels groups.

In terms of specific objectives, the first regarded the comparison between foreign origin hotels versus genuinely Portuguese hotels. It was noticed in the descriptive analyses and clusters that foreign hotels tend to be more market-oriented than national hotels. A similar comparison between the tasks performed by the respondents,
being the second the specific objective of this study. One can see that the marketing professionals from the large hotel groups of Portugal tend to be market-oriented, but the same does not happen throughout the organization, after all a large proportion of the staff of the enterprises have been investigated, which act in separate marketing functions, didn’t demonstrate that the same market orientation of marketing professionals working in these companies.

The last specific objective was to identify which elements are meaningful to the optimization of the degrees of generation and dissemination of the market information and the response to the market for large groups of hotels in Portugal. It was noticed that, in order to improve market information in these organizations, one must be quick in detecting changes in market and continuously perform more and better researches with customers. With the spread of market information, there is the need of the marketing departments from these hotels groups to discuss with other departments the future needs of these clients, and these meetings should happened periodically. Finally, regarding the degree of response to the market, the most important thing is working together with the departments. These factors listed here contribute significantly to a better market orientation of major hotel groups in Portugal, implementing the marketing concept in these organizations.

As implications, the performed study recorded the importance of the marketing concept for the main organizations that work in the hotel sector in Portugal, as well as the points to be improved in order to achieve a high degree of guidance for this important market. In accordance with the academics, it was highlighted the importance of the discipline of marketing, considering the applicability of its theories in the social reality. Scientific researches in the field of marketing are critical to organizational and social development.

In terms of limitations, matters to highlight that the research focused only on the largest representatives of a relevant sector of the Portuguese economy: the hotel sector in Portugal. It did not consider the small and medium size companies of this sector, therefore it was not accomplished a sampling statistically meaningful, which impels the generalization of results and the establishment of a general degree of orientation for the Portuguese hotel market. This way, as recommendation for futures studies, it is suggested the expansion of the same research for the entire Portuguese hotel sector, as well as the menstruation of the orientation for the other important sectors of the economy in Portugal. This ample research can aid in the development of future expansion projects of competitiveness for the Portuguese nation.

References:
Market orientation for the hotel segment: The Portuguese case


(Edited by Ruby and Chris)
Research on customer loyalty of B2C e-commerce

ZHAO Gong-min

(College of Economics and Management, North University of China, Taiyuan 030051, China)

Abstract: Customer loyalty of B2C e-commerce is studied by testing the hypotheses on five latent variables using the structural equation modeling method. After correcting model, online store image is obviously fundamental basis on expectations of shopping online, experience of shopping online, customer satisfaction and customer loyalty between which there are seven positive relationships accepted in the AMOS model. The results provide scientific evidence for B2C e-commerce.

Key words: structural equation modeling; e-commerce; customer loyalty

1. Introduction

B2C, business-to-consumer which is mainly based on retail business conducted online is a model of e-commerce by means of online marketing activities. B2C businesses provide consumers and businesses a new shopping environment—online shopping and online payment in online stores, saving their time and space, greatly improving the efficiency of the transaction. With the competition occurred in e-commerce market, it is fundamental for the enterprise survival and development to maintain customer loyalty. How to get the recognition and trust towards the enterprise products and services from the customers has been a core concern for the B2C e-commerce businesses. Using structural equation model as a research tool, the thesis will try to perceive the variables affecting its customer loyalty from the point of online shopping experience and conduct the corresponding path analysis.

2. Literature review

Facing with increasingly fierce market competition, businesses have gradually recognized that customer loyalty is the key to success. Sasser, Heskett and Schlesinger found that if the proportion of loyal customers in total customers increased by a small share, the corporate profits and overall value ware would substantially increased. Business philosophy had also been changed from product-centered and profit-centered to customer and loyal customer centered (Heskett, Sasser & Schlesinger, 1997). Basu and Dick believed that customer loyalty was determined by the customers’ continuously purchase of products and services, and by the attitude that customers treat businesses. Only those who continuously purchase products and services of the company and more like the business are the true loyalists of this business (Dick & Basu, 1994). Oliver believes that even if the environment had changed, or any other businesses had launched promotion activities, loyal customers would have continuously bought the favorite product or service in the future. For to maintain the loyalty, people’s understanding is a process of deepening (Oliver, 1999).

To B2C e-commerce businesses, the interaction between businesses and customers is achieved through the

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Research on customer loyalty of B2C e-commerce

Internet. Businesses usually cannot communicate with customers face to face, so good online shop image and customer experiences are critical for B2C e-commerce businesses. On the Internet, customers’ switching costs is very low (because customers can go to other sites with a single click), which makes it more difficult to achieve customer loyalty.

The Internet customer experiences include four sides: the convenience of the website, customers’ autonomy, a sense of customer relations and customers trust to the site. Trust and convenience are very necessary for the customer to complete the transaction, and autonomy and a sense of relations are essential for customers’ loyalty. About online customer experience, the trading activity is the foundation, based on this, it can establish a good customer loyalty (Karl, 2004).

3. Theory and hypothesis

In accordance with the order—from the awareness of B2C e-commerce companies to the generation of online shopping expectations, the experience of purchasing goods and thus the perceived value towards goods online shopping, and then the determination of whether you can get a satisfying service and finally whether to retain customers, the study will try to extract the customers loyalty-related variables, and then constitute a theoretical assumption.

3.1 Online shop image

Online shop image refers to the overall impression of e-commerce businesses formed through a variety of signs such as the shop features, marketing strategies, operating style, etc. A good shop image that offers users cost-effective products and services to guarantee their satisfaction and gain customer loyalty attracts users to conduct online shopping more easily. Accordingly, the assumptions can be made as the following.

HA1: Online shop image has a positive impact on online purchasing expectation.

HA2: Online shop image has a positive impact on customer satisfaction.

HA3: Online shop image has a positive impact on customer loyalty.

3.2 Online shopping expectation

Online purchasing expectation is its level of expectation to the product before customers use an online store to purchase it. It is the important psychological standards before the online purchasing, and has a significant impact on online purchasing experience. Therefore, the following assumptions are put forward:

HB1: Online shopping expectation has a positive impact on purchasing experience.

3.3 Purchasing experience

Online shopping experience is concerned with the actual psychological feelings after purchasing goods in stores. Shopping experience is bound to generate the comparison of the online purchase value before and after the purchasing and the ideal shopping experience can make customers feel satisfied easily. So, the assumptions are listed as following:

HC1: Purchasing experience has a positive impact on customer satisfaction.

3.4 Customer satisfaction

Customer satisfaction is some kind of well-pleasing experience psychologically after online purchase. It is often measured by a certain degree to which the customers’ actual experience about the online stores’ goods and services compares with the original expectations. Although customer satisfaction is the purpose of B2C e-commerce companies, they mainly depend on customer loyalty in order to survive. So, assuming that:
HD4: Customer satisfaction has a positive impact on customer loyalty.

3.5 Customer loyalty

Customer loyalty refers to some kind of dependence and recognition for the e-business products or services, and further a high degree of confidence in the thoughts and feelings shown by adhering to a long-term purchase and use of the products or services in the online stores.

This article will demonstrate the assumption of customer loyalty constructed by the five latent variables via SPSS17.0 and AMOS17.0, and then look forward to acquiring some important management inspiration for improving customer loyalty.

4. Research design

4.1 Research framework

On the basis of the famous American Customer Satisfaction Index (ASCI), this study will establish the theoretical framework by the logical deduction and group discussions as shown in Fig.1. In this theoretical framework, the model consists of five factors (latent variables): online shop image, online shopping expectations, purchasing experience, customer satisfaction and customer loyalty, in which the first three elements are endogenous latent variables, the latter two are the exogenous latent variables. The former influences and determines the latter. This paper attempts to analyze the relationship between variables through the structural equation modeling (SEM).

![Structural path diagram of theory and hypotheses](image)

4.2 Definition and measurement of variables

To insure the validity and reliability of the questionnaire, this research consulted the mature scales in foreign references in the process of operational definition and measurement of the variables like customer satisfaction and customer loyalty. The other latent variables such as online shop image, online shopping expectations and shopping experience also adopt operational definitions, but due to the lack of the scale suits to the theory framework of the
research, on the basis of empirical research, we developed the measurement variables of the relative scale.

The preliminary questionnaire was examined carefully and critically by the specialists of the field, and revisions are made according to the feedbacks. Two CEOs of B2C businesses were interviewed, the expression of some questions were modified in line with their suggestions, and some questions that are too hard to understanding were deleted as well. Through the process of specialists examine, case interview, pre-test and pilot study, the final questionnaire includes five elements and seventeen dimensions as shown in Fig. 2. According to Westbrook (1980), the questionnaire adopts 10-point Likert scales (1=extremely bad, 10=very good).

4.3 Research subject

The subjects for the present study are students (including full-time undergraduates, full-time master students and full-time doctor students) that live in a university in Beijing, and they have received merchandise on-campus from Dangdang and Weilan online bookstores and Amazon, and they also have on-line shopping experience. The subjects are randomly chosen in order to avoid repetition, the online shops that are often visited by the subjects were controlled. The present research distributed 300 questionnaires, and 230 valid samples are collected with the rate of reclamation of 76.67%, which accord with the requirements of SEM.

5. Research method

5.1 Structural equation modeling (SEM)

This study adopts structural equation modeling, an approach for simulation of the complex relationship in socio-economic systems with analysis software AMOS17.0. It is a multivariate statistical analysis technique for establishing, estimating and testing the causality model in Kline (1998). It is a very generic, linear statistical modeling technique which tests hypotheses in accordance with theories. The modeling is set up according to the hypotheses with ellipse for latent variable and rectangle for observable variable which is shown in Fig. 2:

5.2 Correction model
After the operation of the model, the chi-square test value of structural equation is 448.4 and df is 142. The chi-square test value is big enough for us to accept the equation in Table 1.

<table>
<thead>
<tr>
<th>Path</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online shopping expectations--Online shop image</td>
<td>0.327</td>
<td>0.058</td>
<td>5.676</td>
</tr>
<tr>
<td>Purchasing experience--Online shopping expectations</td>
<td>0.585</td>
<td>0.099</td>
<td>5.919</td>
</tr>
<tr>
<td>Customer satisfaction--Online shop image</td>
<td>0.582</td>
<td>0.043</td>
<td>13.654</td>
</tr>
<tr>
<td>Customer satisfaction--Purchasing experience</td>
<td>0.599</td>
<td>0.052</td>
<td>11.454</td>
</tr>
<tr>
<td>Customer loyalty--Customer satisfaction</td>
<td>0.560</td>
<td>0.072</td>
<td>7.801</td>
</tr>
<tr>
<td>Customer loyalty--Online shop image</td>
<td>0.306</td>
<td>0.069</td>
<td>4.446</td>
</tr>
</tbody>
</table>

In addition, the covariance of online shop image and purchasing experience is 0.544, and increasing the path from online shop image to purchasing experience $HA4$ can reduce the chi-square value by 75.951, this study revised the model as shown in Fig. 3.

Fig. 3 Simulation results of structural equation

The overall data in the amended model will be tested with AMOS again by using maximum likelihood estimation, and evaluated from the absolute goodness of fit indicators, simple goodness of fit index and incremental goodness of fit index. The absolute goodness of fit index: chi-square value (degrees of freedom) is 230.4 (108), GFI = 0.889, RMR = 0.028, RMSEA = 0.070; Value-added goodness of fit index: AGFI = 0.843, NFI = 0.927, IFI = 0.960, CFI = 0.959; Streamline the goodness of fit index: AIC = 320.402, CAIC = 520.116, Goodness of fit index has basically reached the accessible range, indicating the high availability of this structural equation model, that is, its results can be used to validate the research hypothesis. It can be seen through the modified model results in Table 2, corresponding to the assumption that the path $HA1, HB1, HA4, HA2, HC1, HD1$, and $HA3$ of $p$ are lower than 0.05, and therefore supporting all hypotheses.
5.3 The effects of modeling variables

The impact of variables includes three aspects: direct effect, indirect effect and total effect. The direct effect refers to the direct impact from cause variables to the result variables; The path coefficient from cause variables to result variables is used to measure the direct effect, so the direct effect is the path coefficients for the above hypotheses. According to the result of Table 3, the standardized path coefficient from online shop image to online purchasing experience is 0.763, and it means the direct effect from online shop image to purchasing experience is 0.763. This shows that when other conditions remain unchanged, with online shop image enhancing for every unit, purchasing experience will increase 0.763 units directly. Indirect effect refers to the indirect impact on result variables which is caused by cause variables’ affecting one or more intermediate variables. When only one intermediate variable exists, the indirect effect is equal to the product of two path coefficients. For example, the results of Table 3 shows that the desired standardized path coefficient from shop image to quality perception is 0.374, the standardized path coefficient from the expectation of online shopping to purchasing experience is 0.160, then the indirect effect from the image of supermarket to quality perception is $0.374 \times 0.160 = 0.060$. The total effect is equal to the summation of direct effects and indirect effects, and is the overall impact from the cause variable to the result variable. According to Table 3, the total effect from online shop image to purchasing experience is expressed as $0.763 + 0.060 = 0.823$.

<table>
<thead>
<tr>
<th>Path</th>
<th>Estimate</th>
<th>P</th>
<th>Hypothesis</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online shopping expectation ← Online shop image</td>
<td>0.374</td>
<td>***</td>
<td>HA1</td>
<td>Support</td>
</tr>
<tr>
<td>Purchasing experience ← Online shopping expectation</td>
<td>0.160</td>
<td>0.004</td>
<td>HB1</td>
<td>Support</td>
</tr>
<tr>
<td>Purchasing experience ← Online shop image</td>
<td>0.763</td>
<td>***</td>
<td>HA4</td>
<td>Support</td>
</tr>
<tr>
<td>Customer satisfaction ← Online shop image</td>
<td>0.426</td>
<td>***</td>
<td>HA2</td>
<td>Support</td>
</tr>
<tr>
<td>Customer satisfaction ← Purchasing experience</td>
<td>0.553</td>
<td>***</td>
<td>HC1</td>
<td>Support</td>
</tr>
<tr>
<td>Customer loyalty ← Customer satisfaction</td>
<td>0.514</td>
<td>***</td>
<td>HD1</td>
<td>Support</td>
</tr>
<tr>
<td>Customer loyalty ← Online shop image</td>
<td>0.400</td>
<td>***</td>
<td>HA3</td>
<td>Support</td>
</tr>
</tbody>
</table>

Note: *** means P<0.001.

Table 3  The effects of the modified model (standardization)

<table>
<thead>
<tr>
<th>Effects</th>
<th>Online shop image</th>
<th>Online shopping expectation</th>
<th>Purchasing experience</th>
<th>Customer satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online shopping expectation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>0.374</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.374</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchasing experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>0.763</td>
<td>0.160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect</td>
<td>0.060</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.823</td>
<td>0.160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>0.426</td>
<td></td>
<td>0.553</td>
<td></td>
</tr>
<tr>
<td>Indirect</td>
<td>0.455</td>
<td>0.088</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.881</td>
<td>0.088</td>
<td>0.553</td>
<td></td>
</tr>
<tr>
<td>Customer loyalty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>0.400</td>
<td></td>
<td></td>
<td>0.514</td>
</tr>
<tr>
<td>Indirect</td>
<td>0.453</td>
<td>0.045</td>
<td>0.285</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.853</td>
<td>0.045</td>
<td>0.285</td>
<td>0.514</td>
</tr>
</tbody>
</table>
This study mainly focuses on the relationship that influences the loyalty of customers in net shop, where the satisfaction of customers exerts a positive direct impact on the loyalty of customers, and the shop image exerts both positive direct impact and positive indirect impact. The total effects of loyalty from those four latent variables which affect the loyalty of customers, namely, satisfaction of customers, expectation of online shopping, shopping experience and shop image rank in descending chronological order as following:

online shop image > customer satisfaction > purchasing experience > online shopping expectation

It can be known that customer loyalty of B2C companies mainly depends on online shop image which is formed in a long period. Especially, the inexperienced online customer trusts a net shop with good reputation more. It is the purpose of B2C companies to make customers satisfied, only through providing customers with satisfactory products and services, can the customers be retained despite of many online retailers, therefore, the effective way to retain customers is to make online shopping customers have satisfactory shopping experience.

6. Conclusion

Based on e-commerce and Internet marketing theories, using the survey data of B2C e-commerce customer loyalty relationship consisting of 17 observable variables and applying the structural equation modeling method, a practical test is done to the ways of customer loyalty including 5 latent variables. Conclusions are drawn as follows:

(1) The image of B2C company is the most important factor for the online shop to achieve consumer loyalty. In order to obtain a good brand image, various market strategies are needed to shape the brand (brand building and management) in the long process of marketing. The image of B2C e-commerce company is delivered to customers and potential customers by means of different promotion techniques which are used to communicate to customers the brand feature repeatedly. Thus, a high-profile image could help contact and stimulate customers to purchase repeatedly from a psychological angle.

(2) Expectation of online shopping plays a small role for B2C e-commerce to achieve customer loyalty. However, as an intermediate variable, appropriate incentives and encouragement can help produce expectation of online shopping and establish loyalty to the e-shop after getting good service through online shopping.

(3) Only first-hand online purchasing experience can help customers identify whether the B2C e-commerce service is worth purchasing again.

(4) Customer satisfaction is the direct dynamic power for B2C companies to achieve customer loyalty. Repeated purchasing is because they can have a satisfactory shopping experience and enjoy good products and services. Also, they believe they can get at least the same treatment in this online shop. Therefore, B2C e-commerce companies need to pay attention to their service quality while strengthening their brand image.

References:

(Edited by Ruby and Chris)
Factors affecting profitability of multi-finance company in Indonesia

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(Department of Accounting, University of Indonesia, Depok 16424, Indonesia)

Abstract: The aim of this study is to examine the profitability of multi-finance companies. This study uses macroeconomic determinants and fundamental variables as factors that affected profitability. The samples of the study was multifinance company in Indonesia over period 2005-2007. The study uses an unbalanced panel data as a methodology. The result suggests that, the ownership of financial assets doesn’t significantly affect multi-finance performances. This result indicates that multi-finance face difficult situation to generate profit from the credit given. And the result also suggests that all macroeconomic determinants affect multi-finance profitability, with more concern on inflation that have negative significant.

Key words: multi-finance profitability; macroeconomic indicators; panel data; Indonesia

1. Introduction

Multi-finance industry, as one of the intermediary institutions, plays an important role in the movement pattern of capital flows in Indonesian economy. Initially, leasing was the dominant part in these industries, because a lot of companies needed to expand the capacities by leased heavy equipment or financed the new factory. Recently, when capital market and bank can be financed the companies to make expansion, leasing was not the dominant part in this industry. At the end of the 1980s, when the economy began to rise, the company moved to a variety of financing a new segment, including expand to rent, factoring, consumer financing and credit card issuance. Pattern of multi-finance industry was change, consumer finance dominate the industry. In 1988, the government issued Presidential Decree No.61 of the Republic of Indonesia 1988 about the financing institution.

Multi-finance industry is expected to become alternative solutions in the provision of consumption credit for the community and the companies. This is due to the occurrence of economic crisis in Indonesia since the 1997-1998 periods, which made a big change in the economy, especially in the national banking industry. Credit growth is still slow after the bank experienced a very sharp decline at the beginning of the crisis, which is one of the factors that cause the economic recovery, and it is running more slowly compared with other Asian countries affected by crisis. Although the current macroeconomic, especially monetary conditions have been relatively better than at the time of crisis, the amount of credit that banks have not been distributed enough to be in the lubricant to encourage economic growth to return to the level before the crisis.

In analyzing the influence of factors that have influence on the profitability of multi-finance company, we can use the previous studies conducted in the banking industry. This is because banks and multi-finance companies are financial institutions that have the characteristics and functions that are relatively the same. The difference is the multi-finance company, in accordance with the Regulations the Minister of Finance Tax
Factors affecting profitability of multi-finance company in Indonesia

84/PMK.12/2006 chapter 2, is not allowed to withdraw funds directly from the community, and business activities can only be set to run four types of lease financing to businesses, factoring, financing consumers and credit cards.

The contribution of this research is that research is rarely done for this industry, so this research is the first empirical research in multi-finance in Indonesia. The research used the unpublished data that retrieved from regulator. The results of this study can be used as an initial benchmark for research in multi industries. The results of this research can be used for subsequent studies and by regulators for developing the new regulation. This paper consists of five parts, the first part of the introduction, the second, literature review, third research methodology, fourth data analysis and fifth conclusion.

2. Literature review

2.1 Multi-finance industries in Indonesia

Multi-finance industry in Indonesia starts to grow in Indonesia in 1974. Multi-finance industry is regulated industry. Multi-finance company use fund from bank and other sources to finance these activities. Regulation from government, especially from Ministry of Finance, makes the industry more transparent and has high accountability to stakeholder. Therefore, in order to increase the economic growths, financial intermediary should be further expand so as a source of development fund, it needs more improvement. Multi-finance companies, as a part of finances institute has to play an essential role to finance the business. Multi-finance can be alternative for companies or individual that need more fund to finance its business or consumption.

According to section 2 Number Finance Minister Regulations 84/PMK.12/2006 about finances firms, business activity of multi-finance firm as follows:

(1) Leasing
Finances activity to lease capital goods with option rights to purchase (finance lease) but without purchase right (operating lease) to a given time period to be utilized by other companies or individual.

(2) Factoring
Finances activity to buy the receivable shorterm trade accounts. Factoring can be done in unwarrantedly credit (without recourse) and warrantedly credit with (with recourse).

(3) Credit card
Finances activity to buy goods and or service by using companies or individuals with mandatory paying system, following Indonesian Bank rule.

(4) Consumer finances
Consumer finances is finances activity for acquisition of consumers goods that requirement with paying installment ala.

2.2 Profitability

Profitability is closely related to the ability of companies to gain benefit. This research, using that variable which is represented in the profitability of two alternative performance, measures that are return on assets (ROA) and return on equity (ROE) as measures used to reflect the profitability of a multi-finance companies. ROA measures the profit earned from each of the currencies of assets that reflect how well the management using the real source of investment for a profit (Naceur & Goaied, 2005). ROA is a ratio which is often used in analyzing the profitability of a financial institution. As a key indicator in the company’s profitability, ROA is defined as the results of before-tax profits (BTP) by total assets (TA) and can be divided into four constituents using the
Factors affecting profitability of multi-finance company in Indonesia

accounting identity:

\[
\text{Profitability} = \text{ROA} = \frac{\text{BTP}}{\text{TA}} = \frac{\text{NI}}{\text{TA}} + \frac{\text{NII}}{\text{TA}} - \frac{\text{OV}}{\text{TA}} - \frac{\text{LLP}}{\text{TA}}
\]

where \( \text{NI} \) is net interest income, \( \text{NII} \) is non-interest income, \( \text{OV} \) is non-interest overhead expenses and \( \text{LLP} \) is loan loss provisioning. Athanasoglou, et al (2005) describes the ROA as a reflection of the ability of management to generate profit from the assets held, although sometimes it is biased due to the existence of off-balance-sheet activities. This is in accordance with its own nature that multi-finance companies in the operational activities are influenced by the quality of credit portfolio of assets held, and also the differences between the multi-finance with other companies. Credit portfolio is the main source of income of multi-finance companies. Therefore, the analysis needs to be done with the realization of the estimates, taking into account the risk of bad debts that likely occurred.

The factors that determine the profitability of multi-finance that come from internal company reports are usually reflected in the financial report, a report on the balance sheet and profit and loss report, which, in principle, these factors can be controlled by a management company, among others, liquidity risk, operating cost management, credit risk management, capital and the size of multi-finance.

While, the factors that determine the profitability of multi-finance coming from the external environment are variables beyond the control of the internal management of multi-financial and also affect the ability of companies to gain profit. Macroeconomic variables include external factors that can affect the performance of multi-finance company including factors outside the control of companies, such as economic conditions that occurred in a country. Factors that vary significantly from one condition to other condition can not be controlled directly by individual shareholders and a series of managerial decision-making activities of the company. Ogunlaye (2001, p.57) defines them as “external or uncontrollable factors that influence bank performance”. The variables that are often used in research the profitability of companies is the level of inflation, interest rates, money supply, and the exchange rate against foreign currencies.

Hypotheses in this research are used to test whether there is a relationship between the independent variables, namely multi-finance specific determinant (liquidity risk, operation expenses management, credit risk, capital and company size) and macroeconomic (inflation, interest rates, money supply (M1), and exchange rate of the Indonesian Rupiah against the U.S. Dollar), with the dependent variable multi-finance profitability (ROA and ROE).

The profitability of multi-finance measured by ROA and ROE is net income which was measured by the formula:

\[
\text{Before tax profit} = \text{Net interest income} + \text{Non-interest income} - \text{Non-interest overhead expenses} - \text{Loan loss provisionning}
\]

The result is then divided by the total assets and total equity, thus obtained:

\[
\text{ROA} = \frac{\text{BTP}}{\text{Total assets}}
\]

\[
\text{ROE} = \frac{\text{BTP}}{\text{Total equity}}
\]

2.3 Liquidity risk

Higher liquidity risk may indicate better company performance, because it will increase interest income. However, the ratio that are too high can also reduce liquidity and increase the number of borrowers who have marginal default (Fu & Heffernan, 2008).

H1: The risk of liquidity has a positive effect on the profitability of multi-finance.

Variable liquidity risk measurement is done by assessing the percentage of assets comprised of loan portfolio
so that

\[ NLA = \frac{\text{Net loans}}{\text{Total assets}} \]

### 2.4 Operating expenses management

Ratio of operating expenses to total assets, used to provide information on variations of the system cost the company, is expected will have a negative effect in the profitability of the company because an efficient multi-finance company are expected to operate with a low load operation (Naceur & Goaied, 2005).

H2: Management operating expenses have a negative effect on the profitability of multi-finance.

Measurement of operating expenses management variable are carried out by looking at the comparation ratio between operating expenses to total assets of the company so that:

\[ OEA = \frac{\text{Operating expenses}}{\text{Total assets}} \]

### 2.5 Credit risk

Credit risk is calculated to measure the quality of the assets of the company. Theoretically, increased exposure to credit risk normally associated with a decrease in the profitability of the company (Athanasoglou et al., 2006). Thus, there is a negative relationship between the two.

H3: Credit risk has a negative effect on the profitability of multi-finance.

Variable credit risk measurement is done by calculating the ratio between the number of elimination receivable credit given to the customer with the total assets so that the company

\[ LLP = \frac{\text{Loan loss provision}}{\text{Total assets}} \]

### 2.6 Capital

Naceur and Goaied (2005) in their research, prove that there is a positive relationship between capital and significant with the profitability of bank, because the capital adequacy ratio is high. The need for external funding will be reduced so that the profitability will be higher.

H4: Capital has a positive effect on the profitability of multi-finance.

Measurement of capital variable is done by using the capital adequacy ratio is measured using the ratio between the amount of equity compared to total company assets, so that:

\[ CAP = \frac{\text{Equity}}{\text{Total assets}} \]

### 2.7 Company size

One of the important questions is the policies of financial institutions about how big the size of the company to optimize profitability of the company. Athanasoglou, et al (2005) describe that the effects of the size of the developed company that have a positive impact on the profitability of the company. However, when a company becomes very large, the effect of the large companies can become negative because of bureaucratic problems or other problems.

H5: Company size has a positive influence on the profitability of multi-finance.

Measuring company size variables is done using the company’s total asset value of the company, and for the similarity of the data assessed by using the natural logarithm so that the total assets \( LOGTA = \ln(\text{Total assets}) \).

### 2.8 Inflation rate

The relationship between inflation and the performance of banks depends on whether inflation is anticipated or not anticipated (Perry, 1992). In the first case (anticipated inflation), the bank can adjust the interest rate on time, which means that incomes lead to increased faster than costs, thereby providing a positive influence on...
profitability. In both cases (unanticipated inflation), less bank tribe quickly adjust the interest rates increase the cost, so that the bank faster than the income the bank. This will cause negative influence in the profitability of banks. Demirgüç-Kunt and Huizinga (2001) states that inflation has a positive effect on bank profitability. Most of the studies (Bourke, 1989; Molyneux & Thornton, 1992) found that there is a positive relationship between inflation and bank performance.

H6: The level of inflation has a positive effect on the profitability of multi-finance.

Measurement variables were conducted using monthly inflation data obtained from the website of Bank Indonesia.

2.9 Interest rate

The increase of the SBI interest rates will affect the interest rate deposits and bank loans. The increase in interest rates will also cause the SBI interest rates in the inter-bank money market increases. Such a situation will cause the banks managing the composition of funding and re-financing. From the multi-finance point of view, this will be very influential in terms of funding, because the funding source most of the loans came from banks, and it will cause the interest rate charged to consumers will increase, therefore, the expected coefficient is positive. Demirguc and Huizinga (1998) show the positive relationship between interest rates with the profitability of banks.

H7: The interest rate has a positive effect on the profitability of multi-finance.

Measuring this variable is done by using the interest rate SBI 1 month obtained from the website of Bank Indonesia. Value that is used is the average interest rate period of the month.

2.10 Money supply

Higher money supply leads to increased ability of banks to provide credit to the communities, including multi-finance also increased. This means that the multi-finance has the ability to channel more credit financing, which means the profitability of the company also increased. Barajas, et al (1999) shows that the growth of money circulating to give a positive result on the profitability of banks.

H8: Money supply has a positive effect on the profitability of multi-finance.

Measurement variable amount of money supply is done by using data on the number of outstanding monthly money earned from the International Financial Statistics (IFS) issued by the IMF; The data is then converted into natural logarithm form to obtain the similarity of the data with other variables.

2.11 Exchange rate level

Exchange rates will affect the performance of multi-finance companies because of their funding and getting back in the form of dollar or foreign currency so that the income received is also dependent on the fluctuation of exchange rates is going on. Therefore, the risk of exchange rate plays an important part of the company’s profit generated. Abreu and Mendes (2002) include a variable exchange rate to see the influence of exchange rate policy conducted by the bank.

H9: The level of the exchange rate has a positive effect on the profitability of multi-finance.

Variable exchange rate measurements made using the exchange rate of currencies against the Dollar Indonesian Rupiah United States obtained from International Financial Statistics (IFS) issued by the IMF. Exchange rate used is the monthly average, which was then converted into natural logarithm form.

3. Research methodology

Unit of analysis used in this research is the individual company unit. This is because the data used in this research is the micro-level data in the company, the elements in the financial reports of the multi-finance
companies with the use of secondary data, such as financial reports a multi-finance companies that were obtained from the Board of Supervisors Capital Markets—Financial Institutions. In addition, other data used are the data as macroeconomic variables following the interest rate SBI 1 month and monthly inflation obtained from the website of Bank Indonesia, while data Indonesian rupiah exchange rate against U.S. dollar and the amount of circulating money (M1) data obtained from the International Financial Statistics (IFS) issued by the IMF.

Population of this research is all that there is a financing company in Indonesia and is registered with the Ministry of Finance of the Republic of Indonesia. Of the population, to represent a population of multi-finance available in Indonesia, this research uses a sample of the selected criteria which is based on the availability of data, so that is random sampling. Based on this, the number of multi-finance companies that are examined is 153 companies. So the total data sample used in this research is the 2097 observation. The period of the sample data is taken time from November 2005 until December 2007, where observation data is done on a monthly basis.

### 3.1 Research variables and operation

The research variables used in this research and the operational definitions are described in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent</td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>Return on asset measured with (Net income/Total assets)</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on equity measured with (Net income/Total equity)</td>
</tr>
<tr>
<td>Independent</td>
<td></td>
</tr>
<tr>
<td>Multi-finance specific</td>
<td></td>
</tr>
<tr>
<td>NLA</td>
<td>Liquidity risk is the percentage of the asset portfolio consists of loans (Net loans / total assets)</td>
</tr>
<tr>
<td>OEA</td>
<td>Overhead efficiency ratio is measured using the ratio of operating expenses to total assets (Operating expenses/Total assets)</td>
</tr>
<tr>
<td>LLP</td>
<td>Credit risk is measured by the ratio (Loan loss provision / Total assets)</td>
</tr>
<tr>
<td>CAP</td>
<td>Capital or capital adequacy ratio to measure the impact of financial leverage measured by the ratio (Equity / Total assets)</td>
</tr>
<tr>
<td>LOGTA</td>
<td>Company size measured by total assets, natural logarithm multi-finance: ln(Total assets)</td>
</tr>
<tr>
<td>Macroeconomic</td>
<td></td>
</tr>
<tr>
<td>INF</td>
<td>The monthly inflation rate to measure the overall percentage increase in the consumer price index for all goods and services</td>
</tr>
<tr>
<td>INT</td>
<td>Loan interest rate, measured by the average interest rate SBI 1 month.</td>
</tr>
<tr>
<td>M1</td>
<td>The amount of money outstanding is the overall value of the money is in the hands of the public, measured by kartal totalize money and money giral.</td>
</tr>
<tr>
<td>EXR</td>
<td>Exchange rate measured by the average monthly exchange rate with the exchange rate used is the Rupiah ( IDR) of the United States Dollar (USD).</td>
</tr>
</tbody>
</table>

Research method used was the analysis of panel data, the model used to determine the profitability of multi-finance with multi-finance specific determinant and macroeconomic determinant as independent variable, while the ROA and ROE as the dependent variable. Research model used is described as follows:

\[
\text{ROA} = \beta_0 + \beta_1 \text{NLA} + \beta_2 \text{OEA} + \beta_3 \text{LLP} + \beta_4 \text{CAP} + \beta_5 \text{LOGTA} + \beta_6 \text{INF} + \beta_7 \text{INT} + \beta_8 \text{M1} + \beta_9 \text{EXR} + \epsilon_i
\]

\[
\text{ROE} = \beta_0 + \beta_1 \text{NLA} + \beta_2 \text{OEA} + \beta_3 \text{LLP} + \beta_4 \text{CAP} + \beta_5 \text{LOGTA} + \beta_6 \text{INF} + \beta_7 \text{INT} + \beta_8 \text{M1} + \beta_9 \text{EXR} + \epsilon_i
\]

Quantitative methods to be used in this research are a causal dynamic econometric analysis method applying the square smallest (least squares) in the fixed effects model (Fixed effect) or a random effects model (Random effect). And then conducted a series of test statistics using the Chow Test and Hausmann Test to obtain the optimal model to describe the results of this research.
4. Data analysis

This research uses the data of a sample of 153 multi-finance companies in Indonesia, which are available in the Bapepam-LK, which means that as many as 75% of the total multi-finance companies listed in the Bapepam-LK, in the period of observation period November 2005 until December 2007. Unit of time used in this research is the unit monthly. The descriptive statistics of the variables used in this research are described below in Table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. deviasi</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>-0.092</td>
<td>-245.88700</td>
<td>0.507</td>
<td>4.660381</td>
</tr>
<tr>
<td>ROE</td>
<td>-23.935</td>
<td>-62,234.24000</td>
<td>85.746</td>
<td>1,173.797000</td>
</tr>
<tr>
<td>NLA</td>
<td>0.716</td>
<td>0.00086</td>
<td>0.997</td>
<td>0.228660</td>
</tr>
<tr>
<td>OEA</td>
<td>0.184</td>
<td>0.00000</td>
<td>245.891</td>
<td>4.634293</td>
</tr>
<tr>
<td>LLP</td>
<td>0.018</td>
<td>0.00000</td>
<td>2.080</td>
<td>0.073812</td>
</tr>
<tr>
<td>CAP</td>
<td>0.029</td>
<td>-636.14900</td>
<td>1.000</td>
<td>12.146410</td>
</tr>
<tr>
<td>LOGTA</td>
<td>18.518</td>
<td>10.31200</td>
<td>23.520</td>
<td>1.785210</td>
</tr>
<tr>
<td>INF</td>
<td>11.511</td>
<td>5.27000</td>
<td>18.380</td>
<td>5.015423</td>
</tr>
<tr>
<td>INT</td>
<td>10.963</td>
<td>8.08000</td>
<td>12.750</td>
<td>1.658887</td>
</tr>
<tr>
<td>M1</td>
<td>12.668</td>
<td>12.50100</td>
<td>13.017</td>
<td>0.139837</td>
</tr>
<tr>
<td>EXR</td>
<td>9.130</td>
<td>9.09600</td>
<td>9.217</td>
<td>0.028710</td>
</tr>
</tbody>
</table>

In Table 2, the average loan portfolio of the multi-finance companies that have entered the sample reached 71.6%. That is, credit issued a multi-finance companies dominate the total assets held.

After done data processing and testing the panel of research variables, the optimal model of the panel to answer questions of research, namely the profitability of the panel model multi-finance (which is represented by ROE and ROA) is the fixed effect estimation method that results can be seen in full Table 3. The number of samples used is 153, which means that 75% of the total population of multi-finance company in Indonesia provides a description that the results of this research have a stronger ability to be able to describe the condition of multi-finance industry as a whole in Indonesia.

4.1 Analysis of multi-finance specific determinant factors

The first multi-finance specific determinant variable is the liquidity risk (NLA). Both models show that the profitability of variable NLA does not have a significant effect on variation of the profit received by the multi-finance company where the coefficient on the model get a negative value for ROA, ROE model to get positive result. This shows that the results were inconsistent with previous research. Naceur and Goaied (2005) and Athanasoglou, et al (2005) describe the same, credit that the company issued is a major source of income, where the greater credit with the reception given the loan interest rate, there will result in a positive increase in the profitability of the company.

Variable credit risk management (LLP) shows a positive relationship and it is significant. Both models agree a similar claim, but the results are not consistent with the research of Athanasoglou, et al (2005), which states that a negative relationship is significant where credit risk management efforts to maximize the profit the company made with applying risk-averse strategy, mainly through strict screening policy and credit risk monitoring.
However, research of Fu and Heffernan (2008) provide results consistent with this research; It gives the conclusion which is possible due to the conservative elimination uncollectible receivables policy applied by multi-finance at this time which are able to improve its performance. Another explanation is that multi-finance has a difference in risk attitudes. Therefore, when the risk is higher, the multi-finance company can enjoy a greater profit quickly, at a time when the elimination should be done for a large loss. Meanwhile, the multi-finance carefully pours credit that only when the portion of the credit becomes smaller, for the profit received will be also smaller.

### Table 3  Regression result

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Expected effect</th>
<th>ROA</th>
<th>ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Coefficient</td>
<td>Prob.</td>
</tr>
<tr>
<td>NLA</td>
<td>+</td>
<td>-0.03363</td>
<td>0.15820</td>
</tr>
<tr>
<td>OEA</td>
<td>-</td>
<td>-0.99686*</td>
<td>0.00000</td>
</tr>
<tr>
<td>LLP</td>
<td>-</td>
<td>0.30834*</td>
<td>0.03810</td>
</tr>
<tr>
<td>CAP</td>
<td>+</td>
<td>0.00203</td>
<td>0.14220</td>
</tr>
<tr>
<td>LOGTA</td>
<td>+</td>
<td>-0.01720*</td>
<td>0.00000</td>
</tr>
<tr>
<td>INF</td>
<td>+</td>
<td>-0.00629*</td>
<td>0.00000</td>
</tr>
<tr>
<td>INT</td>
<td>+</td>
<td>0.05226*</td>
<td>0.00000</td>
</tr>
<tr>
<td>M1</td>
<td>+</td>
<td>0.60664*</td>
<td>0.00000</td>
</tr>
<tr>
<td>EXR</td>
<td>+</td>
<td>0.87805*</td>
<td>0.00000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>153</td>
<td>153</td>
</tr>
<tr>
<td>DW-Stat</td>
<td></td>
<td>1.99499</td>
<td>2.05266</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td></td>
<td>0.97763</td>
<td>0.99321</td>
</tr>
<tr>
<td>F-Statistic</td>
<td></td>
<td>722.60340</td>
<td>2,417.68300</td>
</tr>
</tbody>
</table>

Note: * significant 1%.

Next, capital (CAP) has a positive relationship, but not significant effect on the profitability of multi-finance. The effect of this variable is consistent with previous research that states that with a strong capital position of the company, it will be able to explore more business opportunities more effectively and also have more time and flexibility to overcome problems arising from the unexpected loss, thus increasing its profitability (Athanasoglou, 2005; Naceur & Goaied, 2005; Fu & Heffernan, 2008). Multi-finance that has a strong capital will also have the low expected financial distress costs, the low funding costs, and the interest margin on assets is higher. All things will push the ratio towards better profitability. Explanation for the results that are not significant to the profitability of multi-finance is possible since the capital structure of multi-finance in Indonesia is still largely dependent on external borrowing, especially from the banking sector, while the funding with their own capital was less than strong.

Company size (LOGTA) has negative and significant effects on the profitability of multi-finance. Although this result does not match previous estimates, providing information at this time that the multi-finance companies have not operated efficiently. Possible explanation is that inefficiency occurred because the company negligent in its management of credit risk that caution must do so elimination uncollectible receivables or bad debt will be greater (Fu & Heffernan, 2008). This is also consistent with the results of the estimation, variables LLP indicates that weaknesses in the management company to manage their assets in the credit.

### 4.2 Analysis of macroeconomic as determinant factors

The first macroeconomic determinant variable is inflation. Results of empirical research indicate that the
relationship between levels of inflation with the profitability of multi-finance is negative and significant. Both models agree to provide conclusions, but it is not consistent with most previous research which stated that there were positive relationships between them (Athanasoglou, 2005; Naceur & Goaied, 2005; Fu & Heffernan, 2008). The inconsistency results of this research occurred due to the characteristics of multi-finance itself, which have business activities with the activities of consumer society, while the increase in the occurrence of inflation will decline in purchasing power to encourage consumers. This will obviously influence the community, so that the demand will be decreasing in the financing of consumption goods. Therefore, it is difficult for multi-finance to expand the business in order to get a new credit financing.

Next is interest rate variable (INT), represented by the average interest rate SBI 1 month. Results of research indicate that the relationship between interest rate and the profitability of multi-finance is positive and significant. This result is also in line with previous estimates and previous research, which explains that with the occurrence of increased interest rate loan, the interest rate will be increased so that the consumer-finance multi will obtain higher profit (Demirgue & Huizinga, 1998; Jiang, et al., 2003).

Money supply (M1) has a positive and significant effect on the profitability of multi-finance. The two models together give the same results, and the result of this research is consistent with Barajas, et al (1999). Increasing the amount of money supply will increase bank ability to contribute credit to the community, including the multi-finance. This means that the multi-finance has the ability to channel more credit financing, which means the profitability of the company also increased. The community also has excess liquidity which is a potential opportunity for multi-finance to expand the business.

Last but not least, exchange rate variable (EXR) has a positive coefficient and significant effect on the profitability of multi-finance model. However, interpretation of research results based on the processed data show that the resulting relationship is negative, it is because the positive coefficient indicates that the going exchange rate depreciation against the Indonesian rupiah, which means United States dollar weakening occurs currency exchange rate. This means that the profitability of multi-finance depend on condition of exchange rate. When the weak condition occurs, it will have positive impact on the income received. Abreu and Mendes (2002) states that the effect of the exchange rate depends on the profitability of the exchange rate policy used by the company. Therefore, it can be concluded that multi-finance in Indonesia at this time is able to take advantage of weakening the exchange rate condition for the higher acceptance, this is very possible because of a dollar depreciation which will trigger an increase in the price of consumption goods and the consumer society business.

5. Conclusion

Results of research show that the profitability of the selected model is the fixed effect estimation methods. This study also explains how the condition and development of multi-finance industry in Indonesia and how the company’s internal conditions and national macroeconomic stability also, influence the multi-finance itself. Characteristics of multi-finance companies can substantially explain the variations in the profitability of the acceptance. High profitability can actually associated with increasing the liquidity ratio and the size of a large company. However, in this research, we note that whiles this multi-finance in Indonesia, it has not produced a profit for the company. This indicates the weak management of financial assets held and allegedly also did not do well with the principle of carefully pour in loans to consumers. Other characteristics also indicate that inefficiency of multi-finance performance in Indonesia, with the evident inability of management of multi-finance to manage
Factors affecting profitability of multi-finance company in Indonesia

the burden of operating expenses in a competitive market situation. Another multi-finance specific determinant, credit risk management, provides information that is not prevalent with the increase of elimination uncollectible receivables which give positive effects on the profitability of multi-finance. Once again, it is asserted that there is inadvertence in multi-channel finance credit customers.

This study also found that macroeconomic indicators such as inflation, interest rates, money supply and the exchange rate have significant effects on the profitability of multi-finance. This shows the importance of strong macroeconomic stability, to support the multi-finance business in order to provide consumer financing to communities so that a multi-finance establishment purpose will be achieved, and then encourage growth in the national economy.

This research include lots of samples multi-finance in Indonesia, but to emphasize and re-provide better results, then the time period should be enlarged, so that the influence of determinant variables that influence the profitability of multi-finance can be more effective, especially for the effect of macroeconomic determinants.

For further research, we also suggest to use a method that is suspected to give a good estimation of the model approach, Generalized Method estimators. The approach can be used as a comparison with the research methods used at present.

The other variables may be added to see the impact on the profitability of multi-finance is both derived from the internal and external variables which mainly come from the multi-finance industry itself.

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