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EDITORIAL

Dear readers!

The recent issue of the journal Corporate Ownership and Control pays attention to issues of corporate social responsibility, risks management, audit issues, corporate codes etc. More detailed issues are given below.

Hung Quang Do, M. Ishaq Bhatti, László Kónya examine the capital market integration and its investment implications at a country level, whereas their paper attempts to extend the analysis to the industry level of integration. *Monica Ren* provides an insight into comprehending Chinese firms' strategic behaviour on risks in outward foreign direct investment (OFDI). *Ahmed Saad and Mahmoud Elsayed* investigate the protection system of investors in the Egyptian stock markets, using a number of econometric techniques and hand-collected data of Egyptian Investor Protection Fund over the period from 2006 to 2014. *Nuraddeen Usman Miko and Hasnah Kamardin* investigate the effects of corporate governance mechanisms, sensitive factors on earnings management of quoted oil and gas firms in Nigeria using the sample of nine (9) listed oil and gas firms for the period of ten years (2004-2013). *Maria Teresa Bianchi and Alessia Nardecchia* propose a model of social reporting that allows improving the communication of sociability and quantify the sociability. *Yousef Shahwan and Jamal Roudaki* suggest that there is a statistically significant association between equity market values and goodwill amortization in the determination of firms' market valuation, concluding that the UAE market perceives goodwill amortization as having information content when valuing firms and the use of standardized amortization requirement may be appropriate. *Shariq Mohammed, Mohammed Ahmar Uddin and Moinuddin Ahmad* examine the factors affecting the choice of entrepreneurship among the university going students for starting their own business, their awareness about the schemes promoted by the government of Oman for entrepreneurship. *Joe Ueng and Daryl Koehn* examine whether firms that have restated suspect earnings (we exclude restatements due to backdating) are more likely than non-restaters either to have admitted to back-dating options or to be at risk of being back-daters. *Eijaz Ahmed Khan, Mohammed Naim A. Dewan and Md. Maruf Hossan Chowdhury* find out the nature of sustainability factors either reflective or formative by investigating three distinct industrial settings in Bangladesh.

Ebrahim Mohammed Al-Matari and Ali Saleh Al_arussi analyse the effect of the ownership structure characteristics (ownership concentration, managerial ownership and government ownership) on firm performance (ROA) among non-financial Omani companies during 2012-2014. *Tesfaye T. Lemma and Minga Negash* explore the effect of firm-, industry-, and country-level factors on corporate ownership pattern within the context of six African countries. *Ragnhild Silkoset, Arne Nygaard and Roland E. Kidwell* test their model using a paired-dyadic data approach to mitigate the problem of shared-method variance among the psychometric measures.

Atef Mohamed Ahmed explores accounting disclosure through analysis financial and executives' mangers, and external auditors' Perceptions concerning disclosures of social responsibility practices inside listed companies in Saudi Stock Market. *Abdullah Al-Maghzom, Khaled Hussainey and Doaa Aly* contribute to the existing risk disclosure literature by investigating the effect of a combination of determinants on voluntary risk disclosure practices in an emerging market. *Khaleed Alotaibi, Khaled Hussainey* find that the firm Market value of equity value is significantly associated with CSR disclosure quantity and quality.

We hope that you will enjoy reading the journal and in future we will receive new papers, outlining the most important issues and best practices of corporate governance!

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CONTENTS

ACADEMIC INVESTIGATIONS & CONCEPTS

SECTION 1

ON ASEAN CAPITAL MARKET AND INDUSTRY INTEGRATION: A REVIEW

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Abstract

Due to the benefits of investment diversification across markets and industries, and the increasing importance of ASEAN capital markets, this paper attempts to review recent studies on capital market integration and investment implications in six selected ASEAN countries. Several methodologies including VAR, GARCH, Copula and DCC, Bayesian approach, CAPM and factor models have been examined in this research. Most of the existing studies consider the capital market integration and its investment implications at a country level, whereas this paper attempts to extend the analysis to the industry level of integration. It also reviews the uses of a VARMA-MGARCH-asymmetric BEKK models to investigate the integration at industry levels in recommending investment diversification. The findings of this paper may provide guidance to academia, investors and policy makers on asset diversification.

Keywords: ASEAN countries, Capital market integration, Portfolio selection, Investment Implications
JEL Classification: G11, G15, F36

1. INTRODUCTION

Capital market integration and related issues are complex but fascinating. They have been studied intensively in the literature. On the one side, the governments of emerging countries have tried to increase their capital market integration with developed markets and regions. On the other side, the integration of capital markets might reduce the benefit of investment diversification. This paradox has inspired the creation and improvement of countless theories, methodologies and strategies as well as suggestions to policymakers and investors alike.

This paper attempts to deal with this paradox by reviewing the recent theoretical and practical developments in the literature, concentrating on the area of international financial markets and the way they are interconnected and integrated in the high tech age of the 21st century when information on international financial markets is readily available, along with high speed computing power. Due to the increasing roles in the global capital market of the Asia region in general and the ASEAN region in particular, it attempts to review the literature in three different overlapping areas: international capital markets, portfolio selection, and the ASEAN6 (Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam).

This study aims to synthesize the theoretical and empirical studies on capital market integration and portfolio selection in general, and then discusses the ASEAN6 capital markets in particular. Findings from this paper might help academics, policy makers and investors alike who are focused on capital market and portfolio diversification in ASEAN countries. Specifically, the gaps in the literature revealed by this review might be useful for future research.

The rest of this paper is structured as follows. Section 2 considers the definition of capital market integration, the proxies that can be used to capture it and the models applied to investigate it. Section 3 provides a succinct review of portfolio selection with a focus on the ASEAN6 stock markets and their respective industries. Section 4 provides a general review of the ASEAN6 capital markets and of the Vietnamese stock market. Finally, concluding remarks are in Section 5.

2. REVIEW OF THE LITERATURE ON CAPITAL MARKET INTEGRATION

Various concepts of *integration* of a capital market have been developed in the literature. As shown in Table 1 in our opinion, the best definition of integration in the 1980s is due to Llewellyn [1980]: "the occurrence of three forces: the equality and comovement of interest rates, the equilibrating movement of exchange rates, and the transfer of aggregate money across countries". Marston [1995] considers capital market integration as the involvement of two interrelated elements: national market deregulation and capital flow liberalization. However, the lifting of international investment barriers does not imply the integration of a financial market; it just implies a chance that this market could be integrated with other developed markets.

Akdogan [1995] looks at the relation between the risk and return of various assets. He states that capital markets are integrated if there is no differential risk premium for identical or similar financial instruments traded at different locations. This approach is novel because it does not focus on the relation of monetary markets or the money supply movements among countries but rather on the relation of capital markets. In addition, Akdogan [1995] considers exchange rates as a factor contributing to the volatility of asset returns and capital controls as impediments to capital market integration. Similarly, Bekaert and Harvey [1995] state that "Markets are completely integrated if assets with the same risk have identical expected returns irrespective of the market". Moreover, they contend that if a market is integrated with the world market, then this market and the world market are related to each other and the covariance between them can explain the expected return, while in the case of segmented markets this covariance is insignificant. In our view, the definitions of Akdogan [1995] and Bekaert and Harvey [1995] best express the integration of capital markets. The recent examples of the popularity these definitions can be seen in the work of Choudhary and Siag [2015] and Lehkonen [2015] among others.

Table 1. Major definitions of capital market integration

Authors	*Definitions of market integration*
Mendelson [1972]	The equalization of yields of comparable loans and securities with the anticipated devaluations or revaluations of exchange rates.
Subrahmanyam [1975]	Movement from domestic equilibrium to international equilibrium (individuals with different endowments of securities and exchange to maximize their respective welfares). Barriers to international diversification to be removed.
Llewellyn [1980]	The occurrence of three forces: the equality and comovement of interest rates, the equilibrating movement of exchange rates, and the transfer of aggregate money across countries.
White and Woodbury [1980]	If a single factor explains most of the covariation among yields and the factor loading approaches 1 then the markets are integrated. If there are as many factors as there are interest rate series and if each factor can affect only one interest rate then the markets are segmented.
Akdogan [1995]	No differential risk premium for similar or identical financial instruments traded at different locations.
Marston [1995]	The involvement of two interrelated elements: national market deregulation and capital flow liberalization.
Bekaert and Harvey [1995]	Markets are completely integrated if assets with the same risk have identical expected returns irrespective of the market.

Similarly to the underlying theories, there is a range of proxies for capital market integration in empirical studies, (see Table 2).

For example, Bekaert and Harvey [1995] use the regime probability (the likelihood that a market is integrated) to measure integration, while Bekaert and Harvey [1997] use the ratio of equity market capitalisation to GDP and the ratio of trade to GDP. Carrieri et al. [2007] consider the time varying ratio of unspanned variance of an industry price index to the total variance of the country price index (which is actually the time varying coefficient of determination of the simple regression of the domestic market return on the return of a portfolio) as an integration index. The larger this ratio, the higher the level of integration. A new valuation-based measure of capital market integration is proposed by Bekaert et al. [2011] and [2013]. In these papers, the proxy for integration is the weighted aggregated difference between local and global industry earnings yields. This method has the advantage that it does not depend on any specific asset pricing model. Recent papers, Lehkonen [2015] and Bae and Zhang [2015], use cross-market correlation as a proxy for their integration.

Although various proxies for capital market integration have been used in the literature, they have all tried to measure the degree of influence of international market returns on local market returns. Some authors might set a threshold for market integration (e.g. the regime probability of Bekaert and Harvey [1995]) but, in general, the higher the influence the higher degree of market integration.

Table 2. Major research on capital market integration

Methodologies	Authors	Proxies for capital market integration	Findings
Conditional regime-switching model	Bekaert and Harvey [1995]	Regime probability (the likelihood that a market is integrated)	Malaysia and Thailand are more integrated while other countries appear segmented.
Factor model of conditional variances	Bekaert and Harvey [1997]	Equity market capitalisation/GDP, and trade/GDP	Capital market liberalization often increases the correlation between local market returns and world market but do not drive up local market volatility.
Three factor model (common factor, local factor and currency factor)	Adler and Qi [2003]	Relative weight of common factor.	Degree of market integration is higher at the end of period but exhibits a wide swing that is related to both global and local events.
GARCH (1,1)-in-mean	Carrieri et al. [2007]	Un-spanned variance of industry price index/total variance of the country price index (R^2)	Degree of integration across countries is different, none of the emerging countries appear to be completely segmented.
Simple and essentially model	Bekaert et al. [2011] and [2013]	The weighted aggregated difference between local and global industry earnings yields	Emerging markets are less integrated relative to the developed markets. Malaysia, the Philippines and Singapore are more integrated. Indonesia and Thailand are more segmented.
Multivariate regressions	Lehkonen [2015], Bae and Zhang [2015]	Cross country correlations	Lehkonen [2015]: Integration is mostly affected by financial openness, the institutional environment, and global financial uncertainty. Bae and Zhang [2015]: Negative relationship between degree of capital market integration and crisis in emerging markets.
GARCH(1,1) models	De Santis and Imrohoroglu [1997], Carrieri et al. [2007], Tai [2007b], Lau et al. [2010], Kenourgios and Samitas [2011], Pasioura et al. [2013].		Tai [2007b]: Prior to liberalization, stock markets of India, Korea, Malaysia, the Philippines and Thailand were segmented from the world market but have been fully integrated thereafter.
Error correction models	Phylaktis [1997]	Speed of adjustment of real interest rate following a shock. The faster the adjustment the higher the degree of market integration	There has been an increase in capital market integration of Pacific Basin countries with the US and Japan.
VAR model	Jang and Sul [2002]	Comovement of stock markets	After a crisis, there is a drastic increase in comovement among seven Asian countries especially among Hong Kong, Thailand, Indonesia and Singapore.
VAR model	Phylaktis and Ravazzolo [2002], [2005]	Correlation between domestic and foreign excess return innovations is the proxy for financial integration	Financial integration is accompanied by economic integration. Stock markets of Thailand and the Philippines are strongly integrated with those of the US and Japan. Singapore stock market integrated with the US stock market in 1980s. Malaysian and Indonesian stock markets are integrated with Japanese stock market and segmented from US stock market in the 1990s.
VAR model	Huyghebaert and Wang [2010]	Granger causality	The relationships among the East Asian stock markets are time-varying and the stock market interactions increase during and after the Asian crisis.
Cointegration analysis	Click and Plummer [2005]	Long-run relation of stock indices	Stock markets of Indonesia, Malaysia, the Philippines, Singapore and Thailand are integrated but not completely.
Cointegration analysis	Shabri et al. [2008], [2009]	Long-run relation of stock indices	Stock markets of Indonesia, Malaysia, the Philippines, Singapore and Thailand are moving toward greater integration among themselves and with the US and Japan.
Conditional Intertemporal Capital Asset Pricing Model (ICAPM) in DCC-GARCH model	Guesmi et al. [2014]	Various direct and indirect factors	The risk is regionally priced. Changes in the degree of regional stock market integration are explained by inflation, exchange rate volatility, spread variations, short-term interest rate and world market dividend yield.
ICAPM in multivariate DCC-GARCH model	Boubakri and Guillaum [2015]	Covariance between local and international stock market prices	East Asian stock markets were partially segmented within the region until 2008 then integrated. Risk premium related to regional stock markets is significant for all countries.
The advent of securitization and deregulation of branch banking	Loutskina and Strahan [2015]	Multivariate regressions	House price shocks spur economic growth and the effect is larger in localities more financially integrated via secondary loan market and bank branch networks.
Copula models	McNeil and Frey [2000], De Melo Mendes and De Souza [2004], Junker and May [2005], Ane and Labidi [2006], Hu [2006], Rosenberg and Schuermann [2006], Ozun and Cifter [2007], Rodriguez [2007], Miguel-Angel and Eduardo [2012], and Bhatti and Nguyen [2012]		

Countless studies in the literature have investigated the integration of various markets and regions over the world using multiform models and methodologies, such as regime-switching models, factor models, GARCH models, and VAR models, etc. Each model has its own advantages and shortcomings.

For example, Bekaert and Harvey [1995] use a conditional regime-switching model to measure capital market integration of twelve emerging markets based on monthly data from December

1969 to December 1992. Adler and Qi [2003] use a three factor model (common factor, local factor and currency factor) to examine the time varying regional market integration of the Mexican equity market into the North American equity market, in which the relative weight of the common factor measures the degree of integration.

Several papers have applied GARCH models to examine capital market integration, including De Santis and Imrohoroglu [1997], Carrieri et al. [2007], Tai [2007b], Lau et al. [2010], Kenourgios and Samitas [2011], and Pasioura et al [2013]. Specifically, Carrieri et al. [2007] estimate a GARCH-in-mean model using annual data for 1977-2000 to assess the evolution in market integration for eight emerging markets. Tai [2007b] estimates an asymmetric GARCH (1,1)-in-mean model using monthly data for 1980–2001 to investigate capital market integration of six emerging Asian markets with the world market, and the effect of the liberalization process on the cost of capital and price volatility for each market. The advantage of a GARCH model is that it can expose the influence of conditional volatility on returns. However, it cannot reveal either the simultaneous interdependence of dependent variables in a system model or the causal effects between these variables.

Others, including Phylaktis [1997], Jang and Sul [2002], Phylaktis and Ravazzolo [2002], Click and Plummer [2005], Phylaktis and Ravazzolo [2005], Shabri et al. [2008], [2009], Huyghebaert and Wang [2010], Lau et al. [2010], and Umutlu et al. [2010] implement cointegration techniques to investigate the integration of markets. For instance, Phylaktis [1997] estimates error correction models to examine the financial integration of Pacific Basin countries, and looks at the speed of adjustment of real interest rates following a shock, to infer the degree of capital market integration; the higher the degree of capital market integration the faster the adjustment to long-run equalisation of real interest rates. Jang and Sul [2002] use a VAR model of daily stock market indices of seven Asian countries to analyse the impact of the 1997 Asian crisis on the comovement of these countries' stock markets. Phylaktis and Ravazzolo [2002], [2005], and Huyghebaert and Wang [2010] also estimate VAR models to analyse the capital market integration. Meanwhile, Shabri et al. [2008] and Shabri et al. [2009] apply cointegration analysis with Generalised Method of Moments to investigate the integration of five ASEAN capital markets.

Some other studies, including Bowman et al. [2010], Huyghebaert and Wang [2010], Jang and Sul [2002], and Tuluca and Zwick [2001], investigate the reaction of capital markets to the Asian financial crisis by estimating the degree of market cointegration/comovement over three sub-periods, namely pre-crisis, during-crisis and post-crisis. They have a consensus that the degree of capital market cointegration/comovement is higher during the crisis than before it.

The advantage of a VAR model or cointegration analysis is that they can disclose the simultaneous interdependence or comovement among dependent variables. However, these techniques cannot incorporate the influence of conditional return volatility on stock returns.

The contagion of the recent 2007-2008 US financial crisis to other capital markets has also been investigated in the literature by, among others, Dooley and Hutchison [2009], Longstaff [2010], Pesaran and Pesaran [2010], Guo et al. [2011], and Samarakoon [2011]. For example, Samarakoon [2011] applies two-step regressions to delineate the interdependence from contagion of the US financial crisis.

There are also several examples in the literature for the application of copula to describe the dependence structure of financial markets, such as McNeil and Frey [2000], De Melo Mendes and De Souza [2004], Junker and May [2005], Ane and Labidi [2006], Hu [2006], Rosenberg and Schuermann [2006], Ozun and Cifter [2007], Rodriguez [2007], Miguel-Angel and Eduardo [2012], and Bhatti and Nguyen [2012]. However, copulas are more useful in the boom and crisis periods, or downside regimes where there might be more extreme values than during normal periods. In addition, the effects of shocks on stock returns in crisis periods have been investigated extensively in the literature by analysing spillover effects and contagions (see for example, Nagayasu [2001], Forbes and Rigobon [2002], Sander and Kleimeier [2003], Tai [2004], Bakaert et al. [2005], Baele and Inghelbrecht [2010], and Tai [2007a]), and asymmetric effects of positive and negative shocks (Kroner and Ng [1998], Bekaert and Wu [2000]).

A great deal of research has been done on the capital market integration and related issues of Asian countries as well (e.g. Errunza and Losq [1989], Errunza et al. [1992], Kreinin and Plummer [1992], Bekaert [1995], Bekaert and Harvey [1995], Phylaktis [1997], Plummer [1997], Bekaert et al. [2002], [2002], Jang and Sul [2002], Phylaktis and Ravazzolo [2002], Bekaert et al. [2003], Chelley-Steeley [2004], Bekaert et al. [2005], Click and Plummer [2005], De Jong and De Roon [2005], Phylaktis and Ravazzolo [2005], Shackman [2006], Carrieri et al. [2007], Claessens and Schmukler [2007], Tai [2007a], Tai [2007b], Bruner et al. [2008], Chambet and Gibson [2008], Panchenko and Wu [2009], Pukthuanthong and Roll [2009], Huyghebaert and Wang [2010], Umutlu et al. [2010], Babecky et al.[2012], Salina and Shabri [2012], Goh et al. [2014], Teulon et al. [2014], Boubakri and Guillaumin [2015], and Chien et al. [2015]). Most of these studies use stock market price indices to investigate the degree of capital market integration, the factors of capital market integration, the relationship between capital market integration, financial market development, barriers to market integration, economic growth etc. Their findings vary across countries and regions. For example, Bekaert [1995] finds that emerging markets have different degrees of integration with the US market, and that the barriers to market integration are poor credit ratings, high and variable inflation, exchange rate controls, the lack of a high quality regulatory and accounting framework, the lack of sufficient country funds or cross-listed securities, and the limited size of some stock markets. Bekaert and Harvey [1995] and Carrieri et al. [2007] find that emerging markets exhibit time-varying integration. Bekaert et al. [2002] investigate whether the dates of capital market integration are the same as the dates of market liberalization based on the index total returns and dividend yields from 20 emerging markets, and find that integration occurs always later than the official date of liberalization. However, the integration (segmentation) of a stock market does not necessarily lead to the integration (segmentation) of all of its industries or sectors. Moreover, the investments often happen at the industry and company levels. Thus, investigating the integration at the country level to recommend investment diversification choices might lead to inappropriate decisions.

There are some other papers using industry price indices to examine integration and their benefits on diversification (e.g. Heston and Rouwenhorst [1994], Griffin and Karolyi [1998], Baca et al. [2000], Cavaglia et al. [2000], Carrieri et al. [2004], Ferreira and Gama [2005], Bruner et al. [2008], Masten et al. [2008], Baele and Inghelbrecht [2009], Bekaert et al. [2009], and Eiling et al. [2012]). Most of these studies find that intra-industry diversification across country are beneficial. For instance, Heston and Rouwenhorst [1994] find that industry indices are less volatile and more strongly correlated than country indices, and that cross country diversification within an industry is more effective than cross industry diversification within a country. Moreover, Griffin and Karolyi [1998] find the traded-goods industries dominate the non-traded goods industries, which implies the importance of international investments. Baca et al. [2000] and Cavaglia et al. [2000] find that the industry effect has increased while the country effect has decreased in explaining the stock return variations and that global industry diversification provides less risk than country diversification. Similarly, the findings of Ferreira and Gama [2005] imply that industry diversification has become relatively more efficient than country diversification (details can be seen in Table 3).

Table 3. Research which investigates industry returns

Authors	*Data*	*Findings*
Heston and Rouwenhorst [1994]	829 firms from 12 European countries and 7 industry categories from 1978 - 1992.	Industry indices are less volatile and more correlated than country indices. Cross country diversification within an industry is more effective than cross industry diversification within a country.
Griffin and Karolyi [1998]	25 countries and 66 industries including Indonesia, Malaysia, Singapore and Thailand.	Industrial composition account for only a very little part of the variations in country index returns.
Baca et al. [2000]	Monthly sector and market indices of 7 countries from March 1979 to March 1999.	Industry effect increases while country effect declines.
Cavaglia et al. [2000]	21 developed equity markets including Singapore from January 1986 to November 1999.	Industry factors dominate country factors. Global industry diversification provides less risk than country diversification.
Carrieri et al.[2004]	7 weekly country returns and 18 local industry returns from G7 countries from January 1991 - October 1999.	Country is integrated/segmented only if most of her industries are integrated/segmented.
Ferreira and Gama [2005]	Daily market returns and 38 industry returns from 21 developed markets from 1974 - 2001.	Toward the end of sample period, industry diversification has become relatively more efficient than country diversification.
Baele and Inghelbrecht [2009]	Weekly data from 4 regions, 21 countries including Singapore and 18 industries from 1973 - 2007.	On average, the country specific risk is higher than the industry specific risk, unless time-varying betas are accounted for.
Eiling et al. [2012]	10 Economic and Monetary Union zone industry indices and 11 Euro country indices from February 1990 to May 2008.	Before the launch of the Euro in 1999, country effects dominate industry effects but later industry effects took over.
Bekaert et al. [2009]	Weekly portfolio returns from 23 developed countries and 26 industries from January 1980 - December 2005.	The dominance of industry factors over country factors is a short-lived phenomenon.

Besides studies using stock returns to investigate the integration/segmentation of ASEAN, other papers rely on stock return volatilities to imply this information. The advantage of this method is that it can reveal the integration of risk associated with stock returns which is a good guide to making beneficial investment decisions. For example, Bae et al. [2004] consider more than 2000 stocks from 45 emerging countries to examine the impact of investability (foreign-owned ratio) on market volatility and find a positive relationship between these characteristics of individual stocks and the integrated signal of highly investible stocks. Bekaert and Harvey [1997] analyse the reasons behind varying volatility across markets and find that capital market liberalization often increases the correlation between the local and the world markets, but does not increase local market volatility. However, since all these papers use market indices to work with return volatility, they ignore the issues at the industry/sector level, so the benefits of industry investment diversification might be hidden by the integration implication at the country level.

Grier et. al. [2004] use a bivariate VARMA–MGARCH – asymmetric BEKK model to study the effects of growth volatility and inflation volatility on average growth and inflation rates. Elder and Serletis [2011] and Rahman and Serletis [2011] apply a bivariate VAR-MGARCH model on US data to investigate the relationship between oil price uncertainty and economic activity. Building on these papers, Rahman and Serletis [2012] estimate a bivariate VARMA-MGARCH-asymmetric BEKK model to investigate the relationship between oil price and economic activity using quarterly Canadian data from January 1974 to January 2010. The advantage of this model is that it can capture the time-varying simultaneous interdependence of dependent variables in a system. It can also reveal the time-varying interaction of conditional return volatilities across returns as well as among these conditional volatilities. In addition, this model can measure the asymmetric effects of positive and negative shocks on dependent variables, and can be used to investigate the causal effects between dependent variables. To the best of our knowledge, no published paper has ever applied the VARMA-MGARCH-asymmetric BEKK model for studying the integration/segmentation of the six ASEAN countries at the industry/sector level.

3. REVIEW OF THE LITERATURE ON PORTFOLIO SELECTION

The theories of portfolio selection were developed by Markowitz [1952] and [1970] with the mean-variance paradigm in maximizing discounted expected returns, and by Merton [1973] with the ICAPM model. These theories have been applied extensively in the literature (e.g. Cohen and Pogue [1967], Levy and Sarnat [1970], Konno and Yamazaki [1991], Barberis [2000], Pastor [2000], Pastor and Stambaugh [2000], Elton et al. [2014], and Sharpe [2011]) and many related models/methodologies/approaches have been developed, (see Table 4).

For example, Grubel [1968] investigates the welfare gain and capital flows from international diversification by developing static and dynamic mean-variance models, and finds that the foreign asset demand is normal and permanent for US investors. Levy and Sarnat [1970] draw a locus of efficient portfolios to investigate the benefits of international diversification for American investors, and find that the investors are better off diversifying in developing countries. Mayers and Rice [1979] examine portfolio performance using a security market line benchmark in a Capital Asset Pricing Model (CAPM) model and confirm that an individual with better information than the market will plot above this line.

Murthi et al. [1997] propose a new measure of portfolio performance by incorporating transaction costs into the Sharpe index to examine the market efficiency of the mutual fund industry. Meanwhile, Pastor [2000] uses an asset pricing model to incorporate a prior degree of belief into a Bayesian framework to select an optimal portfolio. Pastor and Stambaugh [2000] also investigate portfolio choices using Bayesian approaches among three different asset pricing models (two risk-based models and one characteristic-based model).

Some other papers take into account the Value-at-Risk (VaR) to examine portfolio selection (e.g. Campbell et al. [2001], Ahn et al. [1999], Basak and Shapiro [2001], Alexander and Baptista [2002], Chen and Yu [2013], and Al Janabi [2014]). In particular, Campbell et al. [2001] develop a portfolio selection model in a VaR framework and use US stocks and bonds in their empirical investigation. They find that this model is useful for non-normalities, alternative time horizons and alternative risk specifications. Alexander and Baptista [2002] apply a mean-VaR model to examine the portfolio selection and find that certain risk-averse investors can select portfolios with larger standard deviation using VaR as a measure of risk.

Hui [2005] investigates the comovement between the Singaporean stock market and US and Asia Pacific stock markets using an ARIMA model and studies the diversification benefits of these international markets for Singaporean investors. Driessen and Laeven [2007] examine the diversification benefits of investors in 52 countries of different regions using the mean-variance framework of Markowitz [1952]. They find that investors from developing countries gain more from international diversification benefits than those from other countries, especially outside the country's region. Moreover, they find that investors from countries of high risk get the largest benefit of international diversifications.

Garlappi et al. [2007] extend the classical mean-variance portfolio model of Markowitz [1952] by introducing two new components to allow for the possibility of multiple priors and investor's aversion to ambiguity. Applying the model to eight monthly equity price indices from January 1970 to July 2001, Garlappi et al. (2007) find that portfolios chosen by the new model are more stable and deliver a higher out-of-sample Sharpe ratio than the traditional mean-variance model.

To overcome the inability of handling the higher order moments and parameter uncertainty in portfolio selection of Markowitz [1952], Harvey et al. [2010] apply the skew normal distribution in modelling multivariate returns in a Bayesian framework and find that the proposed model is flexible enough to allow for skewness and coskewness and heavy tails. Portfolio selection problems are also investigated under crisis market outlooks (Al Janabi [2014]) and the inclusion of all risky assets (Yao et al. [2014]). Without using a Bayesian framework and a CAPM model in portfolio selection, Shynkevich [2013] applies a technical methodology to select an efficient investment portfolio. This paper uses a set of trading rules (filter, moving average, support and resistance, and channel breakout) to examine the predictability of returns on sector and industry equity portfolios and finds evidence of intra-industry and inter-sector time-series momentum.

Empirical studies on portfolio selection in the Asian region have also been published in the literature. For example, Ibrahim [2006] examines the benefit of portfolio diversification across the US, Japan and ASEAN equity markets by studying their cointegration in a VAR model. The paper finds that diversification benefits exists in long-term investments across these markets, but short-term gains in diversifying in ASEAN markets for investors in the US might be limited due to the increasing integration of these markets to the US market.

Balli et al. [2014] investigate the return and volatility spillover effects of shocks using ASEAN sector and national indices in a univariate AR-GARCH model. The authors find that investors might be better off diversifying across countries rather than sectors in the ASEAN area. Goh et al. [2014] investigate the diversification benefit in six ASEAN stock markets (Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam) using portfolios of 25 stocks in each country and find that Malaysian investors can benefit from diversifying in these markets.

Table 4. Researches on Portfolio Selection

Methodologies	Authors	Data	Findings
Mean-variance paradigm in maximizing discounted expected returns.	Markowitz [1952], [1970]		Theoretical research
Inter-temporal CAPM model.	Merton [1973]		Theoretical research
Dynamic mean-variance models between two countries with constrains on three forms of holding wealth: real assets, money and bonds.	Grubel [1968]	11 major stock market returns from 1959 to 1966.	The international diversification of portfolios is the source of world welfare gains from international economic relations. International capital movements are a function of interest rate differentials and growth rates in total asset holding.
Draw a locus of efficient portfolios between mean returns and their variances.	Levy and Sarnat [1970]	28 stock market returns from 1951-1967	Investors are better off diversifying in developing countries.
Using security market line benchmark in a CAPM model.	Mayers and Rice [1979]	Theoretical research	An individual with better information than the market will plot above this line.
Draw the sample estimates of securities' parameters toward their historical grand average.	Frost and Savarino [1986]	25 randomly selected securities on NYSE from January 1953 to August 1971.	Portfolio performance could be improved with this informative prior.
Incorporating transaction cost into Sharpe index to examine efficiency of mutual fund industry.	Murthi et al. [1997]	2083 mutual funds for the third quarter of 1993.	The mutual funds are all approximately mean-variance efficient.
Use asset pricing model to incorporate a prior degree of belief into a Bayesian framework to select an optimal portfolio.	Pastor [2000]	Returns of value-weighted portfolio of all stock listed on NYSE from January 1926 to December 1996.	Prior degree of beliefs is very strong.
Bayesian approaches among two risk-based models and characteristic-based model.	Pastor and Stambaugh [2000]	Investors who update their prior beliefs for 1963-97.	Different degrees of belief affect the portfolio selections in these models.
VAR model.	Barberis [2000]	Monthly US Treasury bills and NYSE stock returns from June 1952 to December 1995.	Investors with a long investment horizon of 10 years allocate more to stocks than those with a short horizon of 1 year.
Value-at-Risk frameworks.	Ahn et al. [1999], Basak and Shapiro [2001], Campbell et al. [2001], Alexander and Baptista [2002], Chen and Yu [2013], and Al Janabi [2014]		Campbell et al. [2001]: This model is useful for non-normalities, alternative time horizons and alternative risk specifications. Alexander and Baptista [2002]: Certain risk-averse investors can select portfolios with larger standard deviation using Value-at-Risk (VaR) as a measure of risk.
Autoregressive integrated moving average (ARIMA) model.	Hui [2005]	Stock returns of Singapore, the US and Asia Pacific stock markets.	Singaporean investors can diversify their portfolios in the US, Australia, Japan and Taiwan. Whereas, the markets of Hong Kong, the Philippines, South Korea and Thailand are not beneficial for their diversification
Mean-variance framework of Markowitz [1952].	Driessen and Laeven [2007]	52 countries in different regions.	Investors from developing countries gain larger international investment, especially outside the country's region. Investors from high country risk get larger benefit of international diversifications.
Develop Markowitz [1952] introducing two new components to allow for the possibility of multiple priors and investor's aversion to ambiguity.	Garlappi et al. [2007]	Monthly price index returns from developed countries from January 1970 - July 2001.	Portfolios chosen by the new model are more stable and deliver higher out of sample Sharpe ratio than the traditional model.
Applying the skew normal distribution in modelling multivariate returns using Bayesian framework.	Harvey et al. [2010]	Daily stock and fixed income returns from July 2001 to June 2006.	This model is flexible enough to allow for skewness and coskewness and heavy tails.
Apply a set of trading rules (filters, moving average, support and resistance, and channel breakout).	Shynkevich [2013]	Daily Dow John US index and ten ICB industry indices from December 1991 to December 2011.	There are evidences of intra-industry and inter-sector time series momentum.
Cointegration analysis in VAR model.	Ibrahim [2006]	US, Japan and ASEAN equity returns.	Diversification benefits exists in long-term investment across these markets but short-term gains in diversifying in ASEAN markets for investors in the US might be limited due to the increasing integration of these markets to the US market.
AR-GARCH model.	Balli et al. [2014]	Weekly stock returns of ASEAN6 countries and China, Europe, Japan, US from 1990-2013.	Investors might be better off diversifying across countries rather than sectors in ASEAN area.
Index calculation.	Goh et al. [2014]	Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam.	Malaysian investors can benefit from diversifying among these selected ASEAN markets.

Some papers use fund price indices to examine portfolio selection. For example, Ng [2002] investigates the investment strategies in ASEAN-5 closed-end funds using daily price indices, while Muhamad and Nawawi [2011] evaluate the performance of 51 Malaysian international unit trust funds with Malaysian and international benchmark indices using the Modigliani and Modigliani [1997] model.

Although the literature has devoted much attention to portfolio selection in ASEAN stock markets, it somewhat ignored the issue of international diversification among ASEAN6 industries from the point of view of specific investors. The only exception is Balli et al. [2014], who find that investors are better off diversifying across ASEAN countries rather than ASEAN sectors in gaining a diversification benefit. But Markowitz [1952] suggests that investors should diversify across industries to utilise the cross-industry low covariance. These contradictory findings might serve as a motivation for further research of the benefits of diversification among the ASEAN6 stock markets and their industries for specific investors.

4. REVIEW OF THE LITERATURE ON ASEAN6 CAPITAL MARKETS

Over nearly 50 years, since its establishment in 1967, the role of ASEAN has been increasing significantly in global economic activities and has been a focus of investors and academia alike. Hill [1994] performs an analytic survey on ASEAN economic development and finds that this group is attractive due to its economic performance, policy regimes, institutional arrangements and intellectual contributions.

Different aspects of ASEAN economic cooperation and integration have been investigated in the literature. For example, Plummer [1997] and Naya and Plummer [1997] review ASEAN economic integration and development and confirm that ASEAN has made remarkable strides in economic cooperation. Meanwhile, lots of suggestions have been made to improve the economic integration of ASEAN. For example, Naya and Plummer [1991] examine the economic cooperation of ASEAN in the new international economic environment and suggest that ASEAN needs to improve its intra-regional cooperation in order to take the advantage of its own markets and resources. Pangestu et al. [1992] suggest that each ASEAN country should continue to liberalize, improve the investment climate and remove bottlenecks such as poor infrastructure. Soesastro [2005] proposes principles and core elements to accelerate ASEAN economic integration such as free and open investment, trade liberalization, service sector liberalization, infrastructure development and institutional mechanisms. Bhattacharyay [2009] raises the need to enhance ASEAN infrastructure cooperation to achieve Asia-wide connectivity and integration. Issues related to the ASEAN Economic Community are also investigated in Wei-Yen [2005] and Plummer and Yue [2009].

Other papers focus on the trade among the ASEAN countries as well as between them and other countries and regions. For example, Akrasanee [1983], Sekiguchi [1983], and Yamashita [1991] investigate the trade and investment relationship between Japan and the ASEAN countries, whereas, Kreinin and Plummer [1992] assess the effect of the North American Free Trade Area on ASEAN and South Korea using a commodity matching technique and suggest ways to minimize adverse impact such as enhancing regional integration programs. Zhang and Hock [1996] and Chirathivat [2002] investigate the trade and investment relationship between ASEAN and China and find that the trade between them is small as a share of their total trade. This is also confirmed by Cai [2003], Wong and Chan [2003] and Laurenceson [2003]. Other authors research the relationship between ASEAN and Pacific economic cooperation (Yam et al. [1992]), the policy coherence with OECD (Tan et al. [1995]), ASEAN+3 (Stubbs [2002], Beeson [2003]), the political relation with China (Zha [2002]), ASEAN Free Trade Area (AFTA) and the Asian crisis (Elliot and Ikemoto [2004]), the role of AFTA (Tongzon [2005]), and the 2007-2008 Global Financial Crisis (Gimet and Lagoarde-Segot [2011]).

Several other authors investigate the relationship between the economic development of ASEAN countries and other factors, such as the role of small and medium industries (Bruch and Hiemenz [1984]), political underpinnings (Mackie [1988]), tourism (Walton et al. [1993], Var et al. [1999]), economic growth (Tongzon [1998]), foreign direct investment (Fan and Dickie [2000]), educational policy (Booth [1999]), economic model (Kojima [2000]), cooperation (Tan [2003]), services (Gani and Clemes [2002]), new regional agreements (Harvie and Hyun-Hoon [2002]), transnational corporation and technology (Giroud [2003]), electricity consumption (Yoo [2006]), and technology development (Wang and Chien [2007]).

In particular, Sharma and Chua [2000] investigate the relationship between intra-regional trade and the economic growth of ASEAN (Indonesia, Malaysia, Philippines, Singapore and Thailand) using a gravity model. They find that the trade in these countries is positively correlated with the size of the economy and the ASEAN integration scheme does not increase intra-trade among these countries. Tan [2004] examines trade and investment laws and policies in ASEAN countries to see whether the ASEAN economic integration goes beyond a free trade area, and finds that it is hard to see ASEAN becoming a common market by 2020. Petri et al. [2012] examine the benefit of the ASEAN Economic Community (AEC) applying a general equilibrium analysis and find that AEC could create gains similar to those resulting from the EU. Whereas, Bayoumi and Mauro [2001] find that ASEAN is less suited for a regional common currency than the EU but suggest a firm political commitment is needed by ASEAN countries to get this common currency.

However, all these papers examine somewhat different aspects of the economic development of ASEAN, and the most comprehensive reviews by Hill [1994] and Naya and Plummer [1997] are rather old compared to the recent volatile economic relations.

As shown in Table 5 various empirical research on the integration of ASEAN stock markets has been done. The literature finds that the degree of the integration of ASEAN countries has increased. For example, Ahmed and Tongzon [1998] use a VAR model of quarterly real GDP to investigate the economic linkages among ASEAN countries and find that ASEAN economies are more vulnerable to the US than to Japan. Other studies use stock market data to examine the integration of the stock and bond markets of ASEAN countries. For instance, the stock markets of 5 ASEAN countries (Indonesia, Malaysia, Philippines, Thailand and Singapore) are examined by Palac-McMiken [1997], Shabri et al. ([2008], [2009]), Ahmed and Sundararajan [2009], Lau et al. [2010], Salina and Shabri [2012], Md-Yusuf and Rahman [2012], while the development and integration of ASEAN bond markets are examined by Plummer and Click [2005], and the ASEAN stock market integration after the Asian financial crisis is investigated by Click and Plummer [2005].

However, not much attention has been devoted so far to the integration/segmentation of ASEAN stock markets at the industry/sector level. There are only a few papers in this field, such as Baele and Inghelbrecht [2009], Bekaert et al. [2009], Bruner et al. [2008], Cavaglia et al. [2000], Ferreira & Gama [2005], Griffin and Karolyi [1998] and Balli et al. [2014]. In particular, there is no paper in the literature applying a VARMA-MGARCH-asymmetric BEKK model to investigate the integration of ASEAN industries.

Among ASEAN6, the literature on the development of the Vietnamese capital market is rather limited. Some authors investigate different aspects of Vietnam in relation to ASEAN. For example, Tuan [1994] explores the economic, political and security implication of ASEAN for Vietnam, Dollar [1996] and Truong and Gates [1996] examine the economic reform, openness and transformation, Thanh [2005] examines Vietnam's trade liberalization and international economic integration, and Leung [Leung 2009] writes about the reforms in the banking and financial sectors of Vietnam.

Table 5. Research on ASEAN capital markets

Authors	*Methodology*	*Findings/Suggestions*
Hill [1994]	Analytic survey	ASEAN area is attractive due to its economic performance, policy regimes, institutional arrangements and intellectual contributions.
Plummer [1997] and Naya and Plummer [1997]	Analytic survey	ASEAN has made remarkable strides in economic cooperation.
Naya and Plummer [1991]	Analytic survey	ASEAN needs to improve its intra-regional cooperation in order to take the advantage of its own markets and resources.
Pangestu et al. [1992]	Analytic survey	Each ASEAN country should continue to liberalize, improve the investment climate and remove bottlenecks.
Soesastro [2005]	Analytic survey	Principles and core elements to accelerate ASEAN economic integration: free and open investment, trade liberalization, service sector liberalization, infrastructure development and institutional mechanisms.
Bhattacharyay [2009]	Analytic survey	Enhancing ASEAN infrastructure cooperation to achieve Asia-wide connectivity and integration.
Sharma and Chua [2000]	Gravity model	The trade in ASEAN countries is positively correlated with the size of the economy and the ASEAN integration scheme does not increase intra-trade among these countries.
Ahmed and Tongzon [1998]	VAR model	ASEAN economies are more vulnerable to the US than to Japan.
Palac-McMiken [1997]	Cointegration analysis	The stock markets of Malaysia, Thailand, the Philippines and Singapore are linked with each other, but not with Indonesia. During 1987-95, these markets are not collectively efficient, stock price movements can be predicted.
Shabri et al. [2008], [2009]	Cointegration and Generalised Method of Moments (GMM)	The stock markets of Indonesia, Malaysia, the Philippines, Singapore and Thailand are integrated among themselves and with US and Japan, implying the long-run diversification benefits across the ASEAN markets tend to diminish. Different causal relations are found between ASEAN stock markets and those of the US and Japan.
Ahmed and Sundararajan [2009]	Analytic survey	ASEAN equity markets appear to have become more integrated with those of other countries outside the region than within the region. Several factors cause the limitation of regional integration: (1) large differences in the market development, (2) lack of convergence of regulations and rules governing markets, (3) difference in the measures which are incorporated into national development plans, (4) prevalence of exchange restrictions and (5) the missing markets.
Lau et al. [2010]	VAR model	Stock markets of Indonesia, Malaysia, the Philippines, Singapore and Thailand are integrated both pre- and post-Asian crisis.
Md-Yusuf and Rahman [2012]	VAR model	There is feedback interaction between stock market and exchange rate volatility in Malaysia. There is no causality between stock market and exchange rate volatility in Indonesia, the Philippines and Singapore.
Balli et al. [2014]	Univariate AR-GARCH model	Regional and global shocks have different influences on the ASEAN-wide sector and national equity indices. ASEAN-wide sector returns are mostly driven by local shocks. Investors might be better off diversifying their assets across countries rather than sectors in ASEAN area.
Narayan and Narayan [2010]	Cointegration and Garanger causality tests	Stock price, oil prices and nominal exchange rates of Vietnam are cointegrated.
Nguyen and Bhatti [2012]	Copula model	There is left tail dependence between international oil price changes and Vietnamese stock market.
Dong Loc et al. [2008]	Autocorrelation test, Runs test, Variance-ratio test	Vietnamese stock market is weak-form efficient.
Boubakri and Guillaumin [2015]	ICAPM in multivariate DCC-GARCH model	East Asian stock markets were partially segmented within the region until 2008 then integrated. Risk premium related to regional stock markets is significant for all countries.
Chien et al. [2015]	VAR model	China and ASEAN5 stock markets have at most one cointegrating vector, and the integration between China and ASEAN5 has gradually increased .

In general, the Vietnamese capital market is scarcely investigated with only a few papers focusing on some specific aspects of this market. For example, Nguyen and Ramachandran [2006] and Kim and Mckenzie [2007] investigate the determinants of the capital structure of Vietnamese enterprises. Khaled and Le [2009] study the impacts of domestic and US economic indicators on Vietnamese stock prices, and find a significant relationship between these variables. Narayan and Narayan [2010] and Nguyen and Bhatti [2012] examine the relationship between oil prices and the stock markets of Vietnam.

However, to the best of our knowledge, no paper in the literature has so far provided a comprehensive summary of the development of the Vietnamese capital market. The most complete study on the development of this market is Dong Loc et al. [2008], however, it considers only trading on the Ho Chi Minh Stock Exchange (HSX) up to 2005, without considering price limits and settlement cycles which are important indicators that help define the level of development of a capital market.

5. CONCLUDING REMARKS

Capital market integration and its investment implications have been investigated extensively in the literature. A great variety of models and methodologies have been applied to examine various aspects of capital market integration/segmentation but they can be grouped into a limited numbers of models such as VAR models, GARCH models, Copula models, and factor models. Various studies on portfolio selection have applied the theories of Markowitz [1952] and [1970] and Merton [1973] on different models. However, while most of the models have applied Bayesian frameworks, CAPM models, VAR and GARCH models, there is a lack of application in complicated models like multivariate VARMA-MGARCH-asymmetric BEKK models. Most studies in the literature have used country stock market returns to investigate the issues of integration/segmentation and portfolio diversification. There has been a shortage of studies investigating integration/segmentation at industry/sector levels to assess investment diversification.

In addition, this study finds that the stock markets of ASEAN6 and their international diversification benefits have not received sufficient attention and most of them have relied on VAR and/or GARCH models. The data used in those studies are also mainly at the country level, and there has been a scarcity of studies examining integration/segmentation of ASEAN industries/sectors. It is also clear that in spite of its rapid growth in the last fifteen years, the Vietnamese stock market has not been explored intensively in the literature. Consequently, the beneficial risk diversification opportunities might not be fully appreciated by worldwide investors.

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HOW MUCH DO CEOS INFLUENCE RISK ATTITUDES IN A FIRM'S INTERNATIONALIZATION? EXPLORING CHINESE MINING SOES AND NSOES

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Abstract

This paper provides an insight into comprehending Chinese firms' strategic behaviour on risks in outward foreign direct investment (OFDI). Qualitative case studies, based on eight Chinese mining state-owned and non-state-owned enterprises (SOEs and NSOEs). The findings suggest that: (a) the characteristics of CEOs (Chief Executive Officers) of both SOEs and NSOEs significantly influenced the firms' internationalization risk attitudes; (b) the tenure of CEOs led to SOEs' periodical and NSOEs' perennial risk attitudes; (c) CEOs' personalities and tenure tend to drive the directions of risk attitudes, while CEOs' experiences and remuneration were linked with risk intensities. These results support the upper echelons theory, suggesting that in understanding different ownership types of Chinese firms' internationalization risk attitudes, CEOs' characteristics should be investigated.

Keywords: Risk Attitude, China, SOEs, NSOEs, Upper Echelons Theory

1. INTRODUCTION

One of the important research strategy themes over the past 30 years has been the role of top management (Lewin & Stephens, 1994; Papadakis & Barwise, 2002). Both strategic management researchers and international business have examined the relationships between CEO characteristics and their influences on firms' strategic decisions (Cannella et al., 2008). Hambrick and Mason (1984) proposed the upper echelons theory suggesting that executives' experiences represent valid proxies for their cognitions, values, skills, and knowledge bases. These factors represent powerful explanations for variations in their strategic choices (Herrmann & Datta, 2006).

Internationalization in the mining industry involves more risky investments, but how to engage the firm Chief Executives Officers (CEOs) to work for the benefit of the firm's owners is not well understood, especially from the emerging country perspective. Mining internationalization is a relatively high-risk action and a vital issue in outward foreign direct investment (OFDI). Although risk is present in various forms and levels (Rockett, 1999), it becomes most apparent in large-scale investments. These large-scale investments are required in the mining sector, which can result in significant budget overruns, delivery delays, failures, financial losses, environmental damages, and even injuries or loss of life (Beer & Ziolkowski, 1995).

To fill some of these gaps, this paper focuses on the following research questions. (a) How much do CEOs matter in Chinese firm's internationalization risk attitudes? (b) Do CEO characteristics have same impacts towards firms risk attitudes in different ownership types of firms? (c) How these CEO characteristics have influenced SOEs and NSOEs' internationalization risk attitudes? These questions are addressed within the context of the Chinese mining industry because it is one of the most dominant sectors in China's outward foreign direct investment (OFDI) (MOFCOM et al., 2015), and accounted for nearly a quarter of the country's OFDI between 2004 and 2013 (Ren, 2014).

2. BACKGROUND & LITERATURE REVIEW

2.1. Chinese firms' most powerful actors: 'yi ba shou' (一把手)

Hambrick and Mason's (1984) upper echelon perspective articulates a model that highlights the organization and strategic decisions as reflections of its top managers. This important aspect of strategic management research concerns how leaders, specifically chief executive officers (CEOs), affect firm strategy (Barnard, 1938). Pettigrew (1992: 178) noted that 'rather than assuming titles and positions as indicators of involvement, the first task … is to identify which players are involved and why'. This is echoed by Jackson's (1992) call to examine strategic issue processing groups. In China, the top executive does not always bear the title CEO, but may be referred to as a board director, chairperson or founder. This single most powerful actor in both SOEs and NSOEs refers to the 'yi ba shou' (一把手) in Chinese. The 'yi ba shou' of SOEs are important people within the Communist Party framework (Naughton, 2006) while 'yi ba shou' of NSOEs are normally the founders or top leaders and/or the owners of the firms. CEOs of SOEs are the managers separated from the owners of the firm (state assets). Hereafter in this paper, regardless of his or her actual title in practice, top leader, CEO and yi ba shou will be used interchangeably, all referring to the most powerful actor of Chinese firms.

According to upper echelon theory, if we want to understand why firms perform certain actions, we must consider the biases and dispositions of their most powerful actor (Hambrick, 2007). CEO's characteristics have been shown to affect strategic decision processes and strategic actions (Miglani, 2014; Nadkarni & Herrmann, 2010). The strategic choices made in firms reflect the values and cognitive bases of the powerful actors. The values and cognitive bases of the CEO are a function of observable characteristics, such as their tenure, international experience or remuneration (Carpenter et al., 2004), and demographic profiles of top executives are closely related to strategic decisions (Boeker, 1997; Eisenhardt & Schoonhoven, 1990; Faccio et al., 2015; Pettigrew, 1992). So four key aspects are considered the most significant influences: tenure, experience, personalities, and remuneration. What follows is a short summary (description and empirical evidence) of these characteristics.

2.2. The four key aspects of demographic and observable CEO characteristics

First, tenure is considered. From the length of a CEO's tenure, some claim that greater firm experience with longer firm tenure is associated with greater commitment to the status quo (Hambrick & Cannella, 1993). Eisenhardt (1989) also suggests higher efficiency is linked with longer duration of a relationship between an agent and principal. This greater efficiency can be explained as greater experience of complex managerial environments (Herrmann & Datta, 2006). However, other evidence suggests that longer firm tenure is associated with adopting less risky strategies (Finkelstein & Hambrick, 1990; Herrmann & Datta, 2006; Wiersema & Bantel, 1992). A CEO's tendency to take risks is reduced as their tenure gets longer. Also, CEOs nearing retirement exhibit a growing aversion to risk within their tenure (Matta & Beamish, 2008). This risk tendency might develop because longer tenure tends to be associated with a narrower, more limited knowledge base (Rajagopalan & Datta, 1996).

In China, there are Central SOEs, Provincial SOEs and Collective Enterprises at urban/rural levels, from the highest to the lowest in the hierarchical setting (Ren, 2014). Officially, Chinese Central SOEs' CEOs are appointed by SASAC (the State-Owned Assets Supervision and Administration Commission) every four years, starting from 2000 (SASAC, 2012). Appointments are under the Central Committee of the Communist Party of China's (CPC) authority (Groves et al., 1995; Hu & Leung, 2012; Li & Zhou, 2005; SASAC, 2012). CEOs of Provincial SOEs and Collective Enterprises at urban/rural levels have more flexible tenure, ranging from four years to more than ten years; but the appointments are ambiguous in terms of transparency (Ren, 2014). Conversely, there is no governmental intervention in the appointments of NSOEs' top executives. In NSOEs, the founders of the firms and the CEOs are normally the same person, who is in charge of the company as the 'yi ba shou'.

Second, experience is considered. The central tenet of the upper echelons theory is that executives create a 'construed reality' of a firm's strategic situation based on their experiences, which, in turn, leads to specific strategic choices (Herrmann & Datta, 2006). The CEO's experiences here include international experience, industry experience, and tacit knowledge (Agarwal & Ramaswami, 1992; Brockmann & Simmonds, 1997; Carpenter et al., 2004; Contractor & Lorange, 1988; Kim & Hwang, 1992). The tacit knowledge is work-related practical know-how that is learned informally on the job (Wagner & Sternberg, 1986). Ansoff (1988) posits that knowledge, particularly which related to strategy, can only be gained tacitly or experientially. This kind of tacit knowledge is particularly germane to strategic decision-making as it contains job tenure, industry tenure, and intuition that are the essential factors in forming the cognitive perceptions in the strategic decision-making processes (Brockmann & Simmonds, 1997).

Previous research has provided ample evidence of relationships between the CEO's experiences and the firm's strategies (Herrmann & Datta, 2006). For example, it is commonly accepted that international experience has a positive impact on internationalization (Agarwal & Ramaswami, 1992; Contractor & Lorange, 1988; Kim & Hwang, 1992). Herrmann and Datta (2006) investigated positive effects between a CEO's international experience and the firm's internationalization. Among all kinds of tacit knowledge (education background, overseas experience, international view, past working experience), the executives' international business experience is the primary influence on a firms' competitive advantage (Daily et al., 2000).Industrial and managerial experience gained through international business, is the dominant factor affecting venture growth (Lee & Tsang, 2001).

Third, the question of personalities is considered. Scholars have considered an array of 'human factors' that cause decision makers to vary in their risk-taking tendencies or to deviate from objectively warranted behaviours. It is well known that human judgments, interpretations, and preferences all enter into risk-taking behaviours (Shapira, 1995). A CEO's personality is important in reflecting the firm's strategy (Miller & Dröge, 1986; Miller & Toulouse, 1986; Peterson et al., 2003). It can affect the dynamics of the top management team, and becomes influential in determining firm strategies (Pettigrew, 1992). For instance, CEOs with a higher willingness to take risks can influence other managers with similar characteristics to also be willing to take more risks (Williams & Narendran, 1999). In other scenarios, some individuals just have more of a fundamental risk appetite than others (MacCrimmon & Wehrung, 1990; Sitkin & Pablo, 1992).

While the prior likelihoods of various outcomes are largely unknowable and contingent on a myriad of eventualities (Mintzberg et al., 1976), CEO's personality towards risk taking is particularly relevant and the interpretive act is not so much exclusive as an economic calculation (Shapira, 1995). For instance, a CEO's individual willingness to take risks influences managerial beliefs about the perceived risks of decisions (Williams & Narendran, 1999). Achievement-oriented CEOs also feel the need to take personal control and assume responsibility for strategic activities (Nadkarni & Herrmann, 2010: 1053). Therefore, they have a strong need to reduce uncertainty and to receive specific feedback on their performance (Judge et al., 2002).

Fourth, the aspect of remuneration is considered. Agency theory suggests that 'agency problems often characterize firms', wherein managers pursue strategies that reflect their personal goals and interests rather than those of shareholders (Fama & Jensen, 1983). Theoretically, managerial incentive payoffs can mitigate the effects of agency problems and CEO risk aversion, so that CEOs are more willing to take on risky projects (Coles et al., 2006). Coles et al. (2006) provide evidence of a strong causal relationship between managerial compensation, and investment policy as well as firm risk.

Chinese firms are plagued by agency problems due to weak management incentive schemes and restricted decision-making power (Chang & Wong, 2004; Ren & Li, 2014). Conyon and He (2011) found that executive pay and CEO incentives are lower in SOEs and firms with concentrated ownership structures. Besides, the evidence suggests that political promotion helps mitigate weak monetary incentives, and political incentives can substitute for direct monetary incentives for CEOs in China (Cao et al., 2011).

3. RESEARCH METHODOLOGY

This investigation is exploratory, phenomenological and framed within an interpretive research paradigm. It adopted a qualitative method with multiple-case studies. Qualitative research has three characteristics: 1) it seeks to understand the world through interacting, empathizing and interpreting the actions and perceptions of its respondents; 2) the data are collected in a natural setting, rather than in the laboratory; and 3) it tends to generate, rather than test, theory (Bryman & Burgess, 1999). Amongst all qualitative research methods, the multiple-case studies method provides an opportunity for one aspect of a problem to be studied in depth, and offers the possibility to investigate the unique and common features of organizations as well as their interactive processes (Bell, 2005).

Following Yin's (2009) approach, the author conducted 40 semi-structured in-depth interviews across eight Chinese mining firms between 2010 and 2011, including 4 SOEs and 4 NSOEs . They were equal in size and in involvement in internationalization activities. Triangulation was applied to ensure the validity of the process by using multiple secondary data sources (Yin, 2009) such as internet sources, company archives, observations and field notes. This supplementary information was also effective in cross-checking the interview data consistency.

4. FINDINGS AND DISCUSSION

4.1. CEO/yi ba shou (一把手): the key influencer of the SOEs and NSOEs' internationalization risk attitudes

This study has provided new evidence supporting the upper echelon theory from both Chinese SOEs and NSOEs, where the CEOs/ yi ba shou are the key influential factors reflecting the companies' internationalization risk attitudes, with some variation. Specifically, the interview data reveal Chinese mining SOEs have more diversified risk attitudes in internationalization and NSOEs have more persistent risk attitudes. This difference can be explained in three ways: first, there are industry factors. Empirical studies have shown industry factors to be the primary determinants of a firm's internationalization (Lu et al., 2011). In this study, mining internationalization activities are commonly lengthy, costly and risky. Second, there are ownership advantages. Due to ownership differences, SOEs have occupied more ownership advantages than NSOEs domestically. The abundance of resources available between SOEs and NSOEs also contributed to this difference. Third, there are CEO characteristics. Amongst these factors, the respondents concurred that the firms' internationalization risk attitudes were mainly determined by the CEO/yi ba shou. This influence impacted both Chinese mining SOEs and NSOEs.

A senior SOE manager said:

'The corporate culture and company strategies are the culture and strategies of the bosses'.

A senior NSOE manager stated:

'Our firm is very cautious about the international investments and CEO's preference is the key. It is his business after all.'

Building on the upper echelon theory, a new framework is proposed to illustrate the dynamics of CEO characteristics and firm's internationalization risk attitudes (see Figure 1).

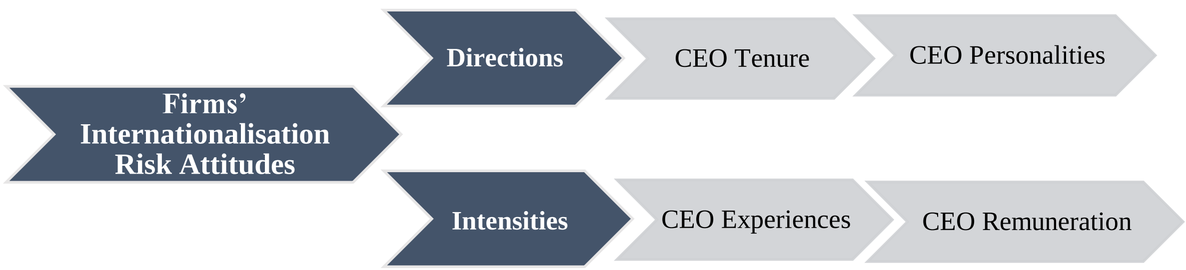

Figure 1. The Dynamics of CEO Characteristics and Chinese Firms' Internationalization Risk Attitudes

4.2. Duration of CEO tenure led to SOEs' periodical and NSOEs' perennial risk attitudes

The difference in length of CEO tenure caused SOEs' periodical and NSOEs' perennial risk attitudes. Although it has been widely recognized that SOEs should abolish the administrative levels and separate the party and government to improve its transparency and corporate governance (Ren & Li, 2014), the CEO/ yi ba shou appointments are still heavily embedded within the Communist Party framework. The respondents detailed the process. To appoint or dismiss Central SOEs' CEO/ yi ba shou, the Politburo Standing Committee of the Communist Party (PSC, 政治局常委会) has the power, with assistance by Central Organization Department (COD, 中组部) and SASAC (the State-Owned Assets Supervision and Administration Commission，国资委) (SASAC, 2015). Similarly, the Provincial Party Standing Committee (PPSC, 省委常委会) has the power to appoint and dismiss the Provincial SOEs' CEO/ yi ba shou, associated with the People's government of a province, autonomous region or municipality directly under the Central Government and Provincial SASAC and Provincial Organization Department (POD, 省委组织部).

In this study Central and Provincial SOEs' CEOs' tenure lasted from four to ten (4-10) years. This variation might be caused by the absence of the state-owned assets supervision and management system till SASAC's establishment in 2003 (SASAC, 2015). Under SASAC's supervision and management, the tenure were reviewed and regulated to approximately four years. According one of the senior managers of the Central SOE, the duration of CEO tenure was ambiguous in the past. He said:

There is no clear tenure set for the SOEs' CEOs from SASAC. If the CEO does not get promoted after three to five years in that position, it means he is recognized as a failure. That is why every new CEO would try to achieve his target within that timeframe. With every CEO's new aims (normally this includes internationalization plan), the strategies of the firm were then set to ensure the achievements.

This appointment mechanism behind the SOEs' CEO tenure duration directly caused the CEOs to behave differently towards internationalization strategies to align with his/her overall strategic targets. From the firm perspective, the risk attitudes associated with internationalization activities have shown a periodical variation due to the periodical re-appointment/ changes of CEOs.

Unlike the SOEs, in the Chinese mining NSOEs, the top leader, founder, owner and/or CEO/yi ba shou are usually the same person. Their tenure duration were the length of their NSOE's company histories. Agency theory suggests that the longer the tenure of a relationship between an agent and a principal, the more efficient it is (Eisenhardt, 1989). Our study revealed that NSOEs' CEOs understand the firms significantly better than those from SOEs. The duration of the tenure had been at least ten years. While there are no tenure restrictions to the CEO/yi ba shou of the NSOEs, the NSOEs' risk attitudes were more consistent. As a result, NSOEs have a relatively perennial internationalization risk attitudes compared to the SOEs. Under the same principle, the NSOEs' internationalization strategies are more persistently established.

Therefore, the first proposition is proposed as following:

P1: CEO duration of tenure led to SOEs' periodical and NSOEs' perennial internationalization risk attitudes.

4.3. Directions of risk attitudes

The study reveals that both CEO tenure and personalities contributed to the general directions of the firms' internationalization risk attitudes. Specifically, the directions included 'risk tolerating', 'risk averse' or, more extremely, 'risk escape' or 'risk taking'. The Vice Principal of a SOE provided an example to illustrate this dramatic shift due to a change of CEO:

We had overseas risk explorations around 1984 to 1985. We were the pioneers of the industry that time. After our then leader (yi ba shou) had a car accident, these trails dried up from the lack of support from the new CEO. We did not take any risk internationally for quite a while.

CEOs at different stages of their tenure can also shift the firm's internationalization risk directions. For instance, a CEO/yi ba shou approaching retirement adopts a very conservative risk attitude: they can be 'risk averse' (taking minimum internationalization to avoid risks), or even 'risk escape' (not taking any internationalization to exclude risks and/or prevent failures). This finding supports the work of Matta and Beamish (2008), who also found that CEOs nearing retirement exhibit a growing aversion to risk. Another senior manager of a SOE said:

Our former CEO was very conservative. All he wanted was stability to wait till his retirement. He did not fancy about taking any risks – the more he does, the more chances for him to make mistakes. We lost quite some facinating investment opportunities overseas around that period.

Managers' personalities play a significant role in firm-level strategies (Musteen et al., 2010). The CEO's/yi ba shou personality and their willingness to take risks have been a strong factor in determining the SOEs and NSOEs' internationalization risk attitudes. Because of the duration of tenure, different SOEs' CEOs have shown different personal approaches towards risks. If some are more adventurous, it is more likely for the SOE to actively conduct and explore more internationalization activities during their tenure. Frequently, this kind of CEO is described as ambitious, challenging, creative, energetic or achieving. Some are more conservative, and internationalization activities tend to be minimized during their tenure (risk aversion/risk escaping). This type of CEO is identified as conservative, steady, not a high achiever but seeking less failure. The description of personalities here may not be limited to psychological characteristics but may also be affected by the CEO's gender, tenure (especially if close to retirement), industry and corporate experience.

Nevertheless, personal character can shift the same firm's internationalization risks attitudes from one direction to the opposite-- changing from 'risk escape' to 'risk taking' because of the new CEO's 'radical' personality:

For example, our new CEO arrived in 2007 and set his target to be 'double the firm in four years'. This new target set by the new CEO means all strategies and activities will serve the purpose to achieve this – aggressive developments and thinking – even sometimes contrary to national policies. The CEO's working style and personality have a direct impact on the risk attitudes. We used to be relected in taking internationalization under the previous CEO's leadership.

In a sense, SOEs' CEOs' myopic considerations near retirement and the political appointment of four-year tenure will focus CEOs on the short-term implications of their strategic investments, rather than on long-term considerations of firm growth (Matta & Beamish, 2008). In contrast, the direction of internationalization risk attitudes is related more to the personality of the particular CEO/yi ba shou rather than to their proximity to retirement.

Therefore, the second proposition is proposed as follows:

P2: CEO tenure and personalities shift SOEs internationalization risk attitudes' directions; CEO personalities shape NSOEs internationalization risk attitudes' directions.

4.4. Intensities of risk attitudes

The CEOs' experiences determine the intensities from the following three aspects. First, most of the NSOEs' CEOs in this study acquired and accumulated international experiences through their previous tenure with SOEs, given that Chinese mining NSOEs have short involvement in internationalization activities. Since February 2005, NSOEs in the mining sector have been officially incorporated into the state's regulations, permitting access to monopoly sectors of the economy (ACFIC, 2008; State Council China, 2005) and thereby encouraging NSOEs to invest in mining. Although the actual percentage of investment from mining NSOEs is not substantial – compared with mining SOEs – considerable progress has been made, with NSOEs currently presenting a more dynamic trend of international develop (Jiang, 2009; MOFCOM et al., 2015). Second, the tacit knowledge and relevant international experiences transferred to the NSOEs as the CEOs moved from the SOEs. This move reflects how the tacit nature of knowledge creates difficulties in transfer, as tacit knowledge is normally built from individuals' experience and therefore is rather personal (Hébert et al., 2005; Simonin, 1999; Song et al., 2003). Third, the appointments of SOEs' CEOs are not transparent, hence, the CEO/yi ba shou may have managerial experience yet no specific industrial expertise. A new CEO may take considerable time to adapt and acquire the relevant industry related basis at the beginning of their tenure, which also reinforces their risk attitudes being more conservative at that stage.

Such tacit knowledge and international experiences have influenced the risk attitudes of NSOEs to favour more international investments in general and to tolerate more risks while internationalizing. According to a NSOE CEO:

Our overseas working experience has given us a more global view of firms' development. I name this as a CEO's international vision. Internationalization is a 'must' for us while managing firms.

Our respondents pointed out that SOEs' CEO/ yi ba shou might not be motivated enough to take the extra risks to get the firm involved in the internationalization activities, given the lack of appropriate remuneration. This remuneration factor shaped their willingness to tolerate risks in firms' internationalization. SOEs' managers receive low salaries (Zhou & Wang, 2000) because it often happens that the SOE's CEO gets paid according to their party-administrative ranking instead of on their real managerial effort (Zhou & Wang, 2000). A significant feature of all SOEs is the separation of owner (state) and management (CEO/ yi ba shou). Agency theory research focuses primarily on identifying situations in which problems may arise when the goals of the agent and the principal are in conflict (Eisenhardt, 1989). According to agency theory, a situation might exist where the compensation the agent receives for his services is not tied to his performance under the contract (Eisenhardt, 1989). Given the situation, the SOEs' CEO's motivation tend to reflect their self-interests when they could choose different levels of risk acceptance. A SOE's CEO noted:

Under certain circumstances where we don't have to make extra effort to make the international investment, we can expand and invest domestically. Whether the leader of the firm is motived to take the risks is the key. Otherwise, why would we bother to take more risks and pressures, or even run the risk of being punished (by SASAC) if it fails?

There might be some benefits from the firm level, but not at the personal level. There are no incentives for these individuals. So many people are unwilling to do this (firm internationalization activities). 'Going out' policies have detailed a lot, but no policies or regulations were stated to encourage and reward the leaders of SOEs. Any OFDI project requires approvals and records from various government departments. Getting through this has already been an enourmous pressure for a firm, especially when sometimes we have to deal with governmental bureaucracies. These bureaucracies and setting of complex approval process have become a deterrent to investment. Last, the contract involved in OFDI also needs to be correctly monitored and implemented.

However, SOEs' CEOs often have implicit political aspirations as well as an explicit role as a CEO (Cao et al., 2011). Political promotion is a unique incentive to maximize firm value as a non-economic factor (Cao et al., 2011), which may work to increase CEO's risk tolerance level in firm internationalization.

This study shows that NSOEs have better internal incentive schemes providing alignment of the key elements amongst responsibilities, authority, remuneration and self-accomplishment. Also, the ownership and management are also aligned towards CEO's benefits. They seem to be a lot more responsive and rational in determining the level of engagements with internationalization activities, hence, various intensities of associated risks.

Therefore, the third and fourth propositions are proposed as:

P3: CEO international experiences, industry experiences and tacit knowledge contribute to a more 'tolerating' internationalization risk attitude.

P4: SOEs' CEO remuneration shows a paradoxical impact towards internationalization risk attitude intensities, while NSOEs' CEO remuneration promotes a more rational and responsible attitude in determining the internationalization risk attitude intensities.

5. CONCLUSION & MANAGERIAL IMPLICATIONS

The results of this study support the view that CEOs/yi ba shou influence the firms' strategic behaviour on risks in internationalization, over and above the influence of the context of institutional and firm characteristics. For the CEOs, this study found that their tenure does matter in determining the firm's internationalization risk attitudes—this is related to both the duration and stage of tenure. The variation caused by the CEO tenure impacts SOEs' periodical and NSOEs' perennial risk attitudes. The combination of CEO's stage of tenure (e.g. if approaching retirement) and personalities shift SOEs internationalization risk attitudes' directions. While only CEO's personalities shape NSOEs internationalization risk attitudes' directions. This may be attributed to the dominance of CEOs in firms' OFDI decisions and strategic target developments in Chinese firms. The findings emphasized the linkages of the CEOs' experiences (international experiences, tacit knowledge, and industry experiences) and remuneration to the intensities of firms' internationalization risk attitudes. A more paradoxical risk attitude is shown for the SOEs, and a more conservative attitude is shown by NSOEs. In terms of intensity, NSOEs have a 'conservative risk attitude'; rather than being 'risk averse', the firms are willing to carry unavoidable risks, with caution. SOEs' CEO remuneration also contributes to the firms' paradoxical risk attitudes, while NSOEs' CEO remuneration promotes a more rational and responsible attitude in determining the internationalization risk attitude.

The following implications for practice are suggested. The appointment for mining SOEs' CEOs may increase from an average of four years to ten years. Since mining investments are generally lengthy projects, increased tenure duration may increase the efficiency of the management and promote more consistent SOE internationalization risk attitudes to ensure strategic stability. Another possibility is for policy makers to reconstruct a better remuneration package (e.g. not limited to the monetary and political incentives, but also authorities) for the SOEs' CEOs, to induce them to work in a more 'stable', more responsible and more enthusiastic way. This would assist SOEs to have a relatively consistent internationalization agenda and increase risk tolerance levels.

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DETERMINANTS OF CAPITAL ADEQUACY AT THE EGYPTIAN INVESTORS COMPENSATION FUND

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Abstract

The purpose of this study is to investigate the protection system of investors in the Egyptian stock markets, using a number of econometric techniques and hand-collected data of Egyptian Investor Protection Fund over the period from 2006 to 2014. We measure the capital adequacy through two variables, which may be a benchmark in it selves or can be compared to similar regimes at developed stock markets, these variables are: the fund reserves as a percentage of market capitalisations and fund reserves available to compensate owners of the market capitalisations, which in turn depend upon the number of customers accounts subject to compensations, number of the market portfolio owners, the value of the investor securities account at every compensation fund member, number of stock traders, number of listed shares and number of transactions. Overall, there is significant positive coefficient/relationship between market capitalisation, retained earnings and reserve. However, there is significant negative coefficient/relationship between Number of listed companies and fund reserves capital.

Keywords: Investor Protection Fund, Capital Adequacy, Stock Markets, Insurance Companies, Egypt

1. INTRODUCTION

The role of investor protection regime is crucial to the development of capital markets. Investor protection regime promotes investor confidence by reassuring them that their interests are being safeguarded against market malpractices and that recourse against such malpractices is available. Issues of investor protection regimes have become starker in the context of recent high-profile revelations in the US and elsewhere that have shaken investor confidence. These touch on issues such as corporate governance, conflicts of interest, adequacy of accounting standards, auditing oversight, sell-side research, investment banking, and more recently, the late trading and market timing practices in the mutual fund industry and governance of exchanges.

Protect the interests of investors need to compensate for the losses of investor assets, repayment of the Securities. Investor Protection Fund is the most effective system of investor protection regime as it is a necessary instrument to market conditions arrangements. Securities Investor Protection Fund system for States generally accepted, and the protection of investors, play an important role in maintaining the stability and development of the securities market.

Extraterritorial Securities Investor Protection Fund compensation system is very mature, generally divided into the scope of compensation, the maximum amount of compensation, terms of compensation, and compensation program.

The Securities Investor Protection Fund compensation system is the core content of the Securities Investor Protection regime in Egypt, Construction and design of the system can achieve the purpose of the Fund and the results are a major impact. The design of the system and improvement of the compensation mechanism in Egypt should be subject to the funds were originally created to protect the interests of investors, to follow the practice of maintaining the protection of the interests of investors, and to prevent the internal mechanism of the balance of the compensation mechanism between the moral hazard such as dishonesty or character defects in an individual, that increase the chance of loss (faking accidents, inflating claim amounts). Learning from foreign mature markets; can play its due role in the protection of investors' interests, to maintain securities market stability and healthy development of the fund compensation.

According to World Bank Development Indicators (2010), Egypt is a secondary emerging economy but the importance of investor protection fund is as significant as in developed markets but unfortunately there seems a limited work on investor protection fund to focus on financial sector of Egypt. Little evidence in this context is found where studies have investigated the financing patterns of financial sectors. World Bank highlighted the determinants of target investor protection fund in African capital markets. Likewise; as consequence of financial sector importance in the development of economy; to fill the existing research gap, the study in hand is focused on financial sector to investigate the protection regime of investors in the Egyptian stock market and insurance companies in Egypt.

As seen in Table 1, the Egyptian Investors Protection Fund accepts premiums (contributions) from member firms, which are greater than the total amount paid for claims. Further, Egyptian Investors Protection Fund holds more money than the predicted pay-out in claims because it can predict on average how much should hold to pay all claims.

Table 1. Egyptian Investors Protection Fund
In (L.E)

Item	Premiums				Claims			
Quarter / Year	**First quarter**	**Second quarter**	**Third quarter**	**Fourth quarter**	**First quarter**	**Second quarter**	**Third quarter**	**Fourth quarter**
2006	46128056	28777136	30046715	36112484	828994	621746	414497	207249
2007	19693609	24058139	25229110	37471084	382162	327568	219378	162784
2008	101181768	74337625	33268382	20649340	1217631	811754	1623508	405876
2009	15869291	43909016	26965863	32573808	87158	116210	23053	64104
2010	36236159	37498742	24115353	28408138	60530	24212	20580	15738
2011	19711692	27782621	18237196	11873578	448284	672425	784496	336213
2012	12563405	16510316	14898197	11618370	14605	43816	58421	29211
2013	20858551	8481640	18156991	15329778	37394	49858	74788	87252
2014	24699402	23336676	18141285	18992988	600000	1200000	750000	450000

Source (Egyptian Investors Protection Fund EIPF, 2015)

The analysis in this paper is innovative in several ways. It is, to our knowledge, the first attempt to analyse and investigate the fund capital adequacy, using a number of econometric techniques, a set of different firm characteristic determinants and their relationship to investor protection fund in emerging markets.

The remainder of the paper is set out as follows. Section 2 is a brief literature review on the main an overview of the Securities Investor Protection Fund compensation system, so that the Egypt Securities Investor Protection Fund system can absorb. At section 3 we focus on the Egyptian Securities Investor Protection Fund system current situation and existing problems. Of existing legislation introduced a hurry, leading to more problems, many provisions not keep up with the development of the securities market, has not well protect the interests of small investors, to identify gaps in the future development, not detours for the prosperity and development of the securities market sector. At section 4 we set our thoughts on how to improve the Egypt Securities Investor Protection Fund as a compensation system. Mainly from the repayment terms, the scope of reimbursement, reimbursement object, reimbursement procedures, reimbursement limits has made the idea so that the same international standards and thus better serve the development of the securities market and safeguard the interests of investors and section 5 concludes .

2. LITERATURE REVIEW

A group of concept legal rules has been discussed by La porta et al. (1998). These rules safeguard shareholders and creditors and prevail in 49 different countries in the world. La porta et al. (1998) also grouped these rules into indicators for the rights of shareholders and creditors in each country and considered some measures of applied quality, for example, the efficiency of the judicial system and the quality of accounting standards.

David and Brierley (1985) argue that most of the countries' commercial legal systems deduce from very few legal genres. Nowadays, the commercial legal systems deployed in the world through globalisation process.

Indeed, recent researches indicate that the degree to which the legal protection of external investors against exercising of expropriation by managers or shareholders is likely to shape the differences in the financial systems of the countries. The results suggest that a higher legal protection of external shareholders is usually accompanied by: (1) stock markets of higher value (La Porta et al., 1997); (2) more listed firms (La Porta et al., 1997); (3) bigger listed firms with regards to the value of their assets or sales (Kumar et al., 1999); (4) greater valuation of the listed firms in comparison to their assets (Claessens et al., 2002; La Porta et al., 2002); (5) more dividend pay-outs (La Portaet al., 2000a); (6) less focus on control and ownership (European Corporate Governance Network, 1997; La Porta et al., 1999; Claessens et al.,2000); (7) less private benefits provided by control (Zingales, 1994; Nenova, 1999); and finally (8) a stronger correlation between opportunities for investment and actual investments (Wurgler, 2000). Numerous studies truly outline the impact of controlling shareholders on the expropriation of minority shareholders (Grossman and Hart, 1988; Harris and Raviv, 1988; Hart, 1995; Burkart et al., 1997; JohnsonS., 1999) and the legal framework that highlights it (La Porta et al., 1998; Johnson et al., 2000a). Some other studies took the initiative to explain theoretically the reason for the concentration of control in countries that are characterized by having low protection of shareholders (Zingales, 1995; La Porta et al., 1999; Bebchuk, 1999), and also the reason for the abundance of pyramidal organizational structures (Wolfenzon, 1999). Studies, such as the one conducted by Bennedsen and Wolfenzon (2000), suggest that countries characterized by poor protection of their shareholders can adopt control systems with many large shareholders.

La Porta et al. (2000) describe the legal protection of investors as a probably help procedure for corporate governance. A good investor's compensation may be a special urgent requirement for the much more important safeguarding of property rights against the interference of politics in numerous countries of the world. Additionally, good investor compensation is accompanied with effective implementation of corporate governance, as reflected invaluable and wide financial markets, dispersion of ownership of shares, and efficient capital allocation in different firms. Using investor compensation to describe differences in corporate governance regimes across countries. Furthermore, financial markets require some kind of protection of outside investors in courts, agencies of the government and participants of the market. On the other hand, systems of investor compensation are politically feasible in certain situations, and can obtain outstanding benefits. It might take the shape of adopting more protective legal systems or adding more drastic changes in the legal structure. The capital markets of the world capital integrate in order to have strong investor compensation systems.

La Porta et al. (2002) argue that a greater concentration of not only control, but also a cash flow ownership can be found in countries characterized by poor protection of their shareholders. A number of researches concentrated on particular components of legal environments with lower protection of its shareholders. However, it is still important to develop a corporate finance model in the case of market equilibrium that works well in these environments.

Shleifer and Wolfenzon (2002) outline a model of an entrepreneur who goes in public in an environment that is characterized by weak legal protection of external shareholders. They investigate the market equilibrium, as well as, the decision of this entrepreneur. The model suggests numerous assumptions that are required in order to get empirically reliable predictions on dividend policies, the patterns of corporate ownership, valuation of firms, and financial development in the systems of weak external shareholder protection. It is assumed that consistency persists concerning the suggested model and the empirical evidence regarding the association between corporate finance and the protection of investors. Additionally, the model can predict certain capital flow patterns in the different countries, along with the procedures for reforming corporate governance. These predictions are found to be in conformance with recent empirical studies.

Lynn and Mohammad (2003) note the existence of some base line level of investor protection among some of the respondents, if not already in the whole region of Asia Pacific. Examples of crimes that should be punished are: inaccuracies in prospectuses, market misconduct and recommendations that are made with no reasonable basis. A number of measures are outlined to discover conflicts. These measures require cooperative efforts of the public along with SROs (by showing the regulators misconducts of one of the intermediaries). Regulators are also given the authority to act civilly and administratively against violations of laws, based on the nature and the degree of this violation. Finally, there are some procedures that permit aggrieved investors to search for compensation, either in courts, or funds that are specified for the compensation of investors, or even through the help of arbitrary tribunals and systems for resolving disputes. Lynn and Mohammad (2003) also focused on specific areas that regulators of the Asia Pacific could take into consideration to better improve the level of investor protection: Investor Education-Investor Recourse to Remedies-Dispute Resolution Schemes- Administrative Powers.

Michael (2007) describes that registration and monitoring are likely to continue growing and affect hedge fund retained earnings margins, but they are not likely to hamper the growth of hedge funds in emerging markets. He also explains that both the United States and United Kingdom are exerting pressure in order for regulation and monitoring to increase. They usually do so by focusing largely on reporting requirements. On the other hand, the European Union is permitting the strategies of hedge funding in the currently existing products. He suggests that both countries account for about 85 percent of the hedge fund market.

Richard (2007) sets an initial assumption that incentives for profit are more likely to reduce fraud and other sources of misconduct compared to government regulation systems that necessitate expensive measures. On the other side of this, are individuals who believe that private markets actors have limited ability to find and to stop fraud.

In the same line, John (2009) examines select investor protection provisions of The Markets in Financial Instruments Directive (MiFID) and their analogues in the American legislative system concerned with securities. He suggests two models about investor behaviour and explains theories of investor protection. Furthermore, he critically assesses the paradigmatic theories of investor protection. Also, he conducts a comparative analysis of the provisions for investor protection between MiFID and the analogues in the US.

Mariassunta and Koskinen (2010) investigate the impact of investor protection on allocation decisions of portfolios and returns on stock. They argue that in cases of poor investor protection, wealthy investors are more likely to become controlling. In a state of equilibrium, the price of stock is based on the demand from portfolio investors, as well as, controlling shareholders. Owing to the controlling shareholders' high demand, it can be argued that the prices of stocks in situations of poor corporate governance might not be low enough to justify a 100% discount on private benefits extraction. Thus, the weaker the investor protection, the lower the expected returns of stocks. A number of implications are thus derived concerning both domestic and foreign stockholdings of investors. Additionally, they argue that there exists a positive relation between the participation of portfolio investors in domestic stock markets and equity bias. They have provided evidence in support for their arguments.

David et al. (2012) suggest that Investor protection is strongly related to a higher sensitivity of investment to Tobin's q and a lower sensitivity of investment to cash flow. These effects might be attributed to the role played by finance; in countries that have good investor protection, external funding is more likely to rise up more with Tobin's q, and falls down more with cash flow. They also argue that each of Tobin's q and cash flow sensitivities are related to ex post investment efficiency; where investment suggests a higher growth rate and more profits in countries that have lower sensitivities to cash flow and greater sensitivities to Tobin's q. This is also in consistence with investor protection that promotes accurate price of shares, empowering efficient investment, and lowering financial constraints.

Anthea (2014) argues that the re-appearance of country-to-country arbitration is essential for two main purposes. First of all, country-to-country arbitration provides a system for the involved parties of agreement that are looking to re-engage with the investment agreement system in order to impact and affect the interpretation and implementation of these agreements. Moreover, knowing that investor-state arbitration co-exists with and country-to-country arbitration suggests the development of a hybrid theory. This theory should consider the design and structure of the investment agreement system.

Egyptian Investor Protection Fund (EIPF) was created under the capital market law as a non-profit membership independent entity. EIPF is neither a governmental agency nor a regulatory authority. EIPF was not chartered to combat fraud. EIPF is not an agency or establishment of the government and it has no authority to investigate or regulate its members.

EIPF is an important part of the overall capital market system of protecting investors in listed securities in Egypt. While Egyptian Financial Supervisory Authority (EFSA) deals with cases of investment fraud, EIPF's focus is to compensate customers for missing their cash and securities left in the hands of bankrupted or otherwise financially troubled securities member firms.

The role of EIPF begins when a member firm is insolvent and customer assets are getting lost. EIPF steps in and through certain outlines, works to get back customers' cash, stocks, and other securities held at the member firm within a certain limit. EIPF is the first stage of protection against a brokerage firm or any other kind of financial member firms fail to deliver customers their cash or securities. Furthermore, EIPF has advanced over 20 million Egyptian pounds for at least 600 investors dealing through stock brokerage member firms. If EIPF doesn't exist, investors at financially troubled member firms might miss all of their investments forever. EIPF may not cover all losses or all investors.

The purpose of EIPF is to compensate investors when a brokerage or any other member firm is insolvent and customer assets are getting lost, EIPF steps in and within certain limits, works to return customers' cash, stock, and other securities held by the member firm. If a member firm closes, EIPF protects the securities and cash in a customers' account up to L.E.500,000. The L.E.500,000 protections includes up to L.E.100,000 protections for cash in the account.

EIPF protects customers if the securities firm is an EIPF member, the customer has securities at the brokerage or any member firm, and the customer has cash at the brokerage or the member firm on deposit in connection with the purchase or sale of a security.

In addition, EIPF protection is only available if the brokerage or any other member firm fails and EIPF steps in.

On the other hand, EIPF does not protect Investments if the firm is not an EIPF member, Promises of investment performance, Securities are not listed in the Egyptian stock exchanges, and Cash balances not concerned with investment transaction.

In the same time, the market losses cannot be protected by EIPF because market losses are a normal part of ups and downs of the risk oriented world of investing.

Indeed, EIPF gets involved when brokerage firm or any other member firm fails and owes customers cash and securities that are missing from customer account. Furthermore, EIPF receives a referral from the security regulator. With this referral EIPF deals directly with customers in an out- of -court direct payment procedure.

Equipped with above analysis Protection of customers have more than one account at the same brokerage or other member firm is determined by "separate capacity" Each account, owned by a customer in a separate capacity is covered up to L.E.500,000 for securities and cash (including a L.E. 100,000 limit for cash only).

Examples for separate capacities are Individual account, an account for corporation, an account of a son or a daughter managed by a parent that has his own account, and an account of individual managed by a portfolio firm.

Therefore, EIPF protects cash in a customer's brokerage firm accounts or at in any other member firm resulting from the sale of customer's securities or held in a customer's account for the purchase of securities and EIPF protects cash held by the securities firm for customers in the connection with the customers' purchase or sale of securities whether the cash is in Egyptian pounds or denominated in non-Egyptian pounds currency.

Finally, EIPF urges all investors to understand the danger of investment fraud. Securities companies required to issue confirmations of transactions and account statements at appropriate intervals. The investors should always review your confirmations and statements carefully when they arrive. EIPF asks all investors to verify that the confirmations and statements properly reflect all activity in their accounts. EIPF asks all investors to check to see if the statements they receive accurately reflect their understandings of what cash and what securities are in their accounts, and if the investors discover an error in a trade confirmation or brokerage statement they should immediately bring the error to the attention of the securities firm in writing.

3. METHODOLOGY

In this study we aimed to show how the use of different methodologies may affect the results of the empirical studies that analyze investors' protection fund performance. Therefore, we first estimated the future fund premiums and the future fund reserves for the next nine years between year 2015 and 2023 depends on the previous nine years data.

Hence, in this study we adopt multiple regressions to examine a number of explanatory variables using the regression models discussed above.

4. MODELS

In the following section, the research methodology is set up to examine different firm characteristic determinants that affect fund's level of claims and available reserve capital. Based on the above analysis, the following two models are employed:

Model (1)

Fund Reserves = f (Premiums, Market capitalisation, No of traders, No of new investors, No of securities holders, No of listed companies, and retained earnings)

Model (2)

Claims = f (No of traders, No of securities holders, No of listed companies, and market capitalisation)

Dependent Variable

Our study adopts Reserves and Claims as dependent variables for the two models respectively.

Independent Variables

Model (1)

The first independent variable adopted in our study is premiums, the second independent variable adopted in our study is the market capitalisation; we thought that customers' claims are closely related to this variable as long as financial investors should be compensated for their losses based on the market price of their lost stocks. And market capitalisation is the benchmark for securities market prices that determine the sum of customers' compensations for both missing cash relevant to securities and missing stocks. And over and above we take into consideration the in-kind compensation against missing securities.

The third independent variable adopted in our study is the number of traders. We thought that trading of listed shares through brokerage member and custodian firms is of a great importance because those traders have two kinds of accounts one of them at a brokerage firm, and the second one at a custodian firm and every customer has a cash account and a securities account in his name, and both accounts are protected by the fund, the fourth independent variable adopted in our study is the number of new investors that enters the market every period and have the right to be compensated as long as their transactions fulfil the requirements mentioned above .

The fifth independent variable adopted in our study is the numbers of securities holders or the owners number of listed securities; as long as the second important member in the EIPF is the custody members, and every trader should has a securities account for the stocks he or she owns, and according to the fund compensations rules, it compensates every customer for the missing cash or securities, and some custody members have no cash accounts for their customers.

The sixth independent variable adopted in our study is the number of listed companies, as long as EIPF compensate customers when missing their stocks or securities, we thought that the more listed companies, the more volume of trade, cause investors will have more options to diversify their portfolios, and this may lead to more capital reserves available to the fund for compensation.

The seventh independent variable adopted in our study is the fund retained earnings, as long as EIBF invest its capital reserves balance available for compensation in risk free assets, and uses its revenues to pay salaries, pay its expenses, and pay dividends to its members and board members, we thought that this variable may have significant effect on of the fund reserves capital.

We thought the number of fund members as a source of risk as long as the fund protects the interests of customers against their insolvency or their incompetence to fulfil their obligations toward their customers. And the more the number of members, the more the risk of their investors, this stem from the notion of market competitiveness or the lack of regulations awareness of new member employees.

As a result of the importance of premiums, the market capitalisation, the number of traders, the number of new investors, the number of securities holders, the number of listed companies, and the fund retained earnings are used in explaining the available reserve capital of investor's protection fund.

Model (2)

The first independent variable adopted in our study is the number of traders. Regardless of the way of collecting premiums from members as a percentage of the trade transaction or a percentage of their activities; we thought that if those trades were executed by a large number of traders it may lead to more premiums than if it took place through small number of traders.

The second independent variable adopted in our study is the number of securities holders or the owners numbers of listed securities; as long as the premiums are collected from members based on their securities marketing activities in the capital markets that provided to their customers, and that every member should attain at least the break-even to survive, we thought that the more the fund members, the more premiums to the fund, and hence the more available reserve capital to the fund.

The third independent variable adopted in our study is the number of listed companies, as long as EIPF compensate customers when missing their stocks or securities, we thought that the more listed companies, the more volume of trade, cause investors will have more options to diversify their portfolios, and this may lead to more capital reserves available to the fund for compensation.

The fourth independent variable adopted in our study is the market capitalisation, this is because it is a volatile figure on a daily bases, and members pay less than average when it goes down and pay more than average when it goes up, but still there some doubt about volume of trade that has a direct effect on available capital reserves of the fund and capitalisation that may have significant effect on the reserves capital available to compensate customers.

As a result of the importance of the number of traders, the number of securities holders, the number of listed companies, and the market capitalisation are used in explaining the claims of investor's protection fund.

5. DATA AND EMPIRICAL RESULTS

The data adopted in this study are the quarter financial data related to the Egyptian Investors Protection Fund performance over the period from 2006 to 2014. The rest of data has been collected from various sources. Data on stock prices are obtained from Data Stream and Egyptian disclosure book. The data for basic dependent variables are obtained from Egyptian Investor Protection Fund (EIPF).

We start our empirical analysis by reporting the descriptive statistics, Table 3 reports descriptive statistics (mean minimum, maximum, and standard deviation). It is observed that variables show a large dispersion based on the mean and standard deviation over the period of study.

Table 2. Descriptive Statistics
In (L.E)

Variable	*Mean*	*Max*	*Min*	*Std. Dev.*
Reserve	856087726.24	2011699136	46769476	574031732.181
Claims	368652.64	1623508	14605	402378.105
Premiums	27881180.67	101181768	8481640	17643703.915
Market Capitalisation	480219916666.67	874810000000	293593000000	134407493948.679
No of Traders	95803.44	168270	52163	31641.390
No of new Investors	12567.39	76913	3126	12888.758
No of Securities holders	714808.08	959878	459879	184850.755
No of listed Companies	303.00	593	207	126.008
Retained earnings	27999350.89	92001009	400152	28587999.214

Table 2 shows that Capital Reserves; Claims; Premiums; Market capitalisation; Number of Traders; Number of new Investors; Number of Securities holders; Number of listed companies; and retained earnings all have positive means. The mean Claims ranges from L. E. 14605 to L.E. 1623508.

On average retained earnings of EIPF grew annually over the nine years under investigation. The mean retained earnings ranges from L.E. 400152 to L.E. 92001009.

As a first attempt to identify the strength and direction of the relationship between the variables, the correlation matrix is computed with the results also shown in Table 3. It is observed that all variables show the expected direction of relationship.

Table 4. Spearman Correlation between
Selected Variables

Variable	*Reserve*	*Claims*	*Premiums*	*Market Capitali-sation*	*No of Traders*	*No of new Investors*	*No of Securi-ties holders*	*No of listed Compa-nies*	*Retained earnings*
Reserve	1.000 .								
Claims	-.208 .222	1.000 .							
Premiums	-0.635** 0.000	0.303 0.072	1.000 .						
Market Capitalisation	-0.454** 0.005	0.343* 0.041	0.608** 0.000	1.000 .					
No of Traders	-0.858** 0.000	0.286 0.091	0.802** 0.000	0.714** 0.000	1.000 .				
No of new Investors	-0.872** 0.000	0.344* 0.040	0.710** 0.000	0.605** 0.000	0.898** 0.000	1.000 .			
No of Securities holders	-0.885** 0.000	0.348* 0.037	0.677** 0.000	0.704** 0.000	0.892** 0.000	0.863** 0.000	1.000 .		
No of listed Companies	-0.763** 0.000	0.454** 0.005	0.423* 0.010	0.581** 0.000	0.702** 0.000	0.678** 0.000	0.749** 0.000	1.000 .	
Retained earnings	0.966** 0.000	-0.189 0.268	-0.513** 0.001	-0.448** 0.006	-0.792** 0.000	-0.805** 0.000	-0.864** 0.000	-0.823** 0.000	1.000 .

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*

Table 5. OLS Pooled Regression for model (1)

Reserve	*Coefficient*	*Standard Error*	*P-value*
Constant	1496737155.547	266821373.783	0.000
Premiums	-2.409	2.428	0.330
Market Capitalisation	0.001	0.000	0.011
No of Traders	-3761.123	3023.789	0.224
No of new Investors	677.919	3850.005	0.861
No of Securities holders	-943.134	559.883	0.103
No of listed companies	-851406.266	387920.750	0.037
Retained earning	9.019	2.026	0.000
F-test	69.065 (0.000)		
Adjusted R^2	0.932		

Table 6. OLS Pooled Regression for model (2)

Claims	*Coefficient*	*Standard Error*	*P-value*
Constant	77453.875	289126.954	0.791
No of traders	2.541	4.941	0.611
No of securities holders	-0.103	0.935	0.913
No of listed companies	400.357	868.671	0.648
F-test	0.775 (0.517)		
Adjusted R^2	-0.020		

Since the correlation matrix examines only one-to-one relationships, without detecting any significance level, we need a better estimation that would allow us to understand how various variables collectively and significantly influence the overall impact of the independent variables on Available reserve capital and Claims.

Starting with data analyses, the impact of independent variables on claims and available reserve capital of Egyptian Investor Protection Fund has been examined by the two models in Table 4 and Table 6 reported the pooled regression. As seen from Table 3 and in line with the pooled regression presented in Table 4 there is insignificant negative coefficient/ relationship between premiums, number of traders, number of securities holders and reserve.

Also, there is insignificant positive coefficient/relationship between number of new investors and reserve. Furthermore, there is significant positive coefficient/relationship between market capitalisation, retained earnings and reserve. However, there is significant negative coefficient/ relationship between Number of listed companies and reserve.

In the same vein, Table 3 and in line with the pooled regression presented in Table 6 there is insignificant negative coefficient/relationship between number of securities holders and claims. Also, there is insignificant positive coefficient/relationship between Number of traders and claims. Furthermore, there is insignificant positive coefficient/relationship between number of listed companies and claims.

Further, the following table 7 finds expected values for available reserve capital, retained earnings, claims, and premiums to estimate the future values in Egyptian Investor Protection Fund.

Table 7. The future values of Egyptian Investor Protection Fund parameters In (L.E.)

Year	*Expected available reserve capital*	*Expected retained earnings*	*Expected claims*	*Expected premiums*
2015	1486431112	310722976	14067582	1175708141
2016	1633391212	350597295	15302215	1282793923
2017	1780351312	390471614	16536848	1389879704
2018	1927311412	430345934	17771481	1496965485
2019	2074271512	470220253	19006114	1604051267
2020	2221231613	510094572	20240747	1711137048
2021	2368191713	549968892	21475380	1818222830
2022	2515151813	589843211	22710013	1925308611
2023	2662111913	629717531	23944645	2032394392

CONCLUSIONS

As conclusion of the assessment of EIPF capital adequacy and its crucial role as it is the last resort for protecting investors in listed securities in the Egyptian stock exchanges, this is a very simple but clear list as the result of the analyses:

Firstly, the existing compensations rules of EIPF are sufficient enough to fulfil the customer's potential claims. And most of the variables that are correlated with claims are insignificant in its effects on values of claims, taking into considerations the negative sign of a three independent variables.

Secondly, the available reserve capital in hand was big enough to cover all claims for the last nine years, and according to our predictions it may exceeds the sum needed to compensate customers of closed or bankrupted members of EIPF for the next nine years. And our findings open the door for reviewing the existing premiums and the maximum limit of compensation per customer.

Thirdly, as long as the premiums that collected by the fund represent one component of transactions costs, we argue that the rapid growth rate of available reserve capital of the fund compared with the growth rate of claims is demanding for new rules to put ceiling for that balance, as long as it is higher than the growing rates of claims. And it may ask for revisiting the excising premiums itself.

Fourthly, we did not noticed any reason for dividing claims between cash and securities with the percentage 1:4 as long as available reserve capital is a function of number of members and number of traders, and fund annual retained earnings.

Fifthly, number of traders has a great effect on claims rather than its effect on the reserve capital available for compensations.

Sixthly, although all compensations for the last nine years were for brokerage customers, other member firms still paying premiums to the fund, this may raise the question of the real risk that faces member's customers of other than brokerage firms.

Finally, it is important to have a proper methodological frame work to review fund performance periodically for asserting the fund capital adequacy to compensate investors in cases of crises or markets collapses.

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CORPORATE GOVERNANCE MECHANISMS, SENSITIVE FACTORS AND EARNINGS MANAGEMENT IN NIGERIAN OIL AND GAS INDUSTRY

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Abstract

Oil and gas industry is considered as the sector that contributes a big share to the Nigeria economy. This study investigated the effects of corporate governance mechanisms, sensitive factors on earnings management of quoted oil and gas firms in Nigeria using the sample of nine (9) listed oil and gas firms for the period of ten years (2004-2013). Discretionary current accruals was used as the proxy for earnings management. Corporate governance mechanisms (boards size, chief executive officer (CEO) duality, directors' ownership, audit committee size, audit committee independence), sensitive factors (corporate tax, corporate profit, corporate social responsibility) served as independent variables. The study concludes that corporate governance mechanisms curves earnings management while sensitive factors increase earnings management. The study recommends that corporate governance regulations should be strengthened to reflect present challenges.

Keywords: Corporate Governance, Sensitive Factors, Earnings Management, Nigerian Oil and Gas Industry

1. INTRODUCTION

Oil and gas industry is considered to be one of the major and most influential industries in the global market with its operations covering every angle of the globe and with the world's energy heavily dependent on oil and gas products (Amnesty International 2004). Nowadays, activities in the petroleum industry are composed of various procedures in the upstream or downstream sectors comprising exploring, extracting, refining, transportation and marketing of the petroleum products. The sensitivity of petroleum resources is clearly reflected and continued to be reflected as the main resources for the Nigerian economy as well as the supreme foreign exchange earner contributing over 80% of government revenues, contributing 30% of GDP, 95% of the total export revenue which is used for the development of Nigeria's infrastructures and other industries (Nigeria Corporate 2007).

In Nigeria, petroleum resources for local consumption are managed and distributed by marketers. Domestic marketers comprise fewer than 30% of the downstream market shares while the major international market boosts the rest. The government faces challenges in the downstream sector- such as lack of resources to efficiently manage the aging infrastructures and a non-commercial pricing environment. Therefore, it is encouraging further private sectors investments in the sectors (Nigeria Corporate 2007). Federal government of Nigeria deregulates the downstream sectors of oil and gas industry, allowed major marketers to import petroleum at competitive price, established private refineries to compete with NNPC refineries (Okunroumu 2004). Government refineries cannot meet the nation's demand because their production is always decreasing. For instance, petroleum production of 5,877,890.0 liters and 4,031,960.76 liters in the first quarter of 2009 and 2010 respectively, which is showing a decrease of 31.40 percent (CBN 2010).

The activities of the quoted oil and gas companies operating in the downstream sector are very important to the daily activities of the people and the nation, because they provide the services and resources (refining, supplying, Petroleum, Kerosene, Gas and other Petroleum products) to meet the need of the nation at the competitive price (Okunroumu 2004).

Oil and gas resources in Nigeria can be utilized through investment. Investors are always profit seekers and they are ready to invest in any economy, but there is problem of panic or uncertainty to lose their investment due to accounting policies, inadequate regulations or provisions that regulate the financial activities in the economy. For the success of any investments in the Nigerian economy or any other economy, government should create good financial reporting atmosphere that will guarantee safety, profit and security for the investment in order to institutionalize confidence to the investors.

Most investors and other stakeholders have interests in financial reporting because it contains information about earnings of their investments.

Reported earnings are considered to be valued relevance by the shareholders in estimating future returns (Das & Kim 2013). Financial analysts can find out effect of earnings management if it is included in future earnings forecast through large accruals (Abarbanell & Lehavy 2003).

Earnings Management is viewed as detrimental to a firm's value (Jiraporn et al. 2008). Kin (2008) groups earnings management into two categories: real-based earnings management and accrual-based earnings management. Real-based earnings management has to do with manipulation of real activities such as reducing discretionary expenditure, which has direct effect on cash flow; Accrual-based earnings management is the alteration of accruals or revisal of accruals through changes of accounting estimation. Real-based earnings management has direct effect to the cash flow, while accrual-based earning management has no direct effect to the cash flow (Roychowdhury 2006). Managers use either of the methods to manipulate incomes and reports unrealistic figures in the financial reports.

Financial reporting concern arises when there are conflicts of interests between managers and investors coupled with information asymmetries (Pandey 2005). Information asymmetries occur when one party (agents) or managers in the contract have more knowledge regarding critical information required in the contract other than outsider/investors (Pandey 2005). Agency relationship arises in any situation involving cooperative effort by two or more people (Adelegan 2009). The relationship between the stakeholders, who are the owners of the investments and the upper management, is pure agency relationship. If agency problem does not exist, financial reporting quality becomes a non-issue since managers do not have any incentive to misreport information.

In Nigeria, corporate scandals involve large companies such as African petroleum plc, Cadbury Nigerian plc, Lever Brothers plc (Ajibolade 2008). The bankruptcy of these giant corporations, locally and internationally, stemmed from influencing earnings, due to fraudulent practices by the board of directors and weak Corporate Governance Mechanisms (Fodio *et al.,* 2013). This study intends to find out the effect of corporate governance mechanism and sensitive factors in curving earnings management in Nigerian oil and gas industry. The study is divided into several sections, each section discuss a major topic such as literature review; method of conducting the study, presentation and discussion of the result, and conclusion and recommendations.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Earnings management is viewed as detrimental to a firm's value (Jiraporn *et al.,* 2008) and its impact is important in the financial reporting quality. Information asymmetry between insiders and outsiders has the potential to decrease shareholders' wealth (Park & Shin, 2004) as the information will be less enlightening to shareholders (Teoh et al. 1998). Thus, effective corporate governance mechanisms could mitigate the information asymmetry and reduce the divergence between shareholders and managers.

A large body of academic literature has examined the impact of corporate governance variables such as board characteristics and ownership structure on the earnings management (Cornett, Marcus & Tehranian, 2008; Dechow, Sloan & Sweeney, 1996; Iqbal & Strong, 2010; Park & Shin, 2004; Sarkar, Sarkar, & Sen, 2006; Xie et al., 2003), board composition and earnings management (DeFond & Jiambalvo 1994; Saleh & Iskandar 2005; Osma & Noguer 2007; Marra et al. 2011; Siagian & Tresnaningsih 2011), board process and earnings management (Shiri, Vaghfi, Soltani & Esmaeli, 2012), board structure and earnings management (Weisbach 1988; Brickley et al. 1997; Tosi et al. 1997; Conyon & Peck 1998). Mixed findings were reported from different locations of the world.

Board mechanisms, audit committee mechanisms and earnings management relationship are guided by agency theory on the assumption that corporate governance code is introduced mitigate managers' opportunistic behaviors. Corporate tax, CSR and earnings management are guided by political cost theory on the assumption that manipulated earnings cost organization extra tax and more CSR claim. Corporate profit and earnings management guided by the ethical theory on thinking that inflated profit cost managers to compensate investors out of capital.

2.1 Board Mechanisms

2.1.1 Board Size (BS) and Earnings Management

One of the most important factors influencing the integrity of the financial accounting process involves board of directors whose responsibility is to provide independent oversight of management performance and to hold management accountable to shareholders for their actions (DeFond & Jiambalvo 1994; Dichev & Skinner 2002). Past studies such as Monks and Minow (2004) revealed that larger board put more time and resources to oversee management action. Yu (2008) put forward that small size board is usually fails to detect earnings management. Rahman and Ali (2006) find positive association between board size and earnings management. Base on the agency the study hypothesizes that:

H_1: Board size has a negative and significant relationship with earnings management.

2.1.2 CEO Duality (CEOD) and Earnings Management

CEO duality is Chief Executive Officer serving as the chief executive and also serves as the chairman of the board. Jensen (1993) posits that the role of the Chairman of the board is to monitor the CEO. Therefore, CEO-Chairman cannot perform both functions without conflicts of interest. Studies have investigated the relation between earnings management and the duality of CEOs. Gul and Wah (2002) report that firms with dual-role CEOs have more likely to manipulate discretionary accruals especially when the managerial ownership exceeds 25 percent. Rahman and Haniffa (2005) supported that companies with CEO duality did not perform well and incline to do earnings management. Dey (2008) also finds partial support that the duality of CEOs has negatively related to the credibility of earnings announcements. In addition, Chang and Sun (2009) find a negative relation between dual-role of CEOs and earnings informativeness after SOX in cross-listed foreign firms. Mohamad *et al.* (2012) examine the impact of the tightening of corporate governance mechanisms on earnings management activities of the Government Linked Companies (GLC). They find that separation of chairperson and chief executive officers in the companies have a negative impact on earnings management activities in the post-transformation period. Bliss (2011) examines whether CEO duality affects the association between board independence and the demand for higher quality audit, using Australian samples of 799 listed public firms. The result is supporting that CEO duality compromising the board of director's independence. Base on the above argument and inline with agency theory the study hypothesizes that:

H_2: CEO duality has a positive and significant relationship with earnings management.

2.1.3 Directors' Ownership (DO) and Earnings Management

Directors' shareholdings are the shares owned by the directors of a particular firm. Stocks ownership in organizations can lead to different expectations. Past studies posit that the likelihood of financial statement fraud increases with the percentage of stock owned by the directors. Cheng and Warfield (2005) examine the association between managers' equity incentives, stock ownership and earnings management for the period 1993-2000 using 9472 observations and find out that managers' stock ownership associated with earnings management on the notion that manipulated earnings might increase the value of their stocks. They can take advantage of the higher price and sales their stocks. Park and Park (2004) find managers modify discretionary accruals to inflate present time earnings before they sell their own firm stocks. The study hides on the agency theory and hypothesizes that:

H_3: Directors ownership has a positive and significant relationship with earnings management.

2.2 Audit Committee Mechanisms

2.2.1 Audit Committee Size (ACS) and Earnings Management

Audit committee size is the number of directors in the audit committee. Although the law did not fix the number of directors in the committee, it has to be based on the firm size. Studies report that a large audit committee tends to improve the audit committee's status and power within an organization.Ghosh, Marra and Moon (2010) find that audit committee size is influencing discretionary accruals at the pre-period and not at the post period.Fodio *et al.* (2013)reported that audit committee size is significant and negatively associated with discretionary accruals. Vafeas (2005) reports that audit committee's performance determined by committee size. Many members in the committee will enhance performance because there are more people on whom to draw. Xie *et al.* (2003) reveal insignificant relationship between audit committee size and discretionary accruals. In line with the agency theory the study hypothesizes that:

H_4: Audit committee size has a negative and significant relationship with earnings management

2.2.2 Audit Committee Independence (ACI) and Earnings Management

Audit committee and its role in ensuring the quality of financial reporting contributed to the minimization of earnings manipulations. Klein (2002) posits that independent audit committees serve as superior monitor of the financial reporting process. Studies such as Carcello & Neal (2000) document a relation between greater audit committee independence and the quality of financial report. Abbott, Parker, Peters and Raghunandan (2003) and Klein (2002b) find that audit committee independence has a negative relationship with misstatement and earnings management. Xie et al. (2003) report a negative association between earnings management and the independence of audit committees. Bryan et al. (2004) find that an effective audit committee improves the credibility of reported earnings. Jenkins (2002) finds that independent audit committee mitigates income-increasing earnings management. Sun (2013) study find a negative and significant on the interaction of audit committee independence and audit industry specialization. The study expected negative relation base on agency theory. The study hypothesizes as that:

H_5: Audit committee independence has a negative and significant relationship with earnings management.

2.3 Sensitive Factors

Sensitive factors mean soothing "needing to be treated with care and caution, so as not to cause trouble or offence" (Hornby, 2000 p.1070). This study identifies corporate tax, corporate profit and corporate social responsibility as sensitive factors to managers, because whenever managers are planning to manipulate earnings upward, they must be cautious with these sensitive factors because of their multiple effects of their actions to the shareholder's wealth. There are many sensitive factors in the financial reports but this study only considers corporate tax, corporate profit, and corporate social responsibility to examine their influence on earnings management.

2.3.1 Corporate Tax (CT) and Earnings Management

Researches explore that managers face problems when trying to boost financial reporting income, due to the tax cost, mangers minimized reported income (Shackelford & Shevlin 2001). Similarly, managers trying to minimize income reported to tax authorities may report lower income to shareholders and thereby incur financial reporting costs (Frank et al. 2009). Some firms may be reporting higher book income to shareholders and lower taxable income to tax authorities (Boynton, DeFilippes and Legel, 2005). But where there is no conformity between reported financial income and reported tax, research argues that firms are subject to greater scrutiny from regulators (Badertscher, Phillips, Pincus and Rego, 2009; Cloyd, 1995) and external auditors (Hanlon, Krishnan and Mills, 2006).

For example Boynton *et al.* (2005) indicated that total reported financial income and reporting tax differences taken from corporate U.S. Tax returns enlarged from $43billion in 1993 to $313 billion in 1999, and that after reducing to ($49) billion in 2001, the reported financial income and reporting tax gap dropped back to $436 billion in 2003. Thus, evidence suggests that companies were engaging in increasingly aggrieve reporting practices during this period. Another study investigates whether Australian gold-mining firms were engaged in downward earnings management or upward earnings management during the periods 1985-1988 and 1988-1990 respectively. The study find that consistent with significant downward earnings management by Australian gold-mining firms during the period from June 1985 to May 1988 and upward earnings management during the period from 1988 to 1990 have not found in the accruals-based tests (Monem 2003). Another study examines that Slovenian property insurers over estimate provisions for claims outstanding and, consequently, reduce net income in order to reduce tax liability. The findings suggest that Slovenian property insurer' underestimate provisions for claims outstanding in order to reduce income tax burden (Morec 2012). In line with political cost theory firms are expected to pay tax base on their income i.e the higher the income, the higher the tax pay and this study hypothesizes that:

H_6: Corporate profit has a negative and significant relationship with earnings management.

2.3.2 Corporate Profit (CP) and Earnings Management

Corporate profit is considered as road block to the managers for their unwanted attitude of income manipulation. Profit has considered as the key indicator of a firm's ability to pay dividend (Anil & Kapoor 2008). Previous literatures indicated that profit is the determining factor for dividend, as far as managers increase their earnings surely shareholders will ask better dividend. Because of that they may decide to report real earnings, for instance Amidu & Abor (2006) posit that corporate profitability and dividend payout ratios have a positive relationship. Gill, Biger, Tibrewala, and Palmer (2010) examine the determinants of dividend payout ratios using the American service and manufacturing firms. The study finds that for the entire sample, the dividend payout ratio is positively related to profit margin. Another study find that firms with larger profit are more likely to pay a dividend, while companies that are facing uncertainty about future profit would adopt lower payout (Prices & Puckett 1964; Lintne 1956). John & Muthusamy (2010) put forward that return on asset have positively related to the dividend payout, and consistent with the previous studies. Managers are expected to be ethical and reported the true income as guided by ethical theory but managers manage earnings up word, investors will claim extra investment benefits. The study hypothesizes that:

H_7: Corporate profit has a negative and significant relationship with earnings management.

2.3.3 Corporate Social Responsibility (CRS) and Earnings Management

Few researches that study the relation between corporate social responsibility and financial reporting behavior largely center on the opportunistic use of corporate social responsibility in financial performance. Petrovits (2006) investigates the plan use of corporate charity programs to achieve earnings targets and find that firms reported small earnings increases, increasing discretionary income, charitable funding choices. Chih, Shen and Kang (2007) find that corporate social responsibility firms are more destructive in accruals management but are less likely to involve in earnings loss avoidance and earnings smoothing. Prior, Surroca and Tribó (2008) test whether firms use corporate social responsibility tactically to promote earnings management and the result indicated a positive relation between earnings management and corporate social responsibility for controlled firms, but the result is not significant for uncontrolled firms. Yip, Staden and Cahan (2011) find that corporate social responsibility and earnings management has negatively related in the oil and gas industry, but positively related in the food industry. Kim, Park and Wier (2012) find that socially responsible firms are less likely to manage earnings through discretionary accruals, to manipulate real operating activities. Another Asian study revealed that Asian firms fairly with good corporate social responsibility have engaged significantly less with earnings management (Scholtens & Kang 2013). A study findings show that corporate social responsibility activities do not encourage the accounting manipulations, and on the other hand, discretionary accrual has not positively related to corporate social responsibility (Toukabri, Jilani and Benjama, 2014). Organizations are expected to carry out CSR to their host communities base on their earnings from such communities where earnings are inflated will cost the firms extra CSR claim from the communities as guided by political cost theory. The study hypothesizes that:

H_8: CSR has a negative and significant relationship with earnings management.

3. RESEARCH METHOD

The study used the sample of nine (9) out of the thirteen (13) oil and gas firms quoted in Nigerian Stocks Exchange for the period of ten years (2004-2013). The study used only nine samples of firms that have availability of financial reports for the period of study and limited number of oil and gas firms listed in Nigeria. The study estimated earnings management using the model of Kothari, Leone and Wasley (2005). The data were collected from annual reports and published reports.

3.1 Estimation of Earnings Management

There are many models of estimating earnings management but Kothari, Leone and Wasley (2005) reveal higher detection of earnings management using Nigerian oil and gas data based on the researcher's comparison. Some studies argue that discretionary current accruals (DCA) should be more susceptible to earnings management when compared to total discretionary accruals (Dimitropoulos & Asteriou, 2010; Jaggi, Leung, & Gul, 2009). The description of discretionary current accruals is as follows:

$$DCA_{it} = CA_{it-1} - [\alpha_1 (1/TA_{it-1} + \alpha_2 (\Delta REV_{it} - \Delta REC_{it})/ TA_{it-1} + \alpha_3 (ROA_{it-1})].$$

Whereas: current accruals (CA) is measured by net income before extraordinary items plus depreciation and amortization minus cash flows from operation scaled by the total assets.

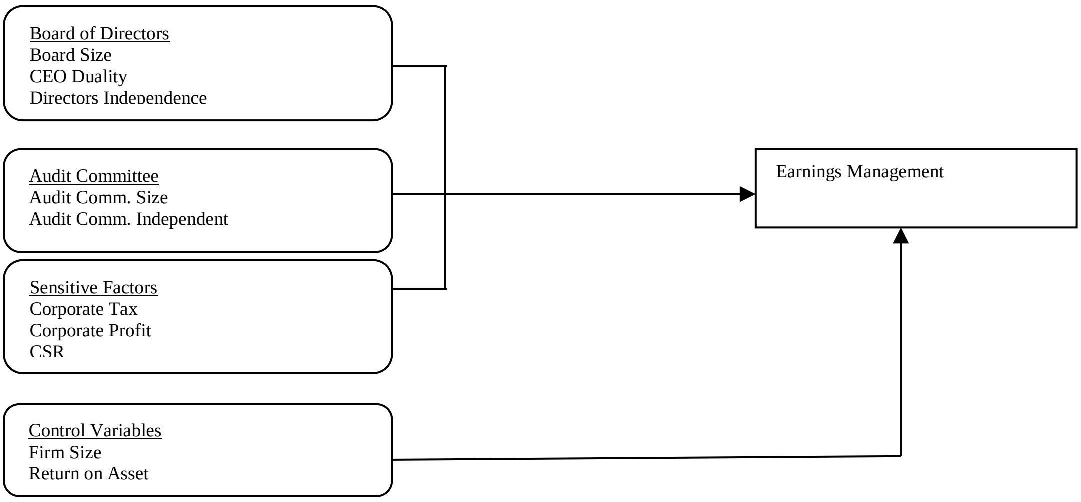

Figure 1. Research Framework of the Study

Model specification of the study is as follows:

$$\mathbf{DCA_{it} = \alpha_{it} + \beta_1 BS_{it} + \beta_2 CEOD_{it} + \beta_3 DO_{it} + \beta_4 ACS_{it} + \beta_5 ACI_{it} + \beta_6 CT_{it} + \beta_7 CP_{it} + \beta_8 CSR_{it} + \beta_9 FSIZE_{it} + \beta_{10} ROA_{it}}$$

Table 1 explains the measurements and expected directions of the variables of the study.

Table 1. Variables Definition

Variable	*Definition*	*Measurement*	*Expected sign*
DA	Discretionary Current Accruals	Kathari et al. (2005).	-
BS	Board size	Number of director in the board.	-
CEOD	Chief executive officer Duality	Dummy "1" CEO serve as chairman of the board, "0" otherwise	+
DO	Directors ownership	Ratio of directors stocks to the total shares.	+
ACS	Audit committee size	Number of directors in audit comm.	-
ACI	Audit committee independence	Ratio of non-executive directors to the total directors in the audit committee	-
CT	Corporate tax	Natural log of current year tax.	-
CP	Corporate profit	Natural log of current year profit.	-
CSR	Corporate social responsibility	Natural log of expenditure on charity.	-
FSIZE	Firm size	Natural log of total asset.	+
ROA	Return on asset	Ratio of profit b4 tax to total asset.	-

4. RESULT AND DISCUSSIONS

Kothari *et al.* (2005) model of estimation ($p< 0.00$) is significant at 1 percent, the model fitness R^2 is 98 percent, this allow further to estimate discretionary current accruals which is represented by the residuals of the current accruals model.

Correlation matrix in Table 2 shows that DCA has significant negative correlation with BS and FSIZE. DCA have significant positive correlation with ROA. ACS is significant with DCA at 5 percent, while BS, FSIZE and ROA are significant to DCA at 1 percent. No correlation is found above 0.60 between the independent variables which indicates that multicollinearity issue is not a concern in this study.

Table 2. Pearson Correlation Matrix

	DCA	***BS***	***CEOD***	***DO***	***ACS***	***ACI***	***CT***	***CP***	***CSR***	***FSIZE***	***ROA***
DCA	1										
BS	-.352**	1									
CEOD	0.036	0.119	1								
DO	0.187*	-0.070	0.120	1							
ACS	-.195*	0.315**	0.080	0.042	1						
ACI	0.092	0.129	-.228*	-.191*	0.162	1					
CT	0.050	0.092	-0.167	-0.015	0.080	0.052	1				
CP	-0.047	0.304**	-0.122	-0.004	0.285**	-0.130	0.391**	1			
CSR	0.088	0.136	0.111	0.029	0.177*	-.349**	0.211*	0.424**	1		
FSIZE	-.362**	0.532**	0.203*	0.075	0.393**	-.181*	0.114	0.595**	0.495**	1	
ROA	0.474**	0.032	-0.154	0.026	0.248**	0.169	0.309**	0.338**	0.299**	0.109	1

***Significant at the 0.01 level (1-tailed).*
** Significant at the 0.05 level (1 tailed).*

Descriptive statistic in Table 3 indicates that the range of earnings management is between -0.844 and 0.853, and the skewness is 1.519 which fall within the acceptable region. The average number of board size (BS) is 8.8 ranging from minimum 6 directors to maximum of 11 directors in the board. The mean of CEOD is 0.190 which means that about 19% of the sample practice CEO duality. The average ratio of directors' ownership is 0.136 with minimum value of 0 and the maximum value of ratio 0.600. The average number of audit committee (ACS) is 5.730 with the range between 4 to 8 members. The average ratio of audit committee independence (ACI) is 0.742 ranging from 0.500 to 1.000. The average log of corporate tax (CT) and corporate profit is 8.806 percent and 8.333 percent respectively. The average log of expenditure spent on CSR 5.993 percent. The average log of total asset (FSIZE) is 10.433 percent. The average ROA is 0.100 ranging from -0.480 to the maximum of 0.980. The skewness of the data for all variables ranging from -0.738 to 1.945 which fall within the acceptable region, indicating that the data is normal.

Table 3. Descriptive Statistics

Variables	*Mean*	*Min*	*Max*	*Skewness*
BS	8.800	6.000	11.000	-0.368
CEOD	0.190	0.000	1.000	1.617
DO	0.136	0.000	0.600	1.027
ACS	5.730	4.000	8.000	-0.541
ACI	0.742	0.500	1.000	0.033
CT	8.806	8.014	9.612	-0.257
CP	9.372	8.333	9.970	-0.738
CSR	5.993	5.000	8.562	0.517
FSIZE	10.433	8.829	11.712	-0.557
ROA	0.100	-0.480	0.980	1.945
DCA	-0.100	-0.844	0.853	1.519

Table 4 shows that the variables explain about 55 percent of the model (R^2 = 55%) and F statistic 9.491 significant at 1 percent, which indicates that the model is fit. The individual contributions of the variables indicate that BS is significant in reducing earnings management at 10 percent. This is consistent with the findings of Fodio *et al.* (2013); Karamanou and Vafeas (2005). CEOD is significantly increasing earnings management at 5 percent level. This indicates that the more CEO and chairman are different persons the less earnings management will be incurred. This is consistent with findings in Klein (2002) and Mohamad *et al.* (2012). DO significantly increase earnings management at 1 percent showing that directors ownership increase earnings management. This finding in line with finding in Cheng and Warfield (2005). ACS is found significantly reducing earnings management at 10 percent level which is consistent with finding in Fodio *et al.* (2013) and Yang and Krishnan (2005). Result for ACI shows that ACI is significantly increasing earnings management at 5 percent which is consistent with the findings of Fodio *et al.* (2013) and Xie *et al.* (2003).

For the sensitive factors, the result indicates that CT is negatively related to earnings management but is not significant, indicating that CT is not contributing to decrease earnings management. CP is found significantly increasing earnings management at 10 percent, instead of decreasing earnings management. Finding for CSR reveals that CSR is significantly increasing earnings management. This is contrary to the prediction of the study which expected negative relationship between CSR and EM. The finding for FSIZE (coefficient -0.243, *t*-statistics -3.697, p value 0.000) shows that big firms are less engaged in earnings management which is significant at 1 percent. This finding is in line with finding in Inaam, Khmoussi and Fatma (2012). For the ROA the finding reveals that ROA is positively and significantly related to earnings management at 1 percent level.

Table 4. OLS Regression Result

Variables	Coefficient	*t*-Statistics	*P*- value
BS	-0.023	-1.552	0.063
CEOD	0.109	1.842	0.035
DO	0.001	2.688	0.005
ACS	-0.063	-2.382	0.010
ACI	0.223	1.672	0.050
CT	-0.069	-1.208	0.116
CP	0.116	1.410	0.081
CSR	0.061	2.135	0.018
FSIZE	-0.243	-3.697	0
ROA	0.67	5.385	0
R^2		0.546	
Adjusted R^2		0.488	
F-statistics		9.491***	

5. CONCLUSION AND RECOMMENDATION

The objective of the study is to examine the effects of corporate governance variables and sensitive factors toward curving earnings management. The study shows that corporate governance and sensitive factors play a significant role in managing earnings management. The result reveals that board size, audit committee size and non CEO duality (independent leadership) play a significant role in curving earnings management, while directors stock ownership, audit committee independence, corporate profit and corporate social responsibility have significant role of increasing earnings management. The result also shows that corporate tax does not contribute to earnings management practices.

The study has the following limitations; first, there is limited number of oil and gas firms listed in Nigeria stock market; second the data are collected manually as no availability of data in any data base; third, there were some missing date. Based on the study findings, the study recommends that government should consider these empirical findings to support future policies developments in enhancing the earnings quality in order to attract more foreign investors to invest in Nigerian companies. Practitioners, managers, and decision makers should also consider these findings in their decision making.

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THE IMPACT OF IAS 36 ON EQUITY VALUES: EMPIRICAL EVIDENCE FROM UAE

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Abstract

Amortization requirement of goodwill asset is one of the most controversial issues in financial reporting. This study provides empirical evidence on whether goodwill amortization has significant impact on equity value. It analyses the information content of goodwill amortization in the determination of firm's market valuation by Emirates Financial Market Listed companies that clearly reported goodwill amortization over the period 2003 to 2012 inclusive. Evidence suggests that there is a statistically significant association between equity market values and goodwill amortization in the determination of firms' market valuation, concluding that the UAE market perceives goodwill amortization as having information content when valuing firms and the use of standardized amortization requirement may be appropriate.

Keywords: Goodwill Amortization, IAS 36, Impairment Review, DFM, ADSM, Equity Markets

1. INTRODUCTION

The Statement of Financial Accounting Standards (SFAS) 142 "Goodwill and Other Intangible Assets" was issued by the Financial Accounting Standards Board (FASB) in July 2001. This standard requires goodwill be recognised, as the prior standard did under the purchase method, but does not require the amortization of goodwill. Instead, it requires goodwill be reviewed if evidence exists that goodwill of a reporting unit has been impaired. Goodwill will be considered impaired if the fair value of the reporting unit's goodwill is less than its carrying amount. In July 2001, the International Accounting Standards Board (IASB) identified the accounting for goodwill as a high priority. The international board commenced a project on Business Combinations, including the recognition and measurement of acquired goodwill, and the amortization and impairment approaches. Finally, the IASB came up with the International Accounting Standard (IAS) 38 "Intangible Assets" that requires the amortization of goodwill, which becomes mandatory in Europe in 2005 (Shahwan, 2008). Thus, the issue of goodwill amortization has an international significance as the IAS 38 has been adopted in several countries is now in conflict with US GAAP.

This study empirically investigates the information content of goodwill amortization, the expense, in UAE equity markets. The UAE is a prosperous emerging economy that is "first world" in all significant aspects. UAE equity markets are active and accounting regulators in the UAE have indicated a clear preference for transparency and accountability. IASs are currently mandatory in UAE. A study based in the UAE is not necessarily generalizable outside the UAE, but it would be useful to provide a guide to other emerging equity markets. According to the sample companies of the study, goodwill represents the excess of the cost of the acquisition over the fair value of identifiable net assets of a subsidiary or associate at the date of acquisition. If goodwill is to be amortized, then it is amortized using the straight-line method over the expected period of benefit being 10 years. As the sample of the study includes only listed companies in Emirates Financial Markets, they apply the International Accounting Standards (IAS) in accounting and financial reporting.

2. PREVIOUS STUDIES

Accounting for goodwill has been one of the most controversial issues in contemporary accounting. According to Davis (1996), it is argued that any arguments for investigations to goodwill accounting and disclosure practices must take into consideration how current capital market participants use intangible data. Among other capital markets research, McCarthy and Schneider (1995), Jennings, et al. (1996), Godfrey and Koh (2001), and Shahwan (2004) have supported the notion that asset goodwill has information content with respect to the market. It has been argued that the market reaction to goodwill numbers is not the only valid indicator of information content, but the market response is a major factor. As these researches are found of direct implications for this study design and hypotheses, they are briefly reviewed below.

McCarthy and Schneider (1995) analyse the market perception of goodwill as recognized by US GAAP in the determination of the firm's valuation. Their sample consists of all firms listed in the US and who reported goodwill in the years 1988 to 1992. They estimate a model that includes both statements of financial position and performance components to explain the market value of the firm. They find a positive and significant relationship between reported goodwill and firm market value. They also find that goodwill has coefficient values greater than those of other assets in all years under study. They overall conclude that goodwill appears to be perceived by the market as significant and the market values goodwill, at least, to the same degree as it values other assets.

Jennings et al. (1996) investigate whether goodwill asset and expense numbers are related to the market value of US firms for the period 1982 to 1988. To address the financial position statement issue, they estimate a model that relates market value of equity to components of accounting net assets, including net goodwill. To address the financial performance statement issue, they estimate a model that relates market value of equity to components of expected future earnings, including goodwill amortization. In their balance sheet model they find a strong positive association between equity values and reported goodwill asset amounts. They find in their earnings capitalization model a weak negative association between equity values and goodwill amortization, suggesting that such association may vary substantially across firms.

Godfrey and Koh (2001) investigate whether capitalization of research and development (R&D), other identifiable intangibles as a group (eg. patents, brand names, mastheads, licences), and unidentifiable intangible assets (goodwill) affects the market value of equity in Australian firms. Their sample is based on 172 firms with reported intangible assets for the year 1999. In order to evaluate the value-relevance of capitalized intangible assets, they initially develop a model that relates the market value of equity to the book value of capitalised tangible and intangible assets and liabilities. They then extend the scope of their initial model to allow for individual parameters for goodwill, R&D and other identifiable intangibles. In their initial model they find a strong positive association between total intangible assets and equity market values. In their extended model they find a strong positive association between reported goodwill and equity market values and goodwill coefficient has the largest value compared to other variables in the regression model. They also find a negative and insignificant association between R&D and firm market value. They conclude that not all types of capitalized intangible assets are value-relevant. The capitalization of goodwill and identifiable intangible assets add value to firm valuation. The market places greater value on capitalized goodwill than on other financial position statement items. They also find that the capitalization of R&D costs is not value-relevant to firms' valuation.

Although IAS 36 requires an annual goodwill impairment test and a one-step impairment test, it still allows discretion in making a number of choices in relation to impairment This view is supported by studies showing how principle-based standards could be applied in different ways and at different times. This is due to differences both in terms of accounting practices, i.e. the difference between de jure harmonization (harmonization rules) and de facto harmonization (harmonization practices), and in terms of country- specific factors such as legal, fiscal, cultural and political values (Ashiq and Lee-Seok 2000, Laghi 2006, Swanson, Singer and Downs, 2007; Glaum et al. 2013).

Despite the massive amount of research in accounting for goodwill, very little attention seems to be given to investigate the information content of goodwill amortization. Previous studies are conducted in established economies and they find that capitalization of goodwill assets is value-relevant to valuation firms. However, no study has attempted to assess whether investors place value on goodwill amortization when valuing firms in emerging economies like that of the UAE. This situation needs further investigation in order to contribute to the current debate. Thus, this study analyses the market perception of goodwill amortization in the determination of market valuation in UAE. It is the first attempt to provide a guide to emerging markets in accounting for goodwill after the application of IFRS.

3. ISSUES OF THE PAPER

In UAE, the official and licensed financial markets are Abu Dhabi Securities Market (ADSM) and Dubai Financial Market (DFM). Such emerging equity markets are looking to the established countries' equity markets for guidance in developing systems of accountability and transparency that are essential to facilitate the markets. Thus, ADSM and DFM are primarily concerned with obliging listed firms to disclose information about the financial position and performance of the firm in accordance with IASs requirements. With the conflict that has just emerged between the two major sets of standards, IAS and US GAAP, with respect to goodwill amortization, research would be useful to guide emerging markets.

Given that goodwill should be recognized [(McCarthy and Schneider, 1995), (Jennings et al, 1996), and (Godfrey and Koh, 2001)], the issue with respect to the statement of financial performance is whether goodwill maintains its value indefinitely or it declines in value over time. Evidence that the market perceives goodwill amortization as not having information content when determining the value of the firm would provide some support for the proposition that investors view goodwill as assets that are expected to maintain its value indefinitely; thus standardized amortization requirement for goodwill may be inappropriate, and the annual impairment test required by SFAS 142 that allows firms to review goodwill balance annually to determine whether it should be reduced in value may have the potential to better represent the performance of the firm. On the other hand, if this evidence does not exist, the performance of the firm may be represented better by allowing firms to systematically amortize goodwill over its duration life. So, the above discussion calls for the following research question: "Does the market perceive goodwill amortization as having information content when valuing firms in UAE?"

4. THE SAMPLE

The study examines the market valuation of Emirates firms reporting goodwill amortization during the period from 2003 to 2012 inclusive. Starting from 2011, Emirates Financial Markets Listed firms apply the International Accounting Standards (IASs). With respect to accounting for intangibles, IAS 38 requires goodwill be recognized and systematically amortized over a period not to exceed 20 years

The sample includes firms listed in ADSM and DFM that have clearly recorded some goodwill amortization in their year-end financial statements during any of the years under study. Therefore, the sample is selected on the basis of the following four criteria:

1. Domiciled in the UAE
2. Listed on the licensed Financial Markets in the UAE and these are Abu Dhabi Securities Market or Dubai Financial Market.
3. Clearly reported goodwill amortization at year-end of 2003 to 2014 inclusive.

5. RESEARCH DESIGN

The objective of this paper is to examine the information content of goodwill amortization when determining the market value of the firm. To do so, the paper develops a model that examines the association between market value of equity and goodwill amortization. The model is presented and developed below.

The model is based on the basic accounting entity equation, which was firstly used in this context by Landsman (1986). Reasons behind the adoption of Landsman's model are; first, the statement of financial position identity helps to contrast parameter values of the elements of the model. Second, the market value of equity is the dependent variable in the present study. Under this approach, the market value of shareholder's equity (MVE) is given by:

$$MVE_{ft} = MVA_{ft-1} - MVL_{ft-1} \qquad (1)$$

Where

MVA_{ft-1} = Market value of assets of firm f at the end of year t.

MVL_{ft-1} = Market value of liabilities of firm f at the end of year t.

Aware of the theory that there is no optimal capital structure (Miller, 1977), Landsman (1986) developed the theoretically benchmark coefficients of MVA and MVL to be +1 and –1 respectively.

It was argued that the market value of company equity might be explained better by a model that includes a stock concept of value (i.e., dividends) and a flow concept of earnings (Ohlson, 1995). Based on previous research, three variables have been used as a proxy of earnings. The first is the clean surplus which is defined as the change in the net book value of the firm from the beginning to the end of the fiscal year plus cash dividends less new equity raised (McCarthy and Schneider, 1995). The second is the abnormal or unexpected income which is defined as current earnings minus the risk-free rate, times the beginning of period book value, i.e., earnings minus charge for the use of capital (Ohlson, 1995). Finally, a third proxy is net income. For the purpose of this paper, the measure that will be used as a proxy for income is the net profit for the year, INC, in which the US equivalent is the operating profit after tax. According to the above arguments, equation (1) would be expanded as follows:

$$MVE_{ft} = X_0 + X_1 BVA_{ft-1} + X_2 BVL_{ft-1} + X_3 INC_{ft} + X_4 Div_{ft} + {}_{ft} \qquad (2)$$

Where

X_0 = Intercept.

BVA_{ft-1} = Book value of Assets of firm f at the end of year t.

BVL_{ft-1} = Book value of Liabilities of firm f at the end of year t.

INC_{ft} = Net profit for the year of firm f in year t.

Div_{ft} = Dividends paid of firm f in year t. ${}_{ft}$ = error term of firm f in year t.

The focus in this paper is to examine the information content of the amount reported for goodwill amortization. To do so, the net profit for the year (the income measure), INC, is to be separated into net profit for the year before goodwill amortization, INCE, and goodwill amortization, AMORT. The expanded version of equation (2) becomes:

$$MVE_{ft} = X_0 + X_1 BVA_{ft-1} + X_2 BVL_{ft-1} + X_3 INCE_{ft} + X_4 Div_{ft} + X_5 AMORT_{ft} + {}_{ft} \qquad (3)$$

Where

X_0 = Intercept.

BVA_{ft-1} = Book value of Assets of firm f at the end of year t. BVL_{ft-1} = Book value of Liabilities of firm f at the end of year t.

$INCE_{ft}$ = Net profit for the year excluding goodwill amortization of firm f in year t. Div_{ft} = Dividends paid of firm f in year t.

$AMORT_{ft}$ = Goodwill amortization of firm f in year t. ${}_{ft}$ = error term of firm f in year t.

According to Gujarati (1995), multicollinearity may arise from the existence of a highly correlated linear relationship among the explanatory variables of the regression model. For the model of this study, the sample correlation of book value of assets (BVA) and book value of liabilities (BVL) exceeds 0.924 and it is also supported by Spearman's *p*, which is significant at 1% for all cases. Thus, it is apparent that the presence of severe multicollinearity exists and could result in drawing misleading inferences for the sample t-statistic. To alleviate this concern, the model is estimated in a net asset form. It is eliminated to replace the regression variables of BVA and BVL by one explanatory variable which is the book value of net assets (BVNA = BVA – BVL). Thus, equation (3) would be expanded as follows:

$$MVE_{ft} = X_0 + X_6 BVNA_{ft-1} + X_3 INCE_{ft} + X_4 Div_{ft} + X_5 AMORT_{ft} + \ _{ft} \quad (4)$$

Where

X_0 = Intercept.
$BVNA_{ft-1}$ = Book value of Net Assets of firm f at the end of year t.
$INCE_{ft}$ = Net profit for the year excluding goodwill amortization of firm f in year t. Div_{ft} = Dividends paid of firm f in year t.
$AMORT_{ft}$ = Goodwill amortization of firm f in year t $_{ft}$ = error term of firm f in year t.

However, evidence suggests that the net asset form of the study model have no significant problems of multicollinearity.

6. RESEARCH HYPOTHESES

This section focuses on the model and the expected t-statistic values. The research question addressed in this study is whether the market perceives goodwill amortization as having information content when valuing firms. To answer this question, the following hypothesis is established:

Hypothesis: In the equation model (4) of the study, the t-statistic value of goodwill amortization coefficient (X_5) is the one of interest. If (X_5) is statistically significantly correlated with the firm's market value, then the market significantly perceive goodwill amortization as having information content when valuing the firm. To check this relationship the following null hypothesis is tested, against the alternative (X_5-t-statistic < 2.0):

H1: X_5-t-statistic 2.0

7. EMPIRICAL PROCEDURES AND RESULTS ANALYSIS

An econometric problem when estimating the study model is heteroscedasticity. It assumes that the disturbances appearing in the equity regression function of the sample have different variances. Heteroscedasticity disturbances arise from the fact that large firms tend to produce large disturbances and small firms tend to produce small disturbances. For the model of this study, the null hypothesis that the variance of the residuals of the model is consistent throughout the total sample is rejected at the 1% level of significance for all cases. Thus, it is apparent that the problem of heteroscedasticity is present and may lead to inconsistent estimates of standard errors and overstated t-statistics. To alleviate this concern, all regression estimates, t-statistics and p-values are reported on White's heteroscedasticity adjusted standards errors. White (1980) establishes a procedure, which is known as the heteroscedasticity-constant covariance matrix estimators (HCCME) to control for heteroscedasticity. White's procedure produces consistent estimates of the standard errors in the presence of heteroscedasticity.

The model of this study, equation (4), is estimated to examine the information content of goodwill amortization. Table 1 reports the total sample regressions of OLS estimation based on White's Heteroscedasticity Adjusted Standard Errors for share price at year-end. The coefficient estimates for BVNA is positive and significant for the sample under study, as would be expected if these accounting measures represent underlying economic resources. Both the book asset goodwill and other tangible depreciable assets are expected to generate cash flows in the future, and required to be amortized/depreciated over the expected duration of the related cash flow stream. However, Barth and Clinch (1998) argued that cash flows associated with capitalized goodwill are more uncertain than those associated with tangible depreciable assets and that the duration of these cash flows is more difficult to assess. As a result, the book asset goodwill is more likely to represent the economic value of its underlying assets with error. Thus, it can be argued that the significant coefficient on BVNA for the sample can provide evidence on the power of the present study model specifications to detect a positive relation between equity market values and economic resources that may be less difficult to measure than recorded goodwill. In addition, even though the estimation of the study model is based on four regressors, the explanatory power (adjusted R^2) of the study model is 0.6334.

Table 1. The OLS Statistics for the Model of the Study Based on White's Heteroscedasticity Adjusted Standard Errors

Year / Statistics / Predicted Sign	X_0	X_6	X_3	X_4	X_5	*Adj. R^2*	*N*
Total Sample							
Regression							
Beta-value		0.8361	-2.9003	-2.8989	14.3725	0.6334	21
t-statistic		2.7831	-2.1876	-2.2468	1.1212		
p-value		0.7406	0.3200	0.7891	0.4506		

Model: $MVE_{ft} = X_0 + X_6BVNA_{ft-1} + X_3INCE_{ft} + X_4Div_{ft} + X_5AMORT_{ft} + {}_{ft}$ $BVNA_{ft-1}$ = Book value of Net Assets of firm f at the end of year t.

$INCE_{ft}$ = Net profit for the year excluding goodwill amortization of firm f in year t.
Div_{ft} = Dividends paid of firm f in year t.

$AMORT_{ft}$ = Goodwill amortization of firm f in year t. ${}_{ft}$ = error term of firm f in year t.

8. DISCUSSION OF HYPOTHESES

In sample regressions, the variable of goodwill amortization (AMORT) is statistically significantly correlated with the market value of equity for the sample under study at the conventional level of significance. There are two possible explanations for the significance of goodwill amortization on equity market values for the sample under study. First, goodwill amortization is correlated with an omitted variable such as the expected future earnings that is not shown on the face of the financial statements. It could be argued that such an omitted variable could result in statistically insignificant coefficient for goodwill amortization even if the reported goodwill amortization is representing its underlying consumption. Second, the market views reported goodwill as an asset that is likely to generate future cash flows for an unlimited time and, therefore, it maintains its value indefinitely. Thus, it can be concluded that the market perceives goodwill amortization as having information content in the determination of firm's market valuation.

In addition, the regression coefficient on the reported goodwill amortization is statistically significant and highly exceeds two in absolute value. A possible explanation could be due to the assumption that empirical versions of BVA and BVL may systematically overstate the true value of the theoretical variables. Landsman (1986) argues that the historical cost measures of the book value of total assets and liabilities may systematically understate the market value for a variety of reasons. These include (1) book value measures do not include measures of off-balance sheet assets and liabilities; and (2) book value measures do not adequately capture the magnitude of the intangible assets owned by the firm such as internally generated goodwill.

CONCLUSION

This study seeks to broaden the understanding of the controversy surrounding goodwill accounting by examining the information content of goodwill amortization. In specific, it examines whether amortization of goodwill assets are value-relevant to investors in the determination of market valuation. The empirical test analysis yielded several interesting result. There is evidence that confirms the market perception of goodwill amortization as having information content when valuing firms, concluding that the use of standardized amortization requirement may be appropriate.

The market association test in this study is able to substantiate the issues addressed over amortization of goodwill by providing evidence supports the proposition that investors view goodwill as assets. Recorded (book) vales of assets are expected to be amortized systematically. If the value of the goodwill can be amortized systematically, then the best representation of the firm's performance may result from allowing firms to amortize goodwill values systematically. So, standardized amortization requirement for goodwill may be appropriate, and the annual amortization requirement may have the potential to better represent the performance of the firms.

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THE ROLE OF VOLUNTARY DISCLOSURE IN LISTED COMPANY: AN ALTERNATIVE MODEL

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Abstract

The aim of this paper is to propose a model of social reporting that allows improving the communication of sociability and quantify the sociability. The research approach follows a qualitative methodology, applying a single method approach. The observations are the result of an empirical analysis carried out on the Italian-Stock-Exchange listed companies that have an independent social or sustainability balance sheet. The findings of this research are based, first, on collection of data about the sample, in order to identify the strong and weak points in terms of its management and economic evaluation, and secondly on the introduction of an alternative method of social accounting, with the objective of measuring the sociability of company communication.

Keywords: Alternative Model, Company's Disclosure, CSR, Self-Financing, Social Reporting, Social Balance Sheet, Voluntary Disclosure

1. INTRODUCTION

A study conducted by the United Nations Environment Programme - Finance Initiative (UNEP FI) and the Principles for Responsible Investment (PRI) about the costs and risks of environment estimated that during 2011 the monetary value of environmental damage global annual (generated from production and human) amounted to approximately 6600 billion (approximately 11% of global GDP in 2008)[1]; of these, 4.5 trillion dollars were represented by external costs caused by emissions of greenhouse gases (GHG). The same report estimated that, in a scenario like the present, characterized by low growth rates per capita and an increase of the global population, the annual value of environmental externalities could reach 28.6 trillion dollars in 2050, part of which significant should be generated by increased costs for GHG emissions (up to approximately 21 trillion dollars) (UNEP Finance Initiative e Principles for Responsible Investment "Universal Ownership: Why Environmental Externalities Matter to Institutional Investors", 2011).

In this context the company is aware of their social role and they have the need to communicate their social activities to stakeholders.

Although social reporting entails additional costs, companies adopt it because encourages the stakeholder identification (Donaldson and Preston, 1995; Freeman 1984; Freeman et al., 2007; Mitchell et al., 1997) with the corporate vision and mission. The main benefits from the social balance sheet are identifiable in increased returns to shareholders over the long term, in the best strategic planning, in the development of brand, reputation and corporate's image, and in attracting customers.

Social report (Yongvanich and Guthrie, 2006) is based on the idea that communication processes and organization processes are specular, complementary and equivalent (Smith, 1993) and that it will be necessary to show the good organizational performance by creating a positive company image.

In this framework, our study identify the social balance sheet based on self-financing as the tool that best allows to highlight the sociality's enterprise. This sociality is, primarily, the result of the investment of "company's saving."

The social potential is represented by a high propensity to save, and then to invest, thus to increase significantly the economic prospects of the company.

In this direction, the purpose of this paper is to identify an alternative model of social balance sheet for contemporary companies, by providing an updated conceptualization of international standards and guidelines used to apply the voluntary disclosure (Advisson, 2011; Banghoj, Plenborg, 2008).

The article has the following structure: after the introduction, section two describes the research approach. Section three provides a literary analysis. Section four defines the alternative model of social accounting. Section five provides conclusions, limitations and suggestions for further research.

2. RESEARCH APPROACH

The research approach of the paper is based on a qualitative method (Maylor and, Blackmon, 2005; Myers, 2013, Hair et al., 2003). The research provides both the scientific community and the field operators an updated conceptualization of the social balance sheet models through the literature analysis.

The present scientific work integrates and updates existing literature, defining strong and weak aspects of the social balance sheet.

By examining the characteristics of the existing sourcing methods of international standards and guidelines, another contribution of the research is in defining some proposal in order to modify social reporting.

[1] *Italian GDP in 2013 amounted 1,560 billion euro.*

Data sourcing has been carried out using secondary sources, in particular, the secondary data (Yin, 2003; Myers, 2013) originates from:

- scientific articles and books;
- journal articles in open sources;
- databases and websites;
- databases and scientific documents.

In this way, we propose the analysis of the following social balance sheet models:

- the GBS model;
- the GRI model;
- the social alternative model.

3. LITERATURE REVIEW

3.1 The Corporate Social Responsibility in FTSE MIB listed company: some evidence

Many studies investigated the concept of Corporate Social Responsibility in the FTSE MIB listed company.

In particular, the study carried out by ALTIS-CSR Manager Network the data on CSR are in many ways encouraging. The research highlight that the issues related to CSR have now in the agenda of the Board of the main Italian listed companies. Indeed, 70% of Board of Directors of listed companies in the FTSE MIB clarified the specific meaning assumed by the term CSR in their own company and their sociability is communicated to all stakeholders. Besides more than half of Board of Directors is engaged in examining and approving CSR policies.

The majority of the FTSE-MIB listed companies have more cognition of the concept of CSR (70.97%) than samples of companies listed and unlisted (see. Figure 1).

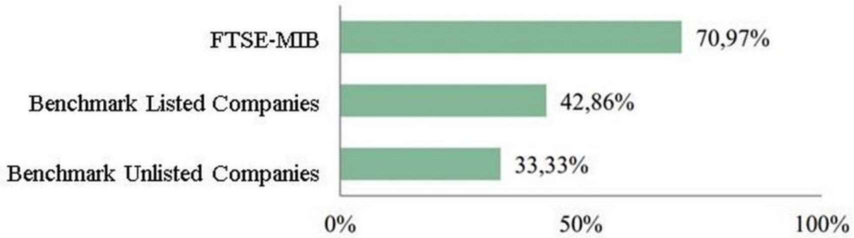

Figure 1. The Board defined the CSR
Source: C.d.A. e Politiche di sostenibilità, CSR Manager Network

Besides, the Board of 64.52% of FTSE-MIB listed companies established and publicly disclosed its social and environmental commitments. In this case, benchmarks clearly differ, only the 14.29% of listed companies announced their social and environmental such commitments, while in unlisted companies the value is 40.00% (Figure2).

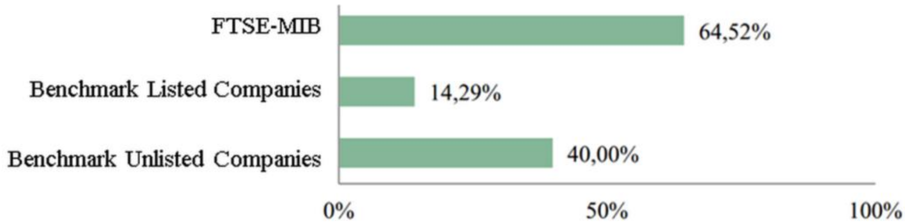

Figure 2. The Board established and publicly disclosed its social and environmental commitments.
Source: C.d.A. e Politiche di sostenibilità, CSR Manager Network

Contemporary companies have an increasingly social role in the knowledge economy (Foray, 2006) and their responsibility resulted in the need to extend the content of the company's disclosure (Mayew, 2012).

The social balance sheet is one of the primary tools of CSR implemented by the companies; in fact the 80.65% of listed companies publish this document annually. The research highlight that the 96% of companies that publish social balance sheet provide to the analysis and the approval by the Board of Directors. The social balance sheet proves as the most capable of engaging the agenda of the Italian listed companies Board. The approval of the Social Balance Sheet by the Board of Directors isn't mandatory and attests like this tool was considered relevant for the companies.

In particular, by using a qualitative approach to the research, the primary data arising from the survey about the reporting are the following.

The result of the analysis show that 4 out of 5 companies in the sample FTSEMIB listed companies prepare their social balance sheet (80.65%), which has become common and essential element of the strategy of large companies (see. Figure 3).

Furthermore another Italian study demonstrated that the 64% of the top 50 companies listed on the Milan Stock Exchange[2] has published the social balance sheet in 2014 (year 2013) (Figure 4).

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[2] *Sample of 50 leading companies listed on the Italian Stock Exchange in different sectors of activity, identified as a function of varying size and sector of a total of 300 listed companies. The company size has been calibrated, as well as revenues, also based on the number of employees and, in fact, the productive sector. [...] The breakdown by sectors of the companies included in BI50 was weighted in relation to the distribution found in the sample of 250 largest companies / enterprises / groups ranked according to turnover in the ranking of the Fortune Global 500 (G250).*

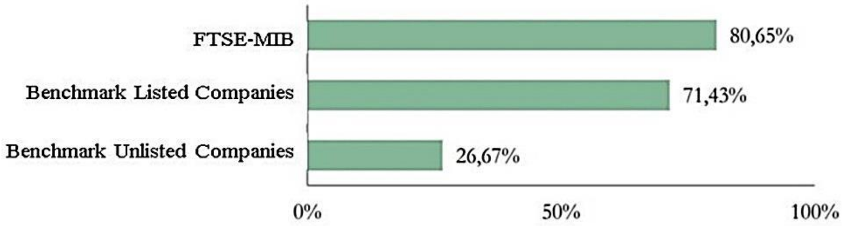

Figure 3. The company prepares its Social Balance Sheet
Source: C.d.A. e Politiche di sostenibilità, CSR Manager Network

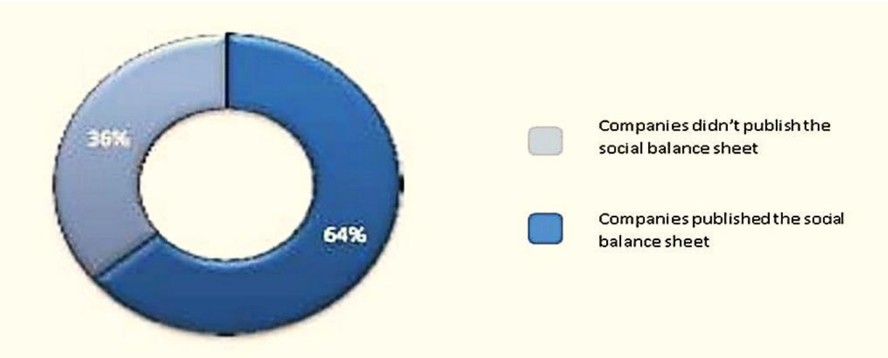

Figure 4. The top 50 companies listed on the Milan Stock Exchange published the social balance sheet during 2014
Source: Rendicontazione non finanziaria e asseverazione dei report di corporate responsibility nelle società quotate - Fondazione Nazionale dei Commercialisti – February 2015

This growing trend is also emphasized by a survey carried out by KPMG. It showed an increase of 59 percentage points between 1993 and 2013 of the companies that published their social balance sheet (see. Figure 5).

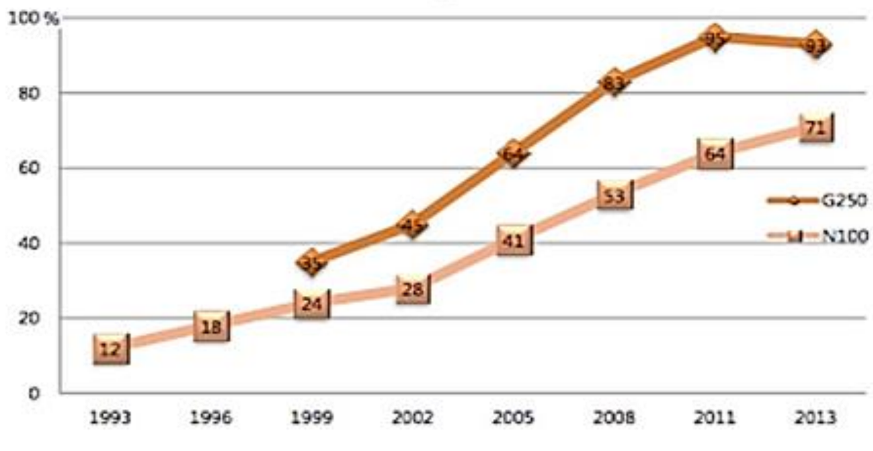

Figure 5. Companies that published their social balance sheet between 1993 and 2013
Source: The KPMG Survey of Corporate Responsibility" - Kpmg - December 2013

Some evidence supports the strategic value of this tool. In almost all enterprises that issue sustainability report, this shall be submitted to the Board (96,00%) and reviewed by an external organization (87.50%), in order to certify their validity (Figures 6-7).

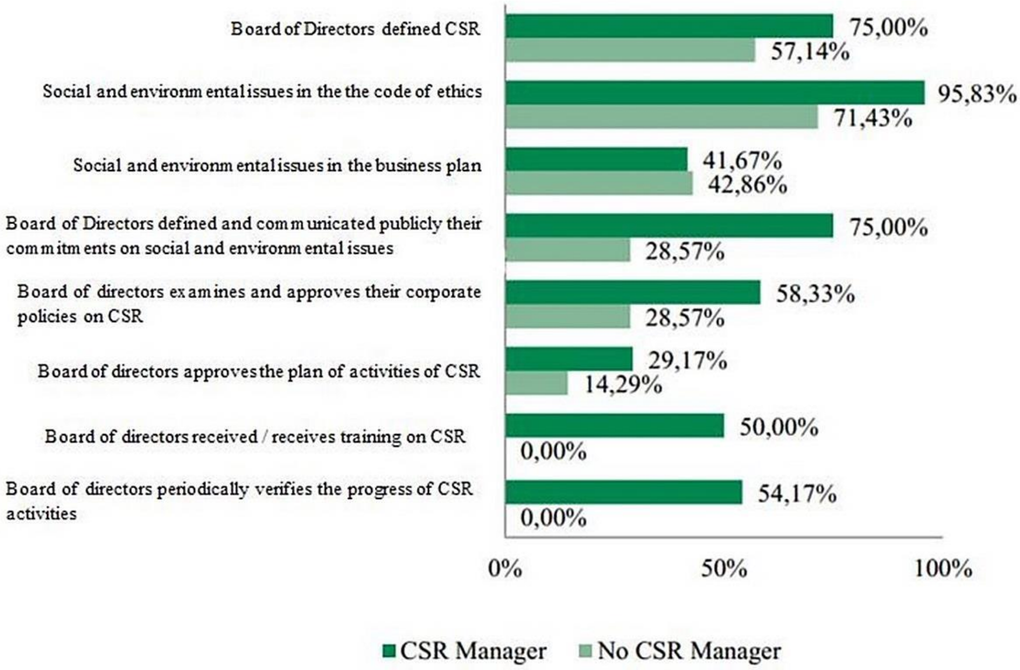

Figure 6. the management of CSR in the presence of CSR Manager
Source: C.d.A. e Politiche di sostenibilità, CSR Manager Network

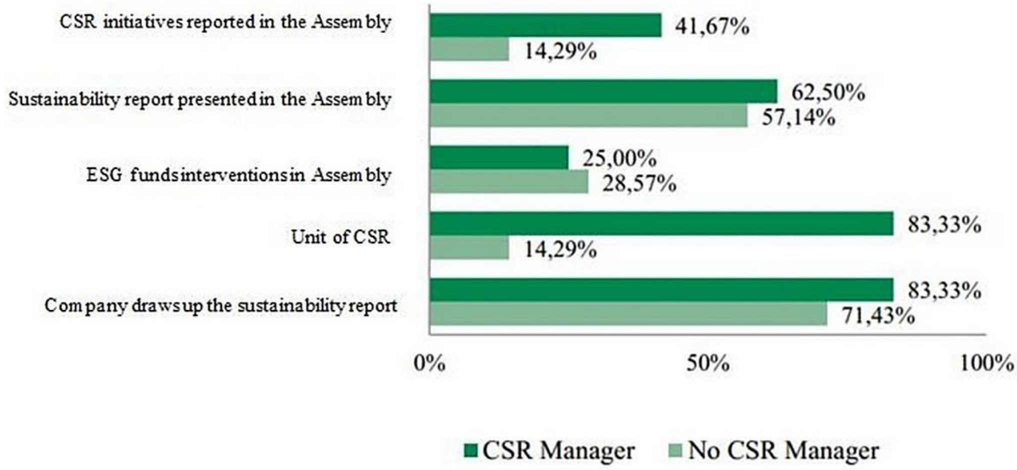

Figure 7. The organizational structure in the presence of CSR Manager
Source: C.d.A. e Politiche di sostenibilità, CSR Manager Network

Among the benchmarks, the situation is different, because the sustainability is a relevant matter in other listed companies (71.43%), but minor in unlisted (26.67%). In other listed companies, despite a high spread, the approval by the Board of Directors and the revision are not very frequent.

Therefore the data (see. Figure 8) shows that the figure of the CSR Manager is now widespread in the context of listed FTSE-MIB (77,40%), but it is lower both in other listed companies (42.86%) and in unlisted companies (26.67%). The same trend is found concerning the existence of a specific unit of CSR, in fact it exist in 2 out of 3 companies of the FTSE MIB listed companies (67.74%).

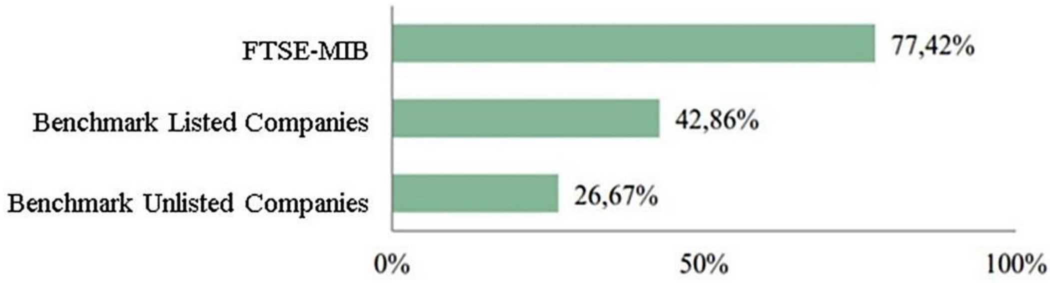

Figure 8. The company has a CSR Manager
Source: C.d.A. e Politiche di sostenibilità, CSR Manager Network

By analyzing the quality of the social report, the KPMG survey on the report 2012 of the G250 highlights that the quality of social reporting is low, only the 20 % of the G250 companies have a good disclosure. Only the 23% of public reporting underlines not only the successes, but also the feedback received from the stakeholders and the improvement areas. There is not a Italian company in the best companies of the sample but on average they are of those with the score higher in terms of quality of reporting. On an average of 59 points out of 100 for companies of the G250 that making reporting, Italy has achieved a score of 85 on 100, followed by Spain (79) and United Kingdom (76) (see. Figure 9).

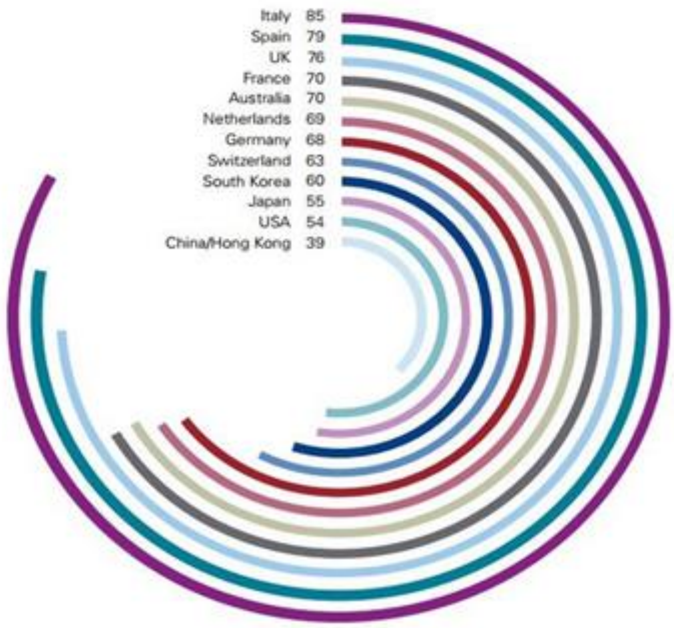

Figure 9. Quality of social reporting.
Source: The KPMG Survey of Corporate Responsibility" - Kpmg - December 2013

Social reporting implies additional costs for the company. It requires an information system that uses both data and tools already present in the business organization and other data and additional tools such as the collection of information, the adaptation and the implementation of procedures ITC, etc.

According to a survey of the Global Reporting Initiative (GRI), between 2006 and 2010, the use of software to monitor the performance of sociality has increased by 50% in the companies using them. In particular, this software reduces the time spent gathering information and the overall costs require fewer resources for reporting and communication, it improves data accuracy and simplifies the social report based on indicators and international standards such as the GRI and the Dow Jones Sustainability Index.

The main criticisms to the CSR (Hinna, 2005; Coda, 2005; Molteni, 2004; Rusconi, 2006) and to its reporting framework are the effectiveness of the incurrence of additional costs and the goodness of the same intentions. Some authors argue that the inevitable increase of costs will have negative effects on the welfare state and the market economy (Henderson, 2001), and that investments in socially responsible actions are the result of pressure from the institutional surrounding context and not the result of careful cost-benefit analysis. In addition, CSR (Guthrie et al., 2007) is considered a tool capable to simplify communication processes through advertising or promotion of a company in order to improve its image towards stakeholders without a corresponding improvement in management.

Attention to social reporting is relevant for contemporary companies, in spite of their primary typical purpose, profit maximization, in order to highlight the resources allocated to social stakeholders, internal and external, and how these are invested for these purposes. The social balance sheet loses its meaning and it implies only an additional cost for no-profit companies.

The social balance sheet is one of the particular company tools. The information on capital must be produced with accuracy and accounting method and the legal entities must feel the obligation, or be obliged, to provide timely information about their social commitment, with reference to 'internal and external to the company" (C. Bianchi, 2010).

The social balance sheet is a document that aims to describe analytically the reasons of costs, not immediately related to the core business, but that can generate benefits for some categories of stakeholders. The drafting of balance sheet can be analyzed according to three profiles of analysis at least: the identification of the content, the internal consistency of content and process. In fact, the different types of social balance sheet proposed from organizations are usually discern in content standards (Global Reporting Initiative, a group that studies and identifies the principles of composition of the Social Balance Sheet) and process standards (AccountAbility1000). The content standards are related to the structure and content of the report. Instead, the process standards mainly focus on the mechanism of construction of the document.

4. A DISCLOSURE ON THE SOCIAL REPORTING MODELS

Professional associations, public institutions and groups of companies have developed voluntary standards in order to increase the spread of social, environmental and intellectual capital information (Dumay, Tull, 2007; Stewart, Ruckdeschel, 1998). This is a new trend promoting innovative kind of voluntary disclosure (Boedker et al., 2008; Husin et al, 2012; Jones, 2007).

Among the above models, a relevant role it is given to the social balance sheet (SBS): it is a tool that displays the link between environmental and socio-economic factors inherent to the enterprise choices (AA.VV. 1981; Cassandro, 1989; Catturi, 2000;. Gabrovec Mei, 1993; Matacena, 1984; Pasini, 1988; Superti Furga, 1977). Companies that draw up a social balance sheet may apply different voluntary standards recognized in the international field.

The types of social balance sheet (Sidoti, 2011) proposed by the different institutions dealing of the standardization of social disclosure process are often boxed in alternative definitions of:

-the process standards focus their attentions on the process of building a social report, and they define the principles underlying its drafting;

-the content standards are primarily concerned with the structure of the report and the content of the same.

There are many methodological approaches developed for the arrangement of the social report (Dale, Onyx, 2010; Godfrey, Hatch, 2007; Parket, Eilbirt, 1975). It is possible to report using methods of quantitative or qualitative detections or simple indicators (Key Performance Indicators (KPI) non-financial). Inter alia, the exposure of these indicators of nature outside accounting (in addition to the financial index) became compulsory by italian law into the “Management Report”, in accordance with article 2428 of the Civil Code. In fact, in Italy, the company registers its social balance sheet to CCIAA into “Companies register” with the balance sheet, so it is available for every stakeholder.

The main models (Chiesi, Martinelli, Pellegatta, 2000; Costa, 2007; Hinna, 2002; Manetti, 2006; Marchini, Tibiletti, 2004; Rusconi, Dorigatti, 2005; Rusconi, 2006) of social reporting applies by Italian companies related to content standards are the following:

- the model developed by the Study Group on Social Reports (GBS);
- the model developed by the European Institute for the Social Report (IBS);
- the CSR-SC model of the Ministry of Welfare;
- the model developed by the Global Reporting Initiative (GRI).

4.1 .The GBS Model

The standards proposed by GBS (Gruppo di Studio per il Bilancio Sociale, 2007) actually represent one of the main guidelines for Italian companies that draft social balance sheets.

The GBS standards were divided into three sections (I, II, and III) proceeded by a Presentation.

The Presentation of the model defined the scope, diffusion and discipline of social balance sheet, further detailed with the following points:

- underlying motives;
- general characteristics;
- group work criteria;
- the document.

Concerning the general characteristics, they are recognized for social balance sheets with the following features:

- autonomous document: it deals with a type of autonomy that is relative with regards to the document, but not to the information it contains;
- periodical document: the social balance sheet must be drafted as per regulations for every year-end;
- stocktaking document, where all the program directions are indicated for the future;
- public document: directed towards social mediators that are directly or indirectly involved in activities; here we deal with those who use resources in the company under the form of assets (work services, supply of goods and services etc..), and those who use company results and those that indirectly reflect on such activities.

The section I of the GBS standard describes the Social Balance Sheet Objectives and drafting principles.

The explicit objectives of the model could open an interactive company communication process using data capable of outlining a complete framework of company performance, as well as the possibility of broadening awareness and assessment possibilities and choices for stakeholders.

The Social Balance Sheet drafting principles are the following:

1. Responsibility towards stakeholders that the company must answer to;

2. Identification of property and corporate governance with use of ethical paradigm of reference;
3. Transparency for recipients: all parties must be given the opportunity to understand the logical process of detection, reclassification and social reporting;
4. Inclusion: all identified stakeholders will be directly or indirectly given a voice;
5. Coherence between politics and management choices with respect to declared values;
6. Neutrality, impartiality and independence of interested parties;
7. Accruals basis;
8. Prudence to avoid overestimation of negative and positive social effects;
9. Comparability over time, through each year-end and in different companies;
10. Comprehensiveness of information based on the balance between form and substance;
11. Periodic recurrence in publication of social balance sheet considered accessory to the financial statements;
12. Homogeneity in monetary accounts;
13. Usefulness of information finalized to satisfy stakeholders;
14. Significance and relevance of impacts subject to reporting founded on the fact that eventual estimates or assessments have to be based on congruent or explicit hypothesis;
15. Verification of information through the reconstruction of gathering procedures and reporting;
16. Reliability and faithful representation, through the submission of information devoid of errors and prejudices;
17. Independence from third parties eventually involved in the drafting of certain parts of the Social Balance Sheet.

The section II is named Structure and contents of the Social Balance Sheet. It represents the focus of the document defining the content of the Social Balance Sheet proposed by GBS. The three fundamental parts of the model are:

- company identity;
- production and distribution of added value;
- social relations.

Company identity represents a descriptive introduction that supplies news about the company, with the purpose of give to the stakeholders the first elements to be able to formulate an evaluation and to express a coherent opinion between values of the company and the achieved performance. In order to reach a clear identification of the company, the document requires the following information:

1. Institutional Assets: property assets and governance evolution, main elements that define the history and company evolution, dimensions, placement on the market and organizational structure;
2. Reference values: clarification of the guidelines values, ethical principles and codes of conduct;
3. Mission: description of company purpose over the long term;
4. Strategy: programmed objectives for an average long term period finalized to achieve mission;
5. Policies: objectives and choices on a short-term basis.

The section named Production and distribution of added value must contain a prospect of income statement classified by the added value method.

Added value method is applied to show wealth produced and is characterized by two distinct tables:

- the statement of calculating the value added, defined starting from the juxtaposition of revenues and average costs;
- the statement of value added distribution, reconstructed as the sum of remuneration received by stakeholders within the company and outside donations.

Added value can reflect various configurations based on the aggregation level of income components: characteristic added value, ordinary added value or global added value. The chosen configuration for GBS is that of global added value that can be considered as a configuration at net value or gross value with depreciation.

The social report represents the section of the Social Balance Sheet that should include communications directed to the stakeholders by expressing the information in a specific manner for each category of identify interest. The section of the document dedicated to social reporting is divided into: fundamental sections and supplemental sections.

The fundamental sections include the following sections:

1. Report Contents;
2. Identification of stakeholders;
3. Principles used for each stakeholder category.

The main element characterizing the social balance sheet is the identification of stakeholders, or rather the different categories of those who hold interests in the company

The identification of the categories should represent a significant time in the drafting of social balance sheets. The GBS model proposes a list of company stakeholders related to production companies; nevertheless, this list is subject to integrations and changes due to company reality. It is composed of personnel, shareholders, investors, clients/users, Public Administrations and society as a whole.

For each identified category of stakeholders explicit policies are adopted. They emerge through the recall of expressed obligations in the section regarding identity, coherence in actions taken and declared objectives.

The principles used for stakeholder categories include:

- Policy guidelines and expected coherent results with reference value and mission;
- Detection process (legitimate expectations and the level of consensus/satisfaction);
- Controversy and contentiousness.

The supplemental sections include:

1) Judgments and opinions from the stakeholders;
2) Comments and declarations from the company;
3) Improvement of the social balance sheet.

In these section the will to make emerge the nature of relations between the company and external or internal intermediaries is clear, as we reach a real involvement of stakeholders in the drafting process of the report. It is relevant to observe another feature of the social balance sheet that allows declaring the improvements reached in the document to increase completeness, transparency, inclusion and proactive actions.

Finally, the section III of the GBS model is the Appendix and includes:

1) information for determining added value;
2) handle off schemes for financial statements with regards to valued added prospects.

The last part of the standard aim to increase clarity of the quantitative data shown.

4.2. The GRI model

The Global Reporting Initiative – GRI - establishes the international recognized for the drafting of sustainability report used in all companies, independently of their dimension, sector of activity or country. GRI guidelines (GRI, 2006) are today the most appreciated on a world scale.

The GRI principles (GRI, 2002; GRI, 2011) have been elaborated to reach an high level of transparency in communications, making public all information on topics and indicators that allow stakeholders to know the impacts generated and then take knowledgeable decisions, both in procedures and in hypotheses' used in drafting. By applying the GRI guidelines is possible to compare sustainability statements from different companies.

To guarantee a support for company results, its necessary to establish the information to be included in the report. This decision has to be taken by contemplating company purpose and experience with regards to expectations and legitimate interests.

The principles, which are the basis of the guidelines for reporting on sustainability, are used to identify the document content and guarantee the quality of information reported. They include information standards that are composed by "performance indicators" and of other ones of a different nature.

Each performance indicator also contains its "protocol indicators" that provides definitions, compilation guidelines and other useful information to help in report drafting and insures coherence in interpretation of the indicators. The users of these guidelines must take advantage of indicator protocols. The substitutes of the sector integrate the guidelines with interpretation and recommendation on their application in specific areas, understanding that even performance indicators are specific to each sector. The "technical protocols", are used with the guidelines and the sector supplements support the drafting of aspects such as the definition of the report perimeter as it is interested in problems that almost all companies must face.

The GRI approach starting from the identification of topics and then of relative indicators through an iterant process. In particular, the GRI guidelines (www.globareportinginiziative.org) identify three types of information:

- Strategy and profile (strategy and analysis, organizational profile, report parameters, governance, obligations, involvement of stakeholders);
- Management methods (employment, industrial relations, health and safety in the workplace, training and education, diversity, equal opportunity, investment practices and purchasing, non-discrimination, liberty of association and collective negotiations, abolition of youth labor, prevention of forced labor, claims and resolutions, safety practices, Indian population rights, health and safety of consumers, product and services labeling, marketing communications, respect of privacy and conformity);
- Performance indicators (economics, environment and social).

5. AN ALTERNATIVE MODEL OF SOCIAL ACCOUNTING

The goal of a social balance sheet is to explain how resources are originated and used and the models mentioned do not allow for a precise analysis of this topic. It could be interesting to monitor and measure social actions by companies through self-financing.

Self-financing, or rather company savings, is an economical phenomenon with financial effects that allow minor need to credit capital and to use internal company resources for new investments. In this way, company can increase future performance and guarantee vitality and growth. Such a role is even more evident when self-financing is used to invest in research and development, marketing, environment safeguarding and accident prevention.

5.1 Social Balance Sheet based on the self-financing model

In the past years there has been a growth in awareness with the way companies produce and the difference it makes in a context of using up environmental, social and economic resources, and sustainability has become the main evaluation term for companies (Farneti, and Guthrie, 2008) and public administrations that want to take on a role that is socially responsible.

The social balance sheet is one of the most relevant reports for companies directed to represent social information in the light of the voluntary disclosure (Uyar and Kiliç, 2012).

The social balance sheet is a summary document containing the reasons for sustaining costs, not immediately referable to specific activities, but capable of generating advantages for certain stakeholder categories (personnel, shareholders, investors, clients, users, suppliers, Public Administrations and the society as a whole).

We also must observe that self-financing is fed through the waiver of shareholders on their dividends, which means that, even under an ethical profile, the waiver of cashing in profits, in order to increase company development represents socially responsible corporate behavior.

If what has been described is correct, we must better understand how a social balance sheet model can be built on self-financing.

5.2 Model Analysis

The social balance sheet for self-financing is the tool that best allows for the description of company social responsibility due to, investments of "company savings".

Such model is composed of two sections. More specifically, the Social balance sheet in a strict sense characterized by a comparison, as demonstrated in the following scheme, with resources and uses, and comments, which are used to explain the data. This model is merely quantitative in the first section.

Summarizing we have the following result:

RESOURCES	USES
1 Self-financing of the report:	3 Internal Sociability:
1.1 retained earnings (Profits net of dividends)	3.1 Development & research costs
1.2 provisions	3.2 Training personnel costs
1.3 depreciation	3.3 prevention devices
2 Rectifications:	4 External sociability:
2.1 for price policies	4.1 installations for minor environmental impact
2.2 for tax policies	4.2 marketing expenses
	Asset reinforcement over a long term period
TOTAL RESOURCES (1+2)	TOTAL USES (3+4)

The comments on the social balance sheets, regard resources exposed in the scheme, allow to explain the quantitative data expressed in the table and to reconstruct the self-financing voice of statement and the uses. Concerning the uses, the comments emphasize the origin of value assigned to social investments both internally and externally. Such data primarily arise from a comparison of the patrimonial state of the year-end that the social balance sheet refers with the one from the previous year.

The above model begins from self-financing, as the summary of profits that are not distributed, depreciation and provisions calculated net of utility funds, as a good indicator of social potential of the company, even better than classic indicators such as employment and taxes.

Social potential is represented by an elevated propensity to save, and therefore to invest, in order to significantly improve the company's economic prospects. It seems evident that company savings can represent social potential, and therefore self-financing, is the indicator of positive economic outcome capable of expressing a relation between external and internal environments. In fact, "self-financing represents a true tool for the evaluation of action, as it results from rational management; it has the seed of the future, becoming a true social resource."

The model for self-financing contains some features that describe some social actions: the first is price policy. In fact, price policies with a strong discount, or contained, are evaluate by the model as an additional resource. This is clear in technical accounting terms: minor prices/higher profits, very true in terms of sociability A controlled policy of prices today represents a social resource for companies sustaining that they are meeting their clients half way. Above all in food distribution, and in particular in the large consumer goods company, today price policy, tariff policies etc., represent an element that has a strong social impact.

The model divides the social uses in internal and external. This means using the potential derived from self-financing for sociability towards internal and external stakeholders and leads to the quantification of company welfare.

Companies, in other words, invest both in actions directed towards improvement of work conditions of their employees and in external environment, but companies also invest in innovation and this improves their products and processes in order to release products on the market that have a minor environmental impact.

The self-financing model is able to evaluate the social action, but it is the model has further value. In fact, self-financing is an indicator of the company's state of health. It is easy to demonstrate that companies, whatever size, are inclined to generate self-financing based on their capacities and limits in their sector of activities (the marginality of every company and every sector is different). This assumes that self-financing is a pure social resource and its use is a modality to understand how it realizes socially responsible actions.

Internal social actions of contemporary companies correspond with all the tools for company welfare that have been mentioned; external social actions represent the actions of a company towards the outside and, therefore the sociability that is realized with innovation that improves environmental impact.

6. CONCLUSIONS, LIMITATION AND FUTURE RESEARCH

The aim of this research is the search for an appropriate tool to be offered to companies and to help them in the communication. The 80.65% of listed companies draft their social balance sheet as a tool to communicate and promote their sociability. The study suggests an alternative method of social reporting in order to improve the tool of balance sheet. The traditional standards drafting are essentially descriptive, do not highlight the company social actions and the source of funding used for this purpose.

The alternative method proposed in the section five allows for the communication and the measurement of company sociability.

The SBS based on self-financing is the tool that best allows highlighting the sociability's enterprise. This sociability is, primarily, the result of the investment of "company's saving."

The model of SBS consists of the "Social Balance Sheet" in the strict sense, where the resources contrast the uses and the "Explanatory Statement" is used to explain the quantitative data reported in the first section.

While considering the resource, the explanatory statement allows explaining the quantitative data presented in the table and it allows the reconstruction of the self-financing part from the balance sheet. While, when we consider the uses, the Explanatory Statement highlights the origin/reason of the values assigned to social investment, both internal and external. These data arise from the comparison of the balance sheet of the year which the SBS refers with the previous year.

This model of SBS assumes that the self-financing, as the sum of retained earnings, depreciation and provision to net use funds, is a good indicator of the potential sociability of a company, moreover it is better than the classic indicators such as employment, taxes, etc.

The social potential is represented by a high propensity to save, and then to invest, thus to increase significantly the economic prospects of the company.

This methodology puts in evidence the suitability of self-financing as a social resource companies should not refrain from.

The Social Balance Sheet, drafted in accordance to the model of self-financing, unlike other models set in patterns without an authentic conceptual autonomy, has the assumption that the self-financing (Capaldo, 1968) is a good indicator of the social potential of a company better than other indicators such as employment, taxes, etc.

From this point of view, the self-financing constitutes a proper social resource which the company could not refrain from. This is due to the belief that the sociability is intrinsic to the company.

Above all in a historical moment as the one we are in today where a credit crunch impedes companies in their growth, especially small to average sized companies, having financing, become necessary to increase financial autonomy, signifying that they are less dependent on the market and, can therefore handle investments with means that are entirely generated within the company. Self-financing is a measure for resources that a company with its own management is capable of generating on its own.

Finally the companies that invest in social reporting could have major performance and create value in the long period.

This research was conducted on the basis of listed companies' reports. This means that the analysis was conducted on a limited sample of companies and, moreover, of companies that however has a culture of corporate social responsibility and have internalized some mechanisms of showing their sociability.

The second aspect to consider is that you should apply the model not from an outside reconstruction, but from the accounting data of the company to properly understand the dynamics of the construction of the document.

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FACTORS AFFECTING ENTREPRENEUR'S DEVELOPMENT IN OMAN

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Abstract

The objective of this paper is to examine the factors affecting the choice of entrepreneurship among the university going students for starting their own business, their awareness about the schemes promoted by the government of Oman for entrepreneurship. The schemes by the government of Oman for promoting entrepreneurship.
The data for the study is obtained from primary source with the use of well structured and pre-tested questionnaires, which were distributed among 150 students of different colleges of Dhofar University, Salalah, and Sultanate of Oman.
The factor analysis using principal component extraction method with Varimax rotation has extracted 5 factors which explained 63.74 percent of the variance.

Keywords: Factor Analysis, Small and Medium enterprises in Oman, Entrepreneurship, SANAD, and Al-RAFAD fund

1. INTRODUCTION

The formation of new firms is crucial for regional development and for the vitality of national economies (Dahlstrand, 2007; Saarenketo, Puumalainen, Kuivalainen, & Kylaheiko, 2009).

Now a day's entrepreneurship study programmes and courses can be found at all educational levels (Franco et al., 2010; Nabi & Holden, 2008).

Many Higher Eductinal Institutes (HEIs) also provide support programmes manned by coaches and mentors or offer entrepreneurship seminars and forums, aiming to complement traditional entrepreneurship study programmes (Birdthistle, Hynes, O'Dwyer, & Costin, 2009; Hynes & Richardson 2008; Kostoglou & Siakas, 2008).

This kind of creation of an environment for stimulation of entrepreneurial behaviour in the academic community is called Academic Entrepreneurship (Sijde, McGowan, Velde, & Youngleson, 2006).

It is beneficial for the society in many ways. It helps the society to get new goods and services. Entrepreneurship can be seen as a major force for the economic development of the various countries. For the development of any country it is necessary to give emphasis on the development of various small scale enterprises as well as tiny, and cottage industries. It helps in the economic development of the country. It is very necessary for the encouragement of entrepreneurship for the economic development of countries.

Entrepreneurship in Oman

The Royal Decree No. 19/2007, establishing of the Directorate General for Development of SMEs, in Ministry of Commerce and Industry embodies the continuous efforts exerted by the government to develop this sector, which represents a fundamental pillar of the Omani economy.

In effect, the 2013 Royal Decree 36/2013 to establish the Public Authority for Development of SMEs in Oman further indicated the growing importance attached to SMEs. The ultimate success of the Public Authority for Development of SMEs would be in its effectiveness to gradually help the sector becoming a major contribution to the national economy.

The government is spending more than ever to promote and encourage this concept. The oil resources are also depleting therefore it is very necessary to find out alternatives for the youth to get employable. The government in Oman is considering new avenues for its youth to get employment. There are various schemes which are available to promote entrepreneurship in Oman. One of these schemes is known as "SANAD". It is a Self-Employment and National Autonomous Development opportunity which has been introduced by ministry of manpower for promoting young unemployed person to get finance from the ministry for setting up new business.

Under this programme government is promoting the youth to start their own business for which they would finance up to 5,000 Omani Rial (around $ 13,000).This amount is provided as loan for seven years and the interest charged is at 2 % per annum to over the administrative charges. This would be disbursed by Oman Development Bank (ODB) after the approval and recover it as per the funds regulations.

This scheme is targeted for the unemployed people within the age group of 18 to 40 years. This finance can be availed by any job seekers or new graduates who are interested in starting any small projects These include jobseekers and new graduates who are interested in starting small projects managed by them and craftsmen interested in starting new productive or serviceable work for themselves or interested in expanding their existing business. Twenty two sectors were selected as focus areas. In addition to these occupations and businesses, the applicant is free to choose any business of his or her choice. The SANAD programme has been able to attract numbers of women entrepreneurs. In all, 37 percent of the funds during 2002-2004 were provided to women. (Khan, Ghosh, & Myers, 2005)

Another fund which was created after closing of SANAD was known as Al Rafad fund which was established in 2013 by Royal decree 6/2013. This was to support established small and medium enterprises of Oman, by providing them funds for development. This fund was established for supporting small scale enterprises by providing loans to them. Any person who had a viable project to be established in the private sector could approach this for funding.

This fund basically provide fund for four different categories of target groups which are

Mawrid programme

Taasess programme

The Araayda

Tazeez

The Madrid programee is basically targeting people with physical challenges under the socially security system and which provides loans up to 10,000 OMR. (Omani rial)

The Taasess programme is targeting unemployed people of the country which provides loans up to 20,000 OMR

Arrayda is targeting people who are entrepreneurs, craftsman, businessmen and women with loans of 100,000 OMR.

And the last type of funding is Tazeez which provides additional loans to those beneficiaries of the Fund who seek to expand their ventures.

2. LITERATURE REVIEW

Entrepreneurship has been a buzzword, especially among young people between the ages of 18-34 (Chen & Lai, 2010). They have recognized the various benefits of starting-up new businesses.

Entrepreneurs demonstrate a need to achieve, a willingness to exploit a challenge, to persevere, to work hard and driven by self-belief, but tempered with the ability to be flexible and to delegate to others when necessary as well as willingness to listen to advice and to recognize that they are not experts in every aspect of their business (Good body Economic Consultants, 2002).

Kalyani, Brinda, P. Al Yahyaee, L (2012), "According the government statistics, the number of active enterprises stood at 118,386 in 2009. Of this, 117,914 enterprises were SMEs, and accounts for more than 95% of the economic activity. Although there is no separate policy framework drawn up for the SMEs, the government has adopted certain steps in this regard like the availability of Oman Development Bank loans, incubator facilities, equity funding by the Youth Fund, and micro-business development facilities offered through the SANAD program. Kamoonpuri, H.M. (2004), Goel, Vohra, Zhang, and Arora (2007) briefly define it as the activity of establishing and managing a business for profit and growth.

The theoretical framework of this research is anchored on the theory explicitly espoused by Hannan, Hazlett, and Leitch (2004) that for increasing the level of entrepreneurial initiative among students, it is needful to increase positive attitudes towards entrepreneurship, so attitudes can be viewed as the stepping stone to entrepreneurial intentions.

A study on women entrepreneurs in Zimbabwe concluded that Zimbabwean female owners have strong entrepreneurial competence but lack the ability and support to develop their firms to their full potential (Mboko et al., 2009). While there was a high participation of women in the micro and small business sector (Mcpherson, 1998), their livelihoods remained weak. Most studies, have established that most of the businesses were very small and a very small percentage had grown in terms of turnover over a period of ten years (Mboko et al., 2009).

3. RESEARCH METHODOLOGY

Research Design

The research design is exploratory in nature. The research has been conducted in the campus of Dhofar University, Salalah Sultanate of Oman. Simple random sampling method has been adopted and an attempt has been made to include all the age groups and gender to study the interest of university going students for starting their own business.

Sample Area

This paper is to examine the interest of university going students for starting their own business, their awareness about the schemes promoted by the government of Oman for entrepreneurship. The sample has been taken from the students of Dhofar University.

Sample Unit

University going students of Dhofar University.

Sample Size

150 students of different colleges of Dhofar University, Salalah.

Sampling Instrument

Structured questionnaire having close ended questions was used for seeking responses on various aspects of entrepreneurship and awareness about various schemes promoted by the government of Oman for entrepreneurship. After completion of questionnaire, data was carefully coded in the Microsoft excel sheets and then transferred to SPSS 16.0 (Statistical package for social sciences). Analysis and testing of relationship between various variables has been done with the help of SPSS 16.0.

The factor analysis with rotated method was used to extract the important variables from a list 14 continuous variables and eigen value of more than one was used to extract the variables. Most of questions were based on 5 point Likert scale ranging from 5 (strongly agree) to l(strongly disagree) with an option of NK (not known). The schedule has 3 items of general information. 5 items were dichotomous questions based on the awareness of the schemes related to promotion for entrepreneurship by the government. 7 questions were multiple questions based on the knowledge of the entrepreneurship.

Objectives

- The objective of this paper is to examine the interest of university going students for starting their own business.
- To study their awareness about the schemes promoted by the government of Oman for new and old entrepreneurship.
- To study the finance available from banks for entrepreneurs.

4. ANALYSIS AND RESULTS

4.1. Data verification

Factor analysis requires strong correlation in the original variables, otherwise cannot synthesize a few public variables to reflect common characteristics. It is based on the variable correlation coefficient matrix, and the statistic test carried out the determinant of the correlation coefficient matrix. If the value is bigger, and its corresponding concomitant probability value is less than the significance level, then reject the null hypothesis. The data is suitable for factor analysis.In this paper, we are using principal component analysis method.

4.2. Profile Analysis of Respondents

Table 1 presents socio-demographic of the respondents. The socio demographic profile of overall sample is shown in Table 1. The sample comprises of 56 percent male and 44 percent female respondents. Educational profile of the sample shows that about 56 percent respondents are graduate and above; 21.3 percent are having education of Diploma level 18.7% are high schools and 4 percent are school level. The age is between 18 to 22 years represents 45.3% of the reposndents, 36% are between 23 to 26 years 4% are between 27 to 30 years and above 31 years are 14.6%.There are nearly 64% of the respondents who do not have any type of experience whereas nearly 36 % had some sort of work experience.

Table 1. Sample Demographic Characteristics

	N	*%*		*N*	*%*
Gender			Age		
Male	84	56	18-22	68	45.3
Female	66	44	23-26	54	36.0
Education			27-30	6	4.0
School	6	4.0	31-34	14	9.3
High school	28	18.7	35-38	8	5.3
Diploma	32	21.3	**Experience**		
Degree	74	49.3	Yes	54	36.0
Post graduate	10	6.7	No	96	64.0

4.3. The Empirical Analysis of Factor

The Feasibility Test Results

Using SPSS statistical software and the results are as follows:

Table2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.731
Bartlett's Test of Sphericity	Approx. Chi-Square	598.110
	Df	91
	Sig.	.000

The table 2 shows that the KMO value is 0.731, reaching the standard feasibility. And Bartlett sphericity test value is 598.110, significance value of 0.00 is far less than the significance level of 0.05, therefore reject the null hypothesis, so the original data is fit for factor analysis.

The data so collected was analyzed with the help of 16.0 versions of SPSS. Factors analysis was used for the data reduction and purification, resulting into the deletion of some insignificant items with factor loading less than 0.5 and the Eigen Values less than l. It is said that the first five factors include mainly information of all indicators. The factor analysis using principal component extraction method with Varimax rotation has extracted 5 factors which explained 63.74 percent of the variance (Table 3). The table of Total Variance Explained shows that eigenvalues of the first five component are greater than 1 and the cumulative contribution rate has reached 63.742%The total variance explained by factor 1 is 21.537 percent it contains the variable of society, tradition and culture. The second variance explained the 14.339 percent which is financial risks involved and the total percent of the total. The third explained 11.194% while the forth explained 9.072 and lastly the fifth which explained 7.601% of variance.

Table 3. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.015	21.537	21.537	3.015	21.537	21.537
2	2.007	14.339	35.876	2.007	14.339	35.876
3	1.567	11.194	47.070	1.567	11.194	47.070
4	1.270	9.072	56.142	1.270	9.072	56.142
5	1.064	7.601	63.742	1.064	7.601	63.742
6	.993	7.092	70.834			
7	.907	6.475	77.310			
8	.766	5.472	82.782			
9	.573	4.090	86.872			
10	.540	3.860	90.732			
11	.439	3.135	93.866			
12	.355	2.535	96.401			
13	.292	2.084	98.485			
14	.212	1.515	100.000			

Extraction Method: Principal Component Analysis

Table 4. Component Matrixa: Extraction Method: Principal Component Analysis

Component Matrix[a]					
	Component				
	1	2	3	4	5
Society, tradition and culture	**.750**	-.096	.086	.183	-.120
Financial risk	**.623**	-.172	-.247	-.271	-.248
knowledge & skills	**.561**	.256	-.475	-.169	.353
Lack of proper funding	**.554**	.529	.153	-.328	-.038
Finding suitable location	**.539**	-.239	.459	-.145	.073
family support required	**.537**	-.298	-.127	-.254	-.271
getting license and permission	.492	.261	.395	.280	.091
Inadequate skills and knowledge	.435	**.662**	.203	-.129	.115
Difficulty in entering the market	.544	-.589	.107	-.235	-.192
Getting suppliers	.318	-.509	.289	.107	.425
proper strategy	.490	.099	-.672	.058	.300
Implementation is a difficult task	.378	-.164	-.390	**.666**	-.243
Lack of knowledge	.359	.430	.178	.348	-.473
Short credit period	.375	-.116	.192	.347	.436

Extraction Method: Principal Component Analysis
a. 5 components extracted
5 components extracted

The above table 4 shows that there are 6 variables on the first factor of the load which is high.. These 6 variables were namely Society, tradition and culture, financial risk, knowledge & skills, Lack of proper funding, finding suitable location and family support required.

5. CONCLUSION

The sample comprises of 56 percent male and 44 percent female respondents.

Educational profile of the sample shows that about 49.3 percent respondents are graduate 6.7 percent is post graduate and 21.3 percent are diploma level

It is observed that the maximum respondents are below 30 years old age which is good for this study. It is observed that nearly 56% of respondents are not aware about the government grants given to entrepreneurs.

With the factor analysis it can be conclude that there are 6 variables on the first factor of the load which is high. These 6 variables were namely Society, tradition and culture, financial risk, knowledge & skills, Lack of proper funding; finding suitable location and family support required which are important in the choice of entrpreneurship.

With the above table it can be observed that 65.2% of the respondents are not aware about the Al RAfad fund started by the government of Oman for the promotion of the entrepreneurship.

The study reveals that the respondents are not aware about the schemes which are available from the government for promoting entrepreneurship. It is suggested that some techniques should be applied so that the students become aware of the government initiatives for the promotion of entrepreneurship in Oman.

6. LIMITATIONS OF THE STUDY

Overall, the researchers and policy makers should be cautious in forming generalizations from the data collected. Nevertheless, the study provided rich areas for future researches that could fill the gaps between current and prospective investigations on attitude towards entrepreneurship in the Omani context.

The attempt has been made with an aim to study the perception of students related to entrepreneurship and their knowledge about the various schemes for entrepreneurship . The few important limitations are as follows:

The response rate has been the biggest challenge before the researcher In general; the response rate is very poor in the research survey specially when one aims to collect data for the choice related to one's individual's perceptions. They also hide certain information.

The research was limited to the students of the Dhofar University in Salalah. Ideally the responses should be taken from the different universities and colleges of Oman but due to paucity of time, geographical conditions and other reasons, the responses were taken from only one university.

Since the sample size is limited, the findings can be taken only as indicative results. Therefore it is worth mentioning that the findings have to be compared and confirmed with a study with bigger samples size to get better accuracy.

The inferences have been drawn in the present study through mean values after proper data purification. Here we have used factor loading less than 0.5 and the Eigen Values more than l. The number of factors extracted is determined so that the cumulative percentage of variance extracted by the factors reaches a satisfactory level. The other techniques to measure variability in responses need to be applied in future research.

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BACK-DATED STOCK OPTIONS AND RESTATEMENTS OF SUSPECT EARNINGS: IS THERE A CORRELATION?

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Abstract

A large number of US companies seem, almost miraculously, to have granted options on dates that coincided with low stock prices. Scholars have documented a pattern of sharp stock appreciation after executives had received stock grants. The pattern suggests that back-dating has occurred. This paper examines whether firms that have restated suspect earnings (we exclude restatements due to backdating) are more likely than non-restaters either to have admitted to back-dating options or to be at risk of being back-daters. We find that both Fortune 500 and non-Fortune 500 restating firms are more likely to be actual back-daters than non-restating firms. Fortune 500 restaters are also more likely to be potential back-daters.

Keywords: Stock Options, Ethics, Earnings Restatements, Stock Options Back-Dating

1. INTRODUCTION

The stock options back-dating scandal started with an article written by a finance professor: Erik Lie of the University of Iowa showed that, prior to 2003, a large number of companies seemed, almost miraculously, to have granted options on dates that coincided with low stock prices (Lie, forthcoming). Lie documented a pattern of sharp stock appreciation after executives had received stock grants. The pattern suggests that back-dating has occurred. Companies generally grant executive stock options at-the-money. Since a stock may go down as well as up, one would expect to see some stock options move into the money, while other options would lose value as the stock price fell below the strike price. But since executives were consistently reaping gains, it looked as if corporate executives were being granted in-the-money options, a practice which increased their compensation, often dramatically. As U.S. Securities Exchange Chairman Christopher Cox succinctly put it, "The purpose of disguising an in-the-money option through back-dating is to allow the person who gets the option grant to realize larger potential gains—without the company having to show it as compensation on the financial statements" (Cox, 2006, p. 1).

The *Wall Street Journal* took up Lie and Heron's theme and did its own investigation. It, too, found that many options granted from 1995 through mid-2002 appear to have been back-dated (Forelle, 2006). As of November 9, 2006, approximately 120 companies had admitted to back-dating stock options. 153 companies had reported internal back-dating probes; 130 are facing federal investigations. Forty-two executives had either resigned or been fired over back-dated options, with five executives having been charged with crimes. Experts estimate that around 850 US CEOs either back-dated or otherwise manipulated stock option grants from 1996 through 2005, inflating their pay, on average, by 10% (Hechinger, 2006). Twelve percent of stock option grants were suspiciously auspicious (Hechinger, 2006). UnitedHealth executives alone have agreed to forfeit $390 million in stock option compensation. At least five former CEOs are facing criminal prosecution. One prominent CEO, fearing prosecution, has fled to Namibia. At least $5.3 billion in profits have been overstated due to misdated options (Bandler and Scannell, 2006).

Back-dating was curtailed by the 2002 passage of the Sarbanes-Oxley Act, which shortened to two days the window for reporting options grants. Still, the problem of back-dating will likely be with us for some time to come. Using earnings quality and litigation risk factors, Audit Integrity, a leading supplier of data to pension funds and investors, has estimated that another 400 or companies may be at risk of having to admit to back-dating (Audit Integrity, 2006). Many companies have opted to pay executives using stock options. When, in 1993, Congress legislated that all non-performance based executive compensation over $1 million would be taxed, it created a powerful incentive for firms to look to non-salary forms of compensation (Forelle and Scannell, 2006). US tax law allows companies to deduct compensation in excess of $1 million if the compensation is not paid as straight salary but as performance-based stock options. In addition, since stock options get taxed at the capital gains rate, firms had a second incentive to adopt them. Finally, beginning back in 1972, employee stock options did not have to be expensed if the exercise price was equal to the market price on the day that the options were granted and if the term of the grant were fixed. Consequently many startup companies, which were short on cash, embraced stock options with a fervor.

Executives loved the options because they could be manipulated in ways that enabled executives to reduce their taxes (Maremont and Forelle, 2006).

These, then, are a few of the financial reasons why stock options have proven to be so popular. Options were likely also popular because, as we noted above, they could be manipulated to pay executives more—a lot more—in a way that was not transparent to shareholders. It takes a strongly principled man or woman not to succumb to temptation. A cursory glance at US business history shows that many American businesspeople have not been overly scrupulous when it comes to enriching themselves. The American language has more words for "con man" than any other language. Many of our celebrated philanthropists earned their fortunes through deceit and resorted to violence to protect their money. Andrew Carnegie, the bond seller, lied to his customers. Carnegie, the iron manufacturer, pressured politicians to grant him tariff protections, brought in the strikebreakers to beat union workers at his Homestead plant, and then spent years denying that he had been involved in the violent beatings (Nasaw, 2006). John D. Rockefeller, founder of Standard Oil, built a company through anti-competitive practices, conspired with the railroads to get kickbacks when they transported oil, and hired men who shot and killed striking miners in Colorado (Chernow, 2005). Leland Stanford, the US senator from California, traded on his political connections to have laws passed that prohibited others from competition with his Central Pacific railroad (Folsom, 1987).

The ease with which stock options can be manipulated appears to have tempted many executives, for a large number of American firms have admitted to back-dating. Once one firm figured out the back-dating technique, it spread like a virus among both Fortune 500 and non-Fortune 500 companies. Preliminary evidence suggests that interlocking directors may have spread the back-dating technique by word of mouth (Corporate Library, 2006). The SEC has been probing possible links among directors who have served on multiple boards (Kristof, 2006). Several private laws may also have been involved: Larry Sonsini, the founder of the Palo Alto law firm Wilson, Sonsini, Goodrich & Rosati served on at least 3 of the boards of firms currently under investigation (Kristof, 2006).

Although looking for interlocking directorships is one way to ascertain which companies are most at risk of back-dating, this approach has its problems. It is often difficult to determine when specific directors came onto a given board. The Corporate Library study mentioned above implied that interlocking board members served simultaneously and were thus enable to "infect" each other with the back-dating concept. But closer study revealed that some of these directors' terms did not, in fact, overlap. Critics have argued that, when one corrects for director service dates, there is no strong relation between interlocking directorships and options back-dating (Johnson, 2006).

In this paper, we consider whether there are other features of a firm that might be less problematically correlated with options back-dating. In particular, we focus on whether Fortune 500 and non-Fortune 500 firms that restated (non-options related) suspect earnings during the period from 2002-2005 are more likely than non-restating firms either 1) to have admitted back-dating options; or 2) to be at higher risk of being option back-daters who have not yet acknowledged engaging in the practice. Many have argued that firms have gotten involved in back-dating because they do not want to operate transparently or wish to minimize their taxes. For reasons stated below, we find it plausible that back-daters typically exhibit few ethical scruples. Firms that have reported suspect earnings and then been forced to restate them may also lack scruples. We hypothesize, therefore, that the same firms may be engaged both in back-dating and financial statement manipulation. This paper focuses on that possible relation.

2. LITERATURE REVIEW FOR EARNINGS RESTATEMENTS AND STOCK OPTIONS BACK-DATING

The literature on earnings restatements is rather thin. While numerous papers have explored governance issues (e.g., the possible effect of having an audit committee or of longer auditor tenure), comparatively less research has been done regarding earnings restatements. This lacuna is somewhat surprising, given that the General Accounting Office reports that the number of earnings restatements is soaring (GAO, 2002). The GAO identified 919 restatements between January 1, 1997 and June 30, 2002; the Huron Consulting Group released a study of 1, 207 restating firms for the period 1998-2002. In 2005, 1,195 US companies restated suspect earnings (versus 270 in 2001) (Reilly, 2006). By September 2006, already 1070 companies had restated. Experts estimate that around 1,300 companies will restate earnings by the end of 2006 (Reilly, 2006).

Wu (2002) documented a dramatic increase in financial restatements throughout the 1990s, even before Sarbanes-Oxley's rules requiring executive certification of earnings became law. Historically, small firms have been more likely to restate than larger firms, but the dynamics seem to be shifting. In recent years, restatements of suspect earnings have increasingly occurred at large, supposedly profitable firms (Owers and Lin, 2002). Most companies do not disclose exactly how the error was found nor do they always specify exactly what type of error had occurred. While some researchers have contended that the upsurge in restatements is due more to aggressive accounting and the misapplication of accounting rules rather than to outright fraud, fraud should not be dismissed as a possible cause: a 1998 survey of CFOs revealed that 45% of those questioned had been asked to misrepresent their companies' financial results, and 38% of the total sample complied with the request (Barr, 1998).

Several studies have shown that restatements lead to short-term drops in market value. The wealth effect depends on the type of restatement. Restatements stemming from mis-management have a negative effect, while the effect of other types of restatements is less pronounced (Salavei and Moore, 2005). Owers et al (2002) categorized types or restatements and discovered that investor reaction was most negative when the restatements involved accounting irregularities or errors. Aigbe et al (2005) also tied market effects to the type of earnings restatements: earnings restatements are associated with a decline in the firm's value when the market attributes the restatement to a revenue adjustment and/or pressure from the auditor or SEC. Palmrose et al (2001) looked at 403 restatements between 1995 and 1999 and found significant negative average abnormal returns of around 9% during a 2-day announcement window. The extent of the reaction depends on the circumstances leading to the restatement. As one would surmise, the reaction was more pronounced when mismanagement or fraud was involved or when the restatement was initiated by auditors rather than by management itself. If the restatement increased, rather than decreased, current income, the response was rather muted. After studying quarterly earnings restatements, Livnat and Tan (2004) concluded that investors impute a lower earnings valuation co-efficient to the earnings of corporations that go on to restate earnings; investors also assign a lower co-efficient to the future earnings of firms that have restated one or more times in the past. Wilson (2005), however, found that restatements produced only a short-term decline in investor confidence in firms' financial statements. The effect is transitory, typically disappearing within two quarters.

Richardson et al (2002) found that restating firms report significantly larger accruals than non-restating firms. Accruals at restaters averaged 8.7% of total assets versus 3.9% at non-restaters. The same study found that restaters tend to be high growth companies with high P/E and low book-to-market ratios. DeFond and Jiambalvo (1991) focused on firms that corrected earnings overstatements. They found, *pace* Richardson et al, that slow-growing firms, not high growth firms, were more likely to be restaters. These firms were less likely to have audit committees. Dechow et al (1996) reported that earnings- manipulating firms are more likely to have a founding CEO and less likely to have either audit committees or large outside block-holders. A few studies have explored the possible relation between auditor tenure and the quality of financial statements. Myers et al (2004) paired companies that restated between January 1997 and October 2001 with non-restaters from the same period. That study found that auditor tenure is not significantly correlated with the likelihood of restatements of annual earnings for the entire sample, although misstatements of quarterly financial reports become more probable as auditor tenure increases.

Fich and Shivdasani (2005) have delved into the reputational effect of discovered financial fraud on outside directors. Outside directors who are sued for serving at fraud-committing firms are not removed from these firms' boards at a higher rate than directors at non-fraud firms, but fraudulent firm directors do lose board seats they had at other companies. The more severe the fraud and the greater the responsibility of the individual outside director for the fraud, the more board seats he or she loses. When fraud-associated directors leave the boards of firms that are interlocked with the fraudulent firm, the value of these other firms increases significantly. Some anecdotal evidence also suggests that directors connected with severe frauds lose board seats. At the time of Enron's collapse, the firm's outside directors (11) had a total of 21 seats at other firms. As of early 2006, only two former Enron directors had board seats (Morgenson, 2006). In general, board members rarely have had personally to pay to reimburse shareholders or other parties defrauded by firms on whose board they served.

In only about half of the cases of income-reducing restatements do firms take steps to penalize management. Whether or not a firm penalizes management depends upon the extent of the restatement and whether the board of directors and institutional investors are equity owners (Collins et al, 2005). The higher the level of director equity ownership, the greater the penalty imposed. The same positive relation holds with respect to institutional investor equity. At this point, little is known about whether executives who keep their jobs despite restatements suffer a bonus penalty. What we do know is that firms find it extremely difficult to clawback financial bonuses awarded to executives on the basis of inflated earnings. Often board members are friendly with executives and do not want to damage relations by asking money to be returned. In other cases, executives have filed lawsuits in order to avoid having to return money. Since their former firms may be obligated to pay their legal fees, boards have little appetite to seek a clawback. In addition, the courts have held that only the Securities Exchange Commission (SEC) can initiate clawbacks, which it has yet to do in a single case (Dvorak and Ng, 2006). Even when executives return money to the firm as they did in the UnitedHealth case, the monies recouped are small in proportion to the vast sums of falsely reported earnings: UnitedHealth expects that its restatement will affect the last 12 years of reported earnings.

To date, only a few papers have examined possible connections between the granting of options and the market performance of the granting firm's stock. Yermack (1997) documented that a firm's stock price tends to go up shortly after executives received stock options. Conversely, firms' stock prices have tended to decline immediately before grants are made by these firms (Lie, 2005). As we noted above, Herron and Lie and the *Wall Street Journal* have found striking evidence that stock options were actually back-dated by many companies from 1995 up until the passage of SOX in 2002 (Forelle, 2006).

There have been more studies exploring the possible connection between forms of executive compensation and earnings misrepresentations. Levels of executive pay have exploded in the United States, largely because of the increasing use of stock options to compensate executives (Murphy, 1999). The Securities and Exchange Commission has explicitly linked executive compensation—specifically, stock options—with accounting fraud (SEC, 2001). Alan Greenspan has argued that "the highly desirable spread of shareholding and options among business managers perversely created incentives to artificially inflate reported earnings in order to keep stock prices high and rising" (Greenspan quoted in Provenzo, 2002, p.1). Recent academic studies consider whether stock options tempt executives to manipulate the numbers and make subsequent earnings restatements more likely

(Harris, 2004; Burns and Kedia, 2003). Harris (2004) and Erickson et al (2003) found that accounting fraud becomes more likely when a greater percentage of an executive's compensation is stock-based. Collins et al (2005) reported that, when senior managers own more equity, they are less likely to get fired or to receive lower bonuses in the event of an earnings restatement. American firms, which have used stock options far more than their European and Asian counterparts, have been more likely than their foreign peers to manage earnings to create small positive surprises, while avoiding large drops in earnings (Brown and Higgins, 2001). Brown and Higgins concluded that such earnings management is designed to boost stock prices and to keep options in the money.

To the best of our knowledge, no other study has examined whether there is a significant correlation between the back-dating of stock options and restatements of non-options related suspect financial earnings (i.e., restatements forced by reasons not related to stock options back-dating). Instead of seeking to correlate fraud with firm traits (e.g., does the restating firm have an audit committee) or gatekeeper characteristics (does the restating firm have a longstanding auditor), we here explore whether evidence of one deceitful *action* (filing misleading earnings statements) is correlated with another deceitful *action* (back-dating options).

3. DISCUSSION OF HYPOTHESES

Back-dating of employee stock options is not illegal if various conditions are met (e.g., documents are not forged; shareholders are told about the back-dating; earnings and taxes paid correctly reflect the back-dating). However, these conditions are rarely met. As Lie (2006) observes, almost all back-dating is illegal, because if a company is going to meet all of the above conditions, the firm might as well simply grant in-the-money options in the first place and not bother with back-dating. The firm gets involved in back-dating because it does not want to operate transparently or wishes to minimize its taxes. The back-dating being discussed in this paper is unethical, if not illegal.

Given that the executives and board members at restating firms historically have not suffered much in the way of severe financial or reputational penalties for restating suspect earnings, we hypothesize that these same parties may have been tempted not only to manipulate earnings but also to get involved in back-dating of stock options.

We tested four hypotheses.

Hypothesis 1: *A Fortune 500 restating firm is more likely than a peer Fortune 500 non-restating firm to have back-dated stock options granted to senior management.*

Back-dating hurts shareholders and so do restatements. A firm that is indifferent to shareholders when it comes to manipulating or misreporting income and expenses may be equally indifferent when it comes to giving back-dated options to management. Even if back-dating did not hurt shareholders, the practice is not transparent and thus could be said to be intrinsically deceptive. Insofar as back-dating and misrepresenting earnings are both deceptive practices, it is not farfetched to suppose that they may go hand-in-hand. It should also be noted that both practices often involve deceiving the IRS. Regardless of whether executives exercise their options, they are liable for income tax at the ordinary tax rate if they receive in the-money options. They owe tax on the difference between the exercise price and fair market value of the stock on the date of the award. The executive may have to sell shares to pay this tax. Back-dating enables the executive to evade this tax and to avoid having to sell shares by creating the appearance that the award is not in the money.

There is another reason to think that back-dating and restatements of suspect earnings may be correlated. A number of sociological studies have suggested that people who are part of an "in-group" or "good ol' boy network" have difficulty turning down requests made by other members of the group. If boards at restating firms have succumbed to CEO pressure to accept suspect earnings, these same directors may find it similarly hard to resist a CEO's request that the board enrich the CEO by back-dating options.

Hypothesis 2: *A non-Fortune 500 restating firm is more likely than a peer Fortune 500 non-restating firm to have back-dated stock options granted to senior management.*

The same logic underlying the first hypothesis obtains in this case. However, since smaller, start-up companies often compensate management primarily in the form of stock options, executives of these companies may have been more inclined to pressure boards to back-date their options to increase their compensation. If the executives of these firms have a history of issuing misleading financial reports with a view to driving up the value of their stock and of later restating these earnings, they may be equally inclined to ratchet up their compensation by back-dating their options.

Hypothesis 3: *A Fortune 500 restating firm is more likely than a peer Fortune 500 non-restating firm to be at risk of having back-dated stock options granted to senior management.*

This hypothesis considers companies that have not admitted to back-dating but who have been deemed to be high risk candidates for having done so. Using Audit Integrity data, we look at Fortune 500 companies with relatively aggressive accounting and governance practices, high insider selling, high levels of short-term compensation, and high levels of exercised stock options. AI has shown that companies fitting this profile have an increased risk of being options back-daters even though they may not yet have "come clean." With this hypothesis, we test whether restaters are more likely to be potential/at-risk back-daters.

Hypothesis 4: *A non-Fortune 500 restating firm is more likely than a peer Fortune 500 non-restating firm to be at risk of having back-dated stock options granted to senior management.*

This final hypothesis parallels the third hypothesis, but our focus is on the non-Fortune 500 companies, which are more likely than their Fortune 500 counterparts to compensate executives using stock options grants.

4. METHODOLOGY

A restatement occurs when a company revises official, previously announced earnings. Companies restate for a variety of reasons. Restatements may occur when accounting rules change, when a firm discontinues operations, or when firms merge. Restatements also occur when a firm is discovered to have manipulated earnings. Our database includes only restatements that involve suspect earnings by publicly traded firms. While restatements of suspect earnings do not involve outright fraud, they typically stem from a violation of Generally Accepted Accounting Principles and involve problems with revenue overstatement and/or expense understatement. On the revenue side, restaters were caught prematurely booking revenue, channel stuffing, inflating sales or recording revenues from sales before the items were actually shipped. According to the previously cited GAO study, 38% of restatements involve overly aggressive reporting of revenues. Expense-side "sins" included, but was not limited to, improper capitalization of expenses, overstating inventory, and creating fake inventory. Other types of offenses included lease accounting and barter transactions.

We excluded all restatements resulting from changes in accounting rules, mergers and acquisitions, or other events that have nothing to do with manipulated or fraudulent earnings. Only those restatements that reduced previously announced earnings were included. The database includes firms forced by the SEC to restate earnings and firms whose managers self-initiated restatements of suspect earnings. All of the restatements in our database were announced in 2005 or earlier. *Our database does not include any of the recent restatements that have been precipitated by firms' revelations that they have been back-dating options.* The many back-dating-related restatements that have been announced in 2006 would, of course, be correlated with admissions of back-dating and so these restatements have been excluded.

The list of restating companies was developed in early 2005, incorporating some of the companies already identified in the aforementioned GAO study as firms restating suspect earnings. Following the GAO methodology and that employed by other researchers who have constructed restatement databases, we used the search engine Google, searching on key words "earnings restatement," "restate," "restated," "restating," and "restatement" and then did additional research to unearth why the company restated. By perusing the resulting hits, we were able to ascertain whether a particular firm was forced or pressured to restate earnings because the earnings were in some way deemed suspect (improper revenue or expense recognition, improper accounting for leases, other accounting irregularities, overt fraud, etc.). We identified more than 300 firms that restated earnings. After scrubbing the data to include only income-lowering, suspect earnings restatements from 2002-2004, our database included 113 Fortune 500 restating firms and 136 non-Fortune 500 firms in our restating database. Using SIC codes and firm size, we paired each restating firm with a non-restating firm, creating a database with 226 Fortune 500 firms and 272 non-Fortune 500 firms. Then we double-checked that each non-restating firm did not restate during the study period. Our database includes both Fortune 500 and non-Fortune 500 companies.

This study focused on firms restating earnings during the period 2002 through 2004. The Sarbanes-Oxley bill was signed into legislation in 2002, prompting many firms to restate earnings in that year. Some executives may have decided that now was the time to come clean about past earnings manipulations. Our database is designed to counter any restatement bias introduced by SOX: all sample firms restated 2002, 2003, and/or 2004 annual earnings. We excluded 2005 reported restatements because firms are still restating 2005 financials in 2006. *No restatements attributable to stock options back-dating were included in our database.* In addition, since SOX applies only to firms with annual revenue of more than $75 million, we included only firms of this size. All firms in the database were subject to SOX, so, again, there is no bias toward (or against) restatement resulting from this law.

We developed our database of self-confessed back-dating firms using the *Wall Street Journal*'s listing of all firms that have admitted back-dating. This back-dating database was current as of December 15, 2006. To identify firms at high-risk of being back-daters, we used a database from Audit Integrity (AI). The AI database of high-risk potential back-dating companies includes companies that 1) were, on average, more aggressive in their accounting and governance practices from 1996 to 2002; 2) showed unusually high levels of insider trading between 1996 and 2002; 3) reported unusually high levels of options exercised between 2002 and 2006; and/or 4) have had at least four quarters of unusually high levels of short-term compensation between 2002 and 2006. Around 60% of the *Wall Street Journal*'s admitted back-daters had at least three out of four of these characteristics; 82% had at least two of these characteristics. Back-dating firms appear to have much in common with each other. The AI list of 500 high-risk potential back-daters includes all companies in the AI database of 6500 companies who, like the WSJ confirmed back-daters, failed 3 out of 4 tests. None of the at-risk firms have yet admitted to back-dating, so there is no overlap between the firms that are admitted back-daters and the at risk back-daters.

We performed an independent sample T-Test to compare the mean value of back-dating and of being at risk for each of two groups--restaters and non-restaters. We also conducted a logistic regression analysis to evaluate the likelihood that restaters have admitted to back-dating stock options or are at risk of being back-daters. The earnings restatement score was recoded as 1 if the firm restated; 0, otherwise. This score is modeled as follows:

$$P\ (\text{Restate Earnings}=1) = 1/\{1+e^{-y}\}$$
$$\text{Where } y = \alpha_0 + ß_1 * \text{Back-dating} + ß_2 * \text{At risk}$$

Backdating: If the firm back-dated stock options. It is coded as 1; 0 otherwise

At risk: If the firm is at risk of back-dating, it is coded as 1; 0 otherwise.

According to our model, the probability of a firm restating suspect earnings is a function of back-dating stock options and of being at risk of back-dating.

5. PRESENTATION AND DISCUSSION OF RESULTS

Hypothesis 1: *A Fortune 500 restating firm is more likely than a peer Fortune 500 non-restating firm to have back-dated stock options granted to senior management.*

This hypothesis was CONFIRMED. The Pearson correlation between restatement and back-dating was positive (.134) and significant at the 5% level (see Table 3). We also conducted the independent sample T-Test of Mean Differences between the two groups: restaters and non-restaters. The mean value of backdating of restaters is .0345, while the mean value of the non-restaters is 0. The mean difference of .0345 between the two groups is highly significant at 5% level (see Tables 4 & 5). We further performed the logistic regression test, which treated restating as the dependent variable and then back-dating and at risk as the independent variables. The model did not yield any significant results that either confirmed or disconfirmed the hypothesis for back-dating. The model, however, did indicate a positive and significant coefficient for the variable "at risk." Results indicate that restaters were more likely to be at risk of backdating stock options than non-restaters (see Table 6).

These results mean that firms caught engaging in earnings manipulation are also more likely than non-restaters to back-date options. Our finding is consistent with recent papers suggesting that earnings manipulation may be part of an effort by executives to drive up their firm's stock price in order to increase the value of their stock options. If executives are determined to maximize their wealth, they likely will be willing to back-date options as well.

Hypothesis 2: *A non-Fortune 500 restating firm is more likely than a peer non-Fortune 500 non-restating firm to have back-dated stock options granted to senior management.*

This hypothesis was CONFIRMED. The Pearson correlation between restatement and back-dating was positive (.222) and significant at the 5% level (see Table 9). We also ran the independent sample T-Test of Mean Differences between the two groups: restaters and non-restaters. The mean value of backdating of restaters is .1985, while the mean value of the non-restaters is 0.0515. The mean difference of .147 between the two groups is highly significant at the 1% level (see Tables 10 & 11). We further performed the logistic regression test, which treated restating as the dependent variable and then back-dating and at risk as the independent variables. The results indicate that back-dating has a positive and significant (at 1% level) coefficient of 12.047. (See Table 12). These results mean that non-Fortune 500 restaters, like their larger Fortune 500 restater counterparts, are highly likely to be options back-daters. The relationship is even more pronounced in the case of these smaller firms. The stronger correlation may be due to smaller firms' greater reliance on stock options to compensate executives. More of these executives receive stock options and thus there are more executives with an incentive to backdate. Moreover, a higher proportion of their pay comes in the form of stock options, so again these executives may be more tempted than their counterparts at larger firms to back-date options. As we noted in our literature review, there is some evidence that the lawyers to start-up firms helped to spread the back-dating practice. If so, then one would expect the back-dating to be more prevalent among the non-Fortune 500 firms.

Hypothesis 3: *A Fortune 500 restating firm is more likely than a peer Fortune 500 non-restating firm to be at risk of having back-dated stock options granted to senior management.*

This hypothesis was CONFIRMED. The Pearson correlation between restatement and being at risk was positive (.271) and highly significant (1%) (see Table 3). We also ran the independent sample T-Test of mean differences between the two groups: restaters and nonrestaters (see Table 4, 5 &6). The mean value of at risk of restaters is .1593, while the mean value of the non-restaters is 0.0088. The mean difference of .1504 between the two groups is highly significant at the 1% level (see Tables 10 & 11). We further performed the logistic regression test, which treated restating as the dependent variable and then back-dating and being at risk as the independent variables. The results indicate that at risk has a positive and significant (at 1% level) coefficient of 8.924. (See Table 12).

These results suggest that an earnings restating firm is more likely to be at risk of back-dating than a non-restating firm. Put differently: restating firms are more likely than non-restaters to employ relatively aggressive accounting and governance practices and to have high insider selling, high levels of short-term compensation, and high levels of exercised stock options, all of which put the firm more at risk of being a back-dater. The correlation between restating and being a potential back-dater may be even stronger than the positive correlation between restating and being an acknowledged actual back-dater because 1) some firms that have back-dated may not yet have admitted doing so but may be showing up in the at risk data base; and 2) having a high level of exercised stock options (one of the characteristics that gets a firm into the at risk of back-dating database) suggests that executives are cashing in, in a big way, on stock options. Firms that have back-dated options for executives typically have done so in order to make the options very lucrative. Hence, one would expect to see executives at back-dating firms exercising large numbers of their granted options, which would flag the company as being a potential or at risk back-dater even if the firm has not yet admitted to actual back-dating.

Hypothesis 4: *A non-Fortune 500 restating firm is more likely than a peer non- Fortune 500 non-restating firm to be at risk of having back-dated stock options granted to senior management.*

This hypothesis was NOT CONFIRMED. The Pearson correlation between restatement and being at risk was slightly negative (-.035) and not significant (see Table 9). The T-Test revealed a similarly negative and insignificant mean difference (see Tables 4 & 5). The logistic regression test, which treated restating as the dependent variable and then being at risk as the dependent variable, revealed no significant correlation (see Table 12).

This result was puzzling: why was there a highly significant correlation between restating and being at risk of back-dating in the case of Fortune 500 companies but no significant correlation in the case of non-Fortune 500 firms? Perhaps the non-Fortune 500 firms have more quickly come clean about being back-daters. Since such firms are small; and since the board members and CEOs may know each other very well, there may be little need for the non-Fortune 500 board to mount a time-consuming investigation into whether back-dating has occurred. Or, given that smaller firms may have fewer resources for filing legal motions and fighting regulators, management at these firms may simply decide to admit to back-dating once they are caught in the act. In both of these cases, back-daters would show up in our database of actual backdaters but not in the at risk database (which, by definition, includes no admitted or actual back-daters). This explanation would account for why among non-Fortune 500 companies the correlation between restatement and actual back-dating is so strong (see Hypothesis 2) but insignificant between restatement and being at risk of being a back-dater.

6. CONCLUSION

While some people have argued that the back-dating of options is simply an alternative way for firms to provide performance- or market-based pay (Jenkins, 2006), our results support a more sinister interpretation. Since back-dating is significantly correlated with the restatement of non-options related suspect earnings at both large and small firms; and since the need to restate suspect earnings is itself an indicator that the firm has been operated in a misleading or even fraudulent manner, the practice of back-dating should not be dismissed as ethically insignificant. On the contrary, our results suggest that senior management at many firms is willing to do whatever it takes to pad their compensation—overstate revenue, understate expenses, back-date options. Both back-dating and reporting suspect earnings involve lying, and, as Nancy Rappaport has argued, "what we're learning from [Enron] and other corporate scandals…is that lying is at the heart of most bad decisions" (Rappaport, 2006, p.49).

Instead of seeking to correlate fraud with firm traits (e.g., does the restating firm have an audit committee?) or gatekeeper characteristics (does the restating firm have a longstanding auditor?), we have asked whether evidence of one deceitful action (filing misleading earnings statements) is correlated with another deceitful action (back-dating stock options). The answer is a resounding "yes." Aristotle thus seems to have been correct when he argued that people's characters and virtues are of a piece. Those who show courage and understand what that virtue involves are more likely to be just, temperate, and appropriately sociable as well. By analogy, we could say that firms that speak and live the truth when they speak about their earnings are more likely to act truthfully as well, dating options correctly and paying executives in a transparent way. Investors would be well-advised to think long and hard before buying stock in firms that have admitted to one deceit as other lies may be forthcoming.

TABLES

Table 1. Fortune 500 Firms Frequency Distribution for Three Variables:Restatement of Earnings, Back-dating of Stock Options, and At Risk of Back-dating

		Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
Restate or not[a]					
N	.00	113	50.0	50.0	50.0
N	1.00	113	50.0	50.0	100.0
	Total	226	100.0	100.0	
Back-dating[b]					
N	.00	222	98.2	50.0	50.0
N	1.00	4	1.8	50.0	100.0
	Total	226	100.0	100.0	
At Risk[c]					
N	.00	207	91.6	91.6	91.6
N	1.00	19	8.4	8.4	100.0
	Total	226	100.0	100.0	

A: 1 for restaters and 0 for non-restaters
B: 1 for backdaters and 0 for non-backdaters
C: 1 for firms at risk and 0 otherwise

Table 2. Fortune 500 Firms Descriptive Statistics: Restatement of Earnings, Back-dating of Stock Options, and At Risk of Back-dating

		Restate_or_Not	*Back-dating*	*At Risk*
Sample Size	Valid	226	226	226
	Missing	0	0	0
Mean		.5000	.0177	.0841
Median		.5000	.0000	.0000
Std. Deviation		.50111	.13215	.27811
Variance		.251	.017	.077
Range		1.00	1.00	1.00
Minimum		.00	.00	.00
Maximum		1.00	1.00	1.00

Table 3. Fortune 500 Firms Correlation Coefficients among Three Variables

		Restate_or_Not	*Back-dating*	*At Risk*
Restate_or_Not	Pearson Correlation	1		
	Sig. (2-tailed)			
	Sample Size	226		
Back-dating	Pearson Correlation	.134**	1	
	Sig. (2-tailed)	.044		
	Sample Size	226	226	
At Risk	Pearson Correlation	.271***	-.041	1
	Sig. (2-tailed)	.000	.543	
	Sample Size	226	226	226

*** Correlation is significant at the 0.05 level (2-tailed)*
**** Correlation is significant at the 0.01 level (2-tailed)*

Table 4. Fortune 500 Firms Mean Value of Back-dating and At Risk between Two Groups: Restaters (1) and Non-Restaters (0)

	Restate vs. Non-restate	*Sample Size*	*Mean*	*Std. Deviation*	*Std. Error Mean*
Back-dating[a]	0	113	.0000	.0000	.0000
	1	113	.0345	.1856	.0175
At Risk[b]	0	113	.0088	.0941	.00885
	1	113	.1593	.3676	.03458

a: The firm has admitted to back-dating stock options.
b: The firm is on the list of at risk of being back-daters.

Table 5. Fortune 500 Firms Independent Samples T-Test for Equality of Means of Back-dating and At Risk between Two Groups: Restaters (1) and Non-Restaters (0)

	Mean Difference[a]	*F Statistics*	*Sig.*	*T Statistics*	*Df*
Back-dating	.0345**	17.71	.044	2.27	224
At Risk	.1504***	99.31	.000	4.215	224

a: The mean value of the back-dating score of restating firms minus the mean value of the back-dating score of non-restating firms (1-0).
***, ***: Significance at .05 and .01 levels, respectively*

Table 6. Fortune 500 Firms Results of Logistic Regression Analysis:

This table examines the likelihood that restaters are also back-daters or are at risk of back-dating stock options. Three models are used. Model 1 treats restating as the dependent variable and back-dating and at risk are the independent variables. Model 2 treats back-dating as the dependent variable, and restating and at risk are the independent variables. Model 3 treats at risk as the dependent variable, and back-dating and restating are the independent variables.

	Model 1 Dependent variable: Restating[a]	*Model 2 Dependent variable: Back-dating[b]*	*Model 3 Dependent variable: At Risk[c]*
Restating		.0001[d]	8.924[d] ***
Back-dating	.0002[d]		.0001[d]
At Risk	8.924[d] ***	.0000[d]	
Constant	2.165*	.0000	22.067
Log likelihood	287	33.17	109.13
Model x^2	26.226	7.033	21.318

a: Coded as 1 if the firm restated earnings ; 0 otherwise.
b: Coded as 1 if the firm back-dated stock options; 0 otherwise.
c: Coded as 1 if the firm is classified as at risk; 0 otherwise.
d: Wald statistics
,*: Significance at the .1 and .01 levels.*

Table 7. Non-Fortune 500 Firms Frequency Distribution for Three Variables: Restatement of Earnings, Back-dating of Stock Options, and At Risk of Back-dating

Variables		*Frequency*	*Percent*	*Valid Percent*	*Cumulative Percent*
Restate or not					
N	.00	136	50.0	50.0	50.0
N	1.00	136	50.0	50.0	100.0
	Total	272	100.0	100.0	
Back-dating					
N	.00	238	87.5	87.5	87.5
N	1.00	34	12.5	12.5	100.0
Total		272	100.0	100.0	
At_Risk					
N	.00	241	88.6	88.6	88.6
N	1.00	31	11.4	11.4	100.0
Total		272	100.0	100.0	

Table 8. Non-Fortune 500 Firms Descriptive Statistics: Restatement of Earnings, Back-dating of Stock Options, and At Risk of Back-dating

Descriptive Statistics	*Restate_or_Not*	*Back-dating*	*At Risk*
Sample Size	272	272	272
Mean	.5000	.1250	.1140
Median	.5000	.0000	.0000
Std. Deviation	.5009	.3313	.3183
Variance	.251	.110	.101
Range	1.00	1.00	1.00
Minimum	.00	.00	.00
Maximum	1.00	1.00	1.00

Table 9. Non-Fortune 500 Firms Correlation Coefficients among Three Variables

		Restate_or_Not	*Back-dating*	*At_Risk*
Restate_or_Not	Pearson Correlation	1		
	Sig. (2-tailed)			
	Sample Size	272		
Back-dating	Pearson Correlation	.222**	1	
	Sig. (2-tailed)	.000		
	Sample Size	272	272	
At Risk	Pearson Correlation	-.035	.074	1
	Sig. (2-tailed)	.569	.222	
	Sample Size	272	272	272

*** Correlation is significant at the 0.01 level (2-tailed).*

Table 10. Non-Fortune 500 Firms: Mean Value of Back-dating and At Risk between Two Groups: Restaters (1) and Non-Restaters (0)

	Restate vs. Non-restate	*N*	*Mean*	*Std. Deviation*	*Std. Error Mean*
Back-dating[a]	0	136	.0515	.22177	.01902
	1	136	.1985	.40037	.03433
At__Risk[b]	0	113	.1250	.0941	.00885
	1	113	.1029	.3676	.03458

a: The firm has admitted back-dating stock options.
b: The firm is on the list of firms at risk of being back-daters.

Table 11. Non-Fortune 500 Firms Independent Samples T-Test for Equality of Means of Back-dating and At Risk between two groups: Restaters (1) and Non-Restaters (0)

	Mean Difference[a]	*F Statistics*	*Sig.*	*T Statistics*	*Df*
Back-dating	.147***	67.63	.000	3.747	270
At Risk	-.0221	1.308	.569	-.571	270

a: The average back-dating score of restating firms minus the average back-dating score of non-restating firms.
****: Significance at .01 level*

Table 12. Non-Fortune 500 Firms Results of Logistic Regression Analysis

This Table describes the likelihood that restaters are also back-daters or are at risk of backdating stock options. Three models are used. Model 1 employs restating as the dependent variable and back-dating and at risk are the independent variables. Model 2 employs back-dating as the dependent variable and restating and at risk are the independent variables. Model 3 employs at risk as the dependent variable and back-dating and restating are the independent variables.

	Model 1 Dependent variable: RS[a]	*Model 2 Dependent variable: Back-dating[b]*	*Model 3 Dependent variable: At Risk[c]*
RS		12.047*** [d]	.766 [d]
Back-dating	12.047***[d]		1.952 [d]
At Risk	.766 [d]	1.952 [d]	
Constant	.942	56.362	22.067
Log likelihood	362	189	191
Model x^2	15.016***	16.031***	2.117

a: Restatement or not. If the firm restated earnings, it is coded as 1, 0 otherwise.
b: coded as 1 if firm back-dated stock options; 0 otherwise.
c: coded as 1 if the firm is classified as at risk; 0 otherwise.
d: Wald statistics
****: Significance .01 levels.*

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REFLECTIVE OR FORMATIVE MEASUREMENT MODEL OF SUSTAINABILITY FACTOR? A THREE INDUSTRY COMPARISON

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Abstract

The sustainability concept is commonly used in many domains. However, the assessment of reflective and formative measurement has been ignored largely. As a result, sustainability factor scales are specified wrongly and this might lead to reduced scale validity. The aim of the study is find out the nature of sustainability factors either reflective or formative by investigating three distinct industrial settings in Bangladesh. A quantitative research design is used and the data is analysed through Partial Least Square (PLS) analysis. PLS analysis validates the indicators and factors. Sustainability factors in context of microbusiness and supply chain found reflective in nature whereas in e-business it was formative. The study suggests that sustainability factor is a context specific phenomena and it can be treated either reflective or formative.

Keywords: Sustainability, Reflective, Formative, Partial Least Square

1. INTRODUCTION

The concept of sustainability is a common theme that can be applied in many domains i.e., micro business, supply chain and e-business. To date, this concept discusses under three main thoughts specifically, economic, social and environmental sustainability (Elkington, 2007). However, so far, no study has attempted to assess and to specify sustainability factor scales with respect to either reflective or formative measurement model (Chowdhury, Khan, & Dewan, 2014; Dewan, Chowdhury, & Khan, 2014; Khan, Chowdhury, & Dewan, 2014). Subsequently, it may be assumed that many scales are specified incorrectly in terms of the measurement model. That is because, a precise specification of a model depends on how the scholars conceptualized it (Baxter, 2009), what are the procedures considered to measure it (MacKenzie, Podsakoff, & Podsakoff, 2011), and it may also context specific (Chowdhury et al., 2014; Dewan et al., 2014; Khan et al., 2014). The misspecification of reflective vs formative measures may result in wrong abstraction of theory building from epistemological concern as well as inappropriate choice of organizational strategy settings (Diamantopoulos and Siguaw 2006). Specification of sustainability measurement factor is therefore, crucial both from epistemological and practical ground. In this context, this paper focuses the issues of selecting a proper mode of measurement model specification and validating the measures of sustainability factors by considering three industrial settings: microenterprise (informal sector), supply chain (manufacturing sector) and e-business (service sector).

This study assumes that conceptualization of sustainability factors and the causal relationship between manifest indicators and corresponding latent indicators might be either reflective or formative, since no empirical study has done yet to validate the construct indicators measurement model. In describing this conceptualization and causal relationship, the existing literature is silent. This study also realizes that one domain is not sufficient to unearth evidence on the nature of sustainability factors. Because the conceptualization of the sustainability factors depends on the context and thereby need to formulate and examine measurement scales by applying different industrial settings. In terms of context, microenterprise (informal sector) has been the subject of scientific investigation but in this study both the sector focus and the origin of the firms are new (Khan et al., 2014). On the other hand, supply chain (manufacturing sector) and e-business (service sector) are applied in this research have a fair background in the literature (Chowdhury et al., 2014; Dewan et al., 2014). Therefore, considering these three distinct domains, this paper makes an attempt to discuss the concept and define the nature of sustainability factors either reflective or formative.

2. THE REFLECTIVE VERSUS FORMATIVE MODEL

Measurement model specifies the relationships between the measures and the underlying latent variables (Götz, Liehr-Gobbers, & Krafft, 2010). Literature addresses, reflective or formative, two distinct levels of models specification. The nature of the constructs in the conceptual model generates the need for using either formative or reflective items. The rationale is to develop items that can properly measure each individual construct. For the selecting reflective or formative measurement of a particular construct, theoretical deliberations are integral (Coltman, Devinney, Midgley, & Venaik, 2008; Jarvis, MacKenzie, & Podsakoff, 2003). While, Diamantopoulos (2006) and Coltman et al. (2008) claim the importance of both theoretical and empirical considerations for designing and validating appropriate measurement models. Coltman et al. (2008) argue that empirical evaluations build an important ground for content validity, especially to identify errors and misspecifications or wrongly conceived theories. Misspecification of measurement models have significant impact on research outcome and may even mislead organizational policy setting. Therefore, researchers must pay careful consideration in identifying and designing appropriate measurement model. In some cases, this choice is simple because the causal priority between the construct and the indicators is very clear. However, in some cases, choosing correct measurement model i.e. reflective vs. formative measures can be difficult (Diamantopoulos & Siguaw, 2006; Hulland, 1999). In this regard, the four criteria suggested by Jarvis et al. (2003) are worthwhile: (1) direction of causality from construct to indicators, (2) interchangeability of indicators, (3) covariation among indicators, and (4) nomological net of construct indicators. In the similar tone, the study of Coltman et al. (2008) addresses some valuable insights for determining formative and reflective measurement model. They pin point theoretical and empirical considerations for specifying appropriate measurement model. In terms of theoretical considerations, like Jarvis et al. (2003), they consider nature of constructs, direction of causality and characteristics of items. Whereas, in terms of empirical considerations, Coltman et al. (2008) suggest the significance of evaluating item correlations, item relationships with construct, antecedents and consequences as well as measurement error and collinearity. This study uses the criteria suggested by Jarvis et al. (2003) and Coltman et al. (2008) to identify formative and reflective measurement model for sustainability factors based on three industrial settings (see Tab. 1).

Table 1. Theoretical and empirical consideration of reflective vs formative model

Consideration	*Reflective model*	*Formative model*
	Theoretical consideration	
1. Direction of causality between items and latent construct	Direction of causality is from construct to items Changes in the construct do cause changes in the indicators while changes in the indicator should not cause changes in the construct	Direction of causality is from items to construct Changes in the construct do not cause changes in the indicators while changes in the indicators should cause changes in the construct
2.Nature of constructs and indicators	Indicators are manifestations of the construct	Indicators are defining characteristics of the construct
3. Characteristics of items used to measure constructs	Indicators should be interchangeable Indicators should have the same or similar content Indicators should share a common theme Dropping an indicator should not alter the conceptual domain of the construct	Indicators need not be interchangeable Indicators need not have the same or similar content Indicators need not share a common theme Dropping an indicator may alter the conceptual domain of the construct
	Empirical consideration	
1.Covariation among the indicators	Indicators are expected to covary with each other	Not necessary for indicators to covary with each other
2. Nomological net of the construct indicators	Nomological net for the indicators should not differ	Nomological net for the indicators may differ
3. Item relationships with construct antecedents and consequences.	Indicators are required to have the same antecedents and consequences	Indicators are not required to have the same antecedents and consequences
4. Measurement error and collinearity	Identifying and extracting measurement error by common factor analysis	Using vanishing Ttetrad test to determine if the formative items behave as predicted

Source: Jarvis et al. (2003) and Coltman et al. (2008)

The relationship between latent construct and the indicators, i.e. whether the latent construct is replicated by its (observable) indicators or the indicators are defining characteristics of the construct, as well as the direction of causality can be visualized by Fig. 1a and 1b.

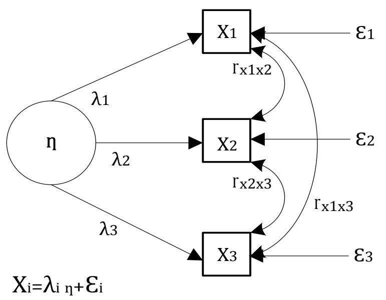

Figure 1a Reflective measurement model η: latent variable; λ: loading; x: reflective indicator; ε: measurement error on level of indicators; r: correlation between indicators

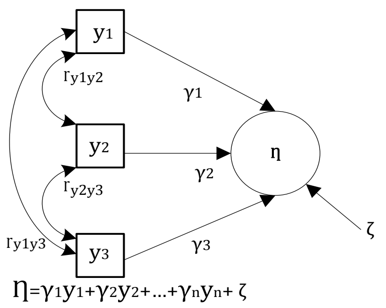

Figure 1b Formative measurement model η: latent variable; γ: weight; y: formative indicator; ζ: measurement error on level of the latent variable; r: correlation between indicators

The above discussion illustrates several conceptual and empirical issues for designing and specifying models as either reflective or formative. By considering these issues, this paper makes an attempt to conduct a quantitative study in context of three distinct industrial domains to specify and to validate the reflective and formative measurement of sustainability factors. Before discussing the materials and methods and results of the study, the illustration of ideas with sustainability factor, the next section provides a discussion of the formative or reflective in context of three selected industrial settings.

3. SUSTAINABILITY FACTOR: REFLECTIVE OR FORMATIVE

In the field of micro business, the definition and core assumptions in terms of sustainability factors still remain obscure (Khan, Rowe, & Quaddus, 2012; Shepherd & Patzelt, 2011). There is no consensus on suitable measures for sustainability constructs in micro firms. The majority of studies have dealt with the economic factors of the firm rather than the social and environmental factors. Some researchers have shown economic factors along with non-economic factors (e.g., Carr, Cole, Ring, & Blettner, 2011; Irava & Moores, 2010; Kickul, Liao, Gundry, & Iakovleva, 2010; Lumpkin & Dess, 1996). Basically, they highlight non-economic factors with regard to mental satisfaction and how it relates to economic factors. Their study reflects the absence of discussion about measurement issues and two major components of firm sustainability factors, namely social and environmental. Brüderl and Preisendörfer (1998) argue, survival could be seen as the minimum criterion for firm sustainability factors. They emphasize the minimum economic and social gain of the firm. Further, Khan et al. (2012) states, micro firms' activities cannot be treated as sustainable without measures for environmental factors in addition to the economic and social factors. Khan et al. (2012) pioneer paper conceptualizes three sustainability factors economic, social and environmental as either reflective or formative by considering a series of indicators for each factor. Their study labels four indicators with economic factor i.e., employment, sales growth, income stability and profitability; includes five indicators in social factor i.e., basic needs, social recognition, empowerment, freedom and control and child labor, and clusters five indicators with environmental factor i.e., water and energy use, waste and emission, waste management, space management and hygiene factor. These indicators are so far used in other studies (e.g., Batjargal, 2007; Khan, Rowe, Quaddus, & Nuruzzaman, 2013; Parris & Kates, 2003; Revell & Blackburn, 2007; Venkataraman, 2002). Although, Khan et al. (2012) study contributes in understanding the sustainability concept in context of micro business, lack of discussion in measurement issues and empirical test limits the validity of sustainability factors. Khan et al. (2014) current paper on validation of sustainability factor tries to overcome these limits by conducting an exploratory factor analysis (EFA). Throughout the process of their EFA, three indicators i.e., profitability, child labor and space management has been deleted due to low loadings. EFA with varimax rotation yields three distinct factors which are reliable with high Cronbach's alpha values. Their study conceptualizes and validates these three distinct sustainability factors in terms of reflective measure, and suggests to test a confirmatory factor analysis (CFA) and other properties of structural equation modeling (SEM) for further investigation.

Measurement of supply chain sustainability factors integrating economic, social and environmental is rare (Chowdhury et al., 2014). Few studies are available pertaining to measurement of supply chain sustainability factor (e.g., Craig R Carter & Jennings, 2004; Zhu, Sarkis, & Lai, 2008). But these studies focus either environmental or social factors. Perhaps the only few studies that consider both social and environmental factors (e.g., Craig R Carter, 2004; Chowdhury, Dewan, & Quaddus, 2012; de Brito, Carbone, & Blanquart, 2008; Hutchins & Sutherland, 2008). However, these studies fall short of integrating all wings of sustainability in supply chain, for example, the study of de Brito et al. (2008) analyses sustainability only from logistical point of view and lacks indication regarding influence of manufacturing operation. Similarly, Hutchins and Sutherland (2008) highlights on social perspective and Craig R Carter (2004) focuses on social and environmental perspectives. In the field of supply chain sustainability management (SSCM), the study of C. R. Carter and Rogers (2008) is significant as they introduce a theoretical framework by covering three aspects of sustinablity. Though informative and widely covered, the study is still conceptual and has lack of indication about measurement aspects of sustinability issues. In the midst of existing void of lacking integrated empirical work on economic, social and environmental sustainability in supply chain, Chowdhury et al. (2014) conducts a study to develop and validate a sustainability scale for measuring supply chain sustainability. In their study, at first, based on the findings from content analysis and theoretical justification, they conceptualize the factors of sustainability in context of supply chain management. Their study yields and confirms number of indicators underling three main sustainability factors. Economic factor corresponds with sales volume, cost of sales, profit margin and sales growth. Some other variables, such as fair wages, benefits, facilities, hazard and safety, health and sanitation, force, supplier social performance, and employee satisfaction categorizes under social factor. Environmental factor labels with water pollution, air pollution, soil pollution, waste recycling, hazardous material, certification and audit, legislation, and supplier environmental performance. Next, to refine these selected items, they run an EFA. The EFA validates all the variables except child labor, employee satisfaction, and legislation and supplier environmental performance. Their study also confirms the high Cronbach's alpha values corresponding to each factor. Chowdhury et al. (2014) study considers three sustainability factors as reflective in context of supply chain sustainability and proposes to conduct a CFA and SEM for future research.

The current level of knowledge acknowledging e-business sustainability factors is limited. A few number of studies include some aspects of the sustainability (e.g., Dao, Langella, & Carbo, 2011; Elliot, 2011; Melville, 2010; Watson, Boudreau, & Chen, 2010), but empirically tested measurement of e-business sustainability in terms of economic, social and environmental issues is very rare. Most studies in this research area mainly focuses on environmental sustainability (e.g., Elliot, 2007; Elliot & Binney, 2008; Erek, 2011; Houghton, 2010; Waage, Shah, & Girshick, 2003; Watson et al., 2010) and ignores main two sustainability factors i.e., economic and social. Piotrowicz and Cuthbertson (2009) stress, these three factors are equally important. To date, no empirical study has been undertaken to measure and validate three important sustainability factors in this domain. However, an empirical study by Mohammed Dewan, Biswas, Chowdhury, and Quaddus (2013) identifies three sustainability factors for sustainable e-business in the context of bank service industry, but lacks the attempt of measuring sustainability factors. Another study by Dewan et al. (2014) conducts an empirical test by applying a EFA. In their study, they explore 20 indicators through literature analysis and field study. Then, they omit four items such as additional customer requirements, environmental policy and management, risk and crisis management, investment management via an EFA process. Remaining items labels as follows: economic performance, efficiency of processes, quality of the services, risk and crisis management, process costs, investment management, potential value added services are identified as economic factors; employment and labour practice, products and services responsibility, privacy of information, legislations and code of conducts compliance, additional customer requirements, contribution for local and national development are observed as social factors; and energy resources, air pollution, usages of materials, environmental legislations compliance, environmental policy and management, commitment for future generations are recognized as environmental factors. In the context of e-business sustainability, three distinct sustainability factors: economic, social, and environmental have been suggested as formative. Dewan et al. (2014) also advise to undertake an advance level study by considering CFA and SEM tools.

The concept of sustainability is wide and context dependent (De Giovanni & Esposito Vinzi, 2012). Since there is no single concept of sustainability, probably, there is no universally accepted way of measuring it. Browsing literature on three distinct industrial contexts it is revealed that sustainability measurement differs substantially in three distinctive contexts. Review of literature also identifies several gaps in common irrespective of the context such as empirical measurement incorporating economic, social and environmental sustainability factors is quite rare; specification of either reflective or formative measurement of the sustainability concepts is not reported vividly. Recent studies of Khan et al. (2014), Chowdhury et al. (2014) and Dewan et al. (2014) proposed that sustainability can be considered as either reflective or formative construct however, confirmatory studies are needed to validate the findings. Some relevant studies can also be referred from conceptual and logical stances as evidences to both formative and reflective measurement of sustainability concept. For instance, Sage (1999), based on conceptual stand inferred that sustainability factors are interrelated and therefore should not be considered independently. On the other hand, Bansal (2005), measured corporate sustainability as a dependent variable while items that influence the sustainability are considered as independent variable from which based on the causality effect, it can be deduced logically that sustainability can be modelled as formative measurement.

4. RESEARCH METHOD

4.1 .Research setting

The sustainability concept can be described through several frameworks. Among these frameworks, the Global Reporting Initiative (GRI), the Human Development Index (HDI), Sustainable Consumption Indicators (SCI), IChemE and Sustainable Industrial Performance (SIP) are widely accepted and applied in many business fields without considering reflective or formative measurement issues. Therefore, understanding the nature of three sustainability factors in terms of reflective or formative in context of different business field is very important. With respect to this concern, the sample is chosen from three distinct domains: microenterprise (informal sector), supply chain (manufacturing sector) and e-business (service sector).

4.2. Sample and data collection procedure

The target population establishes the boundary line between respondents and non-respondent, therefor it is important to determine the specific target population during the sampling design process. Similarly, the target population represents the sample elements that have the relevant information and about which inferences are drawn. In case of microenterprise (informal sector), a total of 438 survey questionnaires were completed. For supply chain (manufacturing sector), 296 supply chain decision makers were surveyed and in e-business field, 219 bank managers (service sector) were participated. The sampling approach was based on a convenience sampling.

The data gathering strategy under the survey method is generally predicated on the nature of survey interaction and the mode of questionnaire administration. In data collection procedures, this study used face-to-face survey because these methods allow maximum response rates in comparison with other methods (Malhotra 2008). This method also provides the most flexibility in the data collection process. In addition, a wide variety of questions can be asked in a face-to-face interview because the respondents can see the questionnaire and an interviewer is present to clarify ambiguities. Even though this technique was time-consuming, it was expected to increase the sample numbers of those willing to respond. The survey instrument together with a covering letter explaining the purpose and instruction of the survey were provided to the participants.

4.3. Instrument selection

The measurement of instrument for the sustainability factor is rarely found in previous studies. However, the current studies by Khan et al. (2014), Chowdhury et al. (2014) and Dewan et al. (2014) was developed instruments for sustainability factors. In their study, they followed procedures suggested by MacKenzie et al. (2011). At first, their studies established a conceptual definition of sustainability factors and indicators via literature review. Then, they used a field study approach to generate any new items and confirm existing items in literature review which represents the content validity of sustainability factors. Next, they run an EFA to refine and purify the items. Since their studies followed a sound step in developing instrument, the current study adapts their proposed instruments for future study. In context of microenterprise (informal sector), the questionnaire developed by Khan et al. (2014) consisted 12 items to measure the economic factor (4 items), social factor (4 items) and environmental factor (4 items) (see Tab. 2). Chowdhury et al. (2014) study comprised 16 items for supply chain sustainability (manufacturing sector) to measure the economic factor (4 items), social factor (6 items) and environmental factor (6 items) (see Tab. 2). In context of e-business (service sector), Dewan et al. (2014) questionnaire contained 16 items to measure the economic factor (5 items), social factor (6 items) and environmental factor (5 items) (see Tab. 2).

A Likert scale was used to measure in their studies. J. Hair, Money, and Samouel (2007) suggested that there are two choices; odd or even numbers in selecting scale categories. Many studies have used a seven-point Likert scale, having a central ‘neutral’ point. Based on the experience or judgment of the researcher, the central point is used when it is perceived that some portion of the respondents is likely to feel neutral about the issue being examined. However, Matell and Jacoby (1971) advised either not to use or to use the neutral point when the scale consisted of many points. Furthermore, avoiding the central tendency error of respondents was another reason to use a six-point scale. The central tendency error is observed when respondents answer a middle choice ‘neutral’ or ‘neither agree or disagree’ without really meaning that. Therefore, it is worthwhile to use a six-point Likert scale.

4.4. Data analysis technique

The quantitative data analysis was conducted using the SEM technique. This technique allows the simultaneous modelling of associations among multiple independent and dependent variables (Chin, 2010). Coupling the econometric perspective of prediction and the psychometric perspective of construct validity, it enables the measurement of unobservable (latent) variables using observable measures (or manifest variables, items or indicators) by explicitly modelling measurement error (Chin, 1998). It is widely used for its inherent flexibility in testing a theoretical model with multiple predictors and criterion variables against empirical data. The data of the questionnaire survey was analysed through Partial Least Square approach (PLS). PLS path modelling is based on an algorithm that, firstly, estimates the best weights of each block of the measurement model and then estimates the path coefficients in the structural model (Chin & Newsted, 1999). Thus, the latent variable component scores or weight estimates depend on how well the measurement model and structural model are specified. PLS is more appropriate when the measurement items are not well established and are used within a new measurement context (Barclay, Higgins, & Thompson, 1995). Moreover, the capability of handling formative as well as reflective indicators and constructs was one of the greatest incentives to adopt PLS.

For analysing the measurement properties of the sustainability factors, we conducted a CFA. For the result of CFA, we assess the convergent validity and discriminant validity of the scales for reflective measurement model. Convergent validity measures the correlations of items in a single construct. The goal is to ensure that items are correlated and measure the same underlying dimensions. The reflective items were tested for convergent validity by determining item reliability, composite reliability (CR) and average variance extracted (AVE).

Table 2. Specifying and assessing a reflective or formative measure for sustainability factors

Factor	*Item*	*Description*
		Microenterprise (informal sector)
Economic	EC1	We see our micro-firm is providing employment to us and others
	EC2	Our micro-firm's economic performance is at an acceptable level in terms of sales growth
	EC3	Our micro-firm's economic performance is at an acceptable level in terms of income stability
	EC4	Our micro-firm's economic performance is at an acceptable level in terms of return on investment
Social	SO1	Our micro-firm ensures basic needs for our family
	SO2	Our micro-firm enhances our social recognition in society
	SO3	Our micro-firm improves our empowerment in society
	SO4	Our micro-firm provides freedom and control over the course of our own lifestyle
Environmental	EN1	Our micro-firm uses utilities (e.g., energy and water) in an environmental friendly manner
	EN2	Our micro-firm produces few wastes and emissions
	EN3	Our micro-firm is concerned about waste management
	EN4	Our micro-firm is concerned about hygienic factors
Adopted from Khan et al. (2014)		
		Supply chain (manufacturing sector)
Economic	EC1	Our sales volume is high
	EC2	Our cost of production is low
	EC3	Our profit is high
	EC4	Our sales growth is high
Social	SO1	Our company provides fair wages and overtime payments
	SO2	Our company provides benefits to the employees (e.g., medical benefit, child care facility, transportation)
	SO3	We take precaution for hazard and safety of the employees
	SO4	We take measures for health and sanitation of the employees in comparison to the competitors
	SO5	We do not force to work and do not harass our workers
	SO6	Monitoring to social compliance factors of our suppliers is adequate
Environmental	EN1	We take measures to control water pollution (e.g., effluent treatment plant-ETP)
	EN2	We take measures to control air pollution in comparison to competitors
	EC3	We take measures to control soil pollution
	EC4	We recycle or utilize all types of wastes (e.g., selling wastes to recyclers)
	EC5	We control the use of hazardous materials and chemical in products
	EC6	Environmental audit (either by buyers or government or other organizations) take place in our plant
Adopted from Chowdhury et al. (2014)		
		e-business (service sector)
Economic	EC1	The bank has the ability to redesign its products to reduce the service cost
	EC2	The bank is doing enough to maintain competitive quality of the services
	EC3	The bank has the best software and hardware to ensure full security of the services
	EC4	The bank is maintaining desired productivity level of the processes
	EC5	The bank investing enough on potential value added services
Social	SO1	The bank is maintaining desired standard in employment and labour practice
	SO2	The bank is maintaining full accountability of products and services for the customers
	SO3	The bank is able to ensure socially responsible action throughout the organisation
	SO4	The bank has enough vigilance on complying legislations and code of conducts
	SO5	The bank is contributing enough to local community
	SO6	The bank is increasing contribution for national development
Environmental	EN1	The bank is using energy resources effectively
	EN2	The bank is doing its best to minimise air pollution
	EC3	The bank is doing its best to minimise usages of materials
	EC4	The bank is fully complying with environmental legislations
	EC5	The bank is maintaining its environmental commitment for future generations
Adopted from Dewan et al. (2014)		

Discriminant validity analysis was used in this study to test statistically the degree of variance shared among items and constructs in the model. To establish discriminant validity, the square root of the AVE is compared to the inter-construct correlations. In the final analysis for discriminant validity, cross-loadings for each item were explored and compared across all constructs and have been presented in the form of a cross-loading matrix.. In addition, nomological validity also calculated. The formative items are not correlated; therefore, convergent validity and discriminant validity could not be applied. Formative model is assessed by the item level loadings\weights and their t-value, and multicollinearity statistics. Multicollinearity was tested by calculating the variance inflation factor (VIF). This was to ensure that each indicator had a distinct influence on the intended latent variable.

5. RESULT

To ensure the convergent validity of reflective measurement indicators we investigate the item reliability, CR and AVE. Referring to Tab. 3, it is portrayed that loading for all items is more than minimum threshold level of 0.7 with reference to Hair, Ringle, and Sarstedt (2011). Moreover, the t-value, obtained from bootstrapping showed that all loadings are significant at the 0.05 level (Hair et al., 2011). Therefore, we retain all items in case of microenterprise (informal sector) and supply chain (manufacturing sector). Further, to examine the convergent validity of reflective measurement models we calculated AVE and CR. Tab. 3 reports that the CR values of all constructs exceed the cut off level 0.70 as suggested by Fornell and Larcker (1981). It is also evident that the AVE for all construct is more than 0.7 which far more than the minimum cut off value of 0.5 recommended by Fornell and Larcker (1981). With a view to affirm the discriminant validity, in Tab. 4a and 4b, we calculated the square root of AVE which exceeds the intercorrelations of the reflective construct with the other constructs in the model (Chin, 2010; Fornell & Larcker, 1981). We also evaluate the cross loading of the items under each constructs to corroborate the discriminant validity. The results indicated that all items demonstrated higher loadings in their respective constructs in comparison to their cross-loadings in other constructs (see Tab. 4a and 4b). Further, we consider the nomological validity to support the relationships between indicators and constructs. Fig. 2 shows that t-values between indicators and constructs are significant at the 0.05 level. Based on the outcomes shown in Tab. 3, 4a and 4b and Fig. 2, the overall results for the reflective measurement model have provided satisfactory empirical support for reliability, and convergent validity, discriminant validity and nomological validity of the sustainability factors in context of microenterprise (informal sector) and supply chain (manufacturing sector).

Table 3. Psychometric properties

		Microenterprise (informal sector) Reflective measurement				Supply chain (manufacturing sector) Reflective measurement				e-business (service sector) Formative measurement				
Factors/items		L	L *t*-v	AVE	CR	L	L *t*-v	AVE	CR	L	L *t*-v	W	W *t*-v	VIF
EO	EC1	0.915	113.043	0.820	0.948	0.911	107.698	0.754	0.924	0.310	3.605	0.172	2.400	1.408
	EC2	0.909	103.828			0.745	23.337			0.479	5.098	0.240	2.912	1.489
	EC3	0.871	55.848			0.881	62.199			0.634	8.301	0.303	3.054	1.465
	EC4	0.926	127.463			0.924	106.735			0.816	15.674	0.480	5.812	1.725
	EC5									0.646	7.308	0.341	3.220	1.877
SO	SO1	0.819	43.787	0.799	0.941	0.884	73.762	0.752	0.948	0.278	2.847	0.182	2.198	1.025
	SO2	0.901	74.864			0.894	81.109			0.243	2.511	0.058	0.794	1.120
	SO3	0.929	143.574			0.853	52.182			0.289	2.699	0.062	0.786	1.150
	SO4	0.922	115.558			0.920	96.922			0.548	5.405	0.363	4.106	1.071
	SO5					0.791	34.256			0.754	11.815	0.557	7.079	1.126
	SO6									0.692	9.316	0.432	5.309	1.159
EN	EN1	0.910	124.161	0.793	0.939	0.855	80.806	0.727	0.941	0.380	3.817	0.195	2.295	1.178
	EN2	0.906	89.695			0.887	70.655			0.631	8.040	0.257	2.885	1.369
	EN3	0.875	54.961			0.886	52.789			0.781	14.468	0.479	6.008	1.371
	EN4	0.869	63.122			0.893	69.162			0.470	5.073	0.236	3.362	1.149
	EN5					0.787	30.358			0.714	9.466	0.378	4.066	1.284
	EN6					0.812	44.559							

Abbreviations: EO-Economic, SO-Social, EN-Environmental, L-Loadings, W-Weights, L t-v-Loadings t-value, W t-v- Weights t-value, AVE-Average Variance Extracted, CR-Composite Reliability, VIF-Variance Inflation Factors

Table 4a. Discriminant validity

		Microenterprise (informal sector)					
		Cross loading			AVE Sqrt root		
Factors/Items		EC	SO	EN	EC	SO	EN
EC	EC1	**0.915**	0.544	0.403	**0.906**		
	EC2	**0.909**	0.488	0.319			
	EC3	**0.871**	0.571	0.375			
	EC4	**0.926**	0.511	0.339			
SO	SO1	0.627	**0.819**	0.546	0.585	**0.894**	
	SO2	0.455	**0.901**	0.629			
	SO3	0.464	**0.929**	0.679			
	SO4	0.545	**0.922**	0.656			
EN	EN1	0.422	0.664	**0.910**	0.398	0.703	**0.890**
	EN2	0.401	0.749	**0.906**			
	EN3	0.291	0.561	**0.875**			
	EN5	0.281	0.499	**0.869**			

Abbreviations: EO-Economic, SO-Social, EN-Environmental

Table 4b. Discriminant validity

		Supply chain (manufacturing sector)					
		Cross loading			AVE Sqrt root		
Factors/Items		EC	SO	EN	EC	SO	EN
EC	EC1	**0.911**	0.775	0.732	**0.868**		
	EC2	**0.745**	0.529	0.509			
	EC3	**0.881**	0.697	0.691			
	EC4	**0.924**	0.778	0.751			
SO	SO1	0.674	**0.884**	0.779	0.809	**0.834**	
	SO2	0.729	**0.894**	0.758			
	SO3	0.661	**0.853**	0.732			
	SO4	0.725	**0.920**	0.721			
	SO5	0.659	**0.791**	0.609			
EN	EN1	0.658	0.778	**0.885**	0.781	0.819	**0.831**
	EN2	0.641	0.735	**0.887**			
	EN3	0.682	0.744	**0.886**			
	EN4	0.570	0.641	**0.893**			
	EN5	0.702	0.773	**0.787**			
	EN6	0.697	0.718	**0.812**			

Abbreviations: EO Economic, SO-Social, EN-Environmental

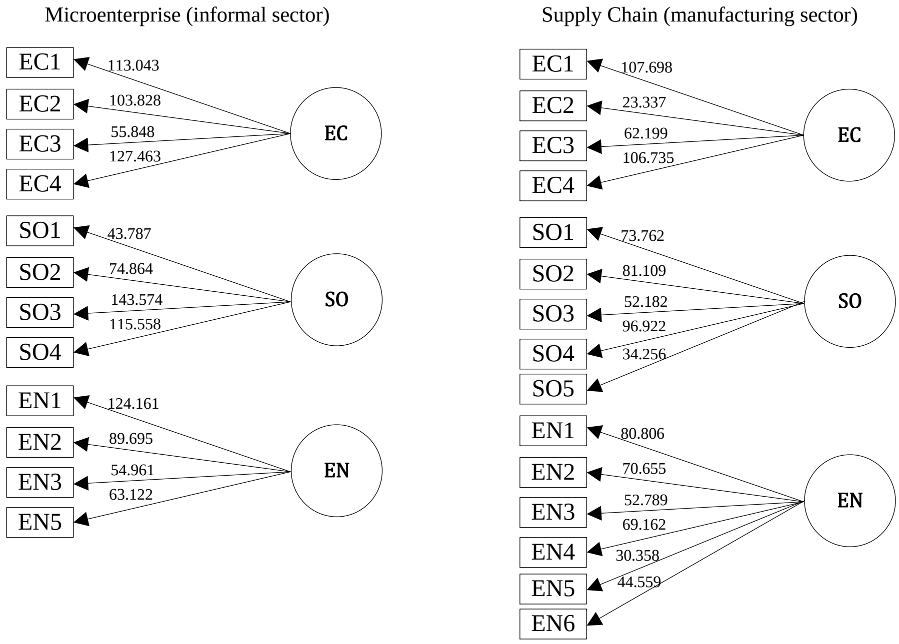

Figure 2. Nomological net *t*-values

Abbreviations: EO-Economic, SO-Social, EN-Environmental

Regarding formative measures we examined indicator weights at first which represent the contribution of each indicator to the respective construct (Chin, 2010). Tab. 3 depicts that *t*-value of all the formative items, except SO1 and SO2 significantly contribute to their respective constructs (Chin, 1998b). However, examination of *t*-values corresponding to the item loadings shows that *t*-values are significant for all items. Therefore, referring to J. F. Hair et al. (2011), all items are retained for measurement of sustainability factors. Test of mulitcollinearity among the formative items showed that variance inflation factor (VIF) of all items ranging between 1.025 to 1.877 which are within the tolerance level of 5 (J. F. Hair et al., 2011). Based on the results illustrated in Tab. 3, the overall outcomes for the formative measurement model have delivered acceptable empirical support for the item level loadings\weights and their *t*-value, and multicollinearity statistics of the sustainability factors in context of e-business (service sector).

6. DISCUSSION

The objective of the study was to develop and validate either reflective or formative scale of sustainability factors in context of three selected sectors. The natures of sustainability concept with its three factors are found concurred with the four features of reflective and formative measure: direction of causality, interchangeability of the measures, correlation among the measures and nomological validity. In context of microenterprise (informal sector) and supply chain (manufacturing sector), item loading and its corresponding *t*-values were significant. Further, AVE and the CR values also meet the criteria and established the convergent validity. Furthermore, AVE Square root and cross loading values also confirmed discriminant validity among the constructs. In case of e-business (service sector), item loading and weight and its corresponding *t*-values were significant. In addition, mulitcollinearity among the formative items showed that VIF of all items were within acceptable level. The current study suggests that a reflective and a formative scale of sustainability factors is a context specific. In addition, the proposed reflective and formative measure of sustainability factors shows reliable and valid results. Nevertheless, it is rather challenging for this study to relate the current findings with the no prior studies due to the fact that reflective and formative measure of sustainability studies was hardly conducted, at least, this study makes an significant contribution to theory, method and practice.

Notably, this study has extended the sustainability studies by specifying and estimating a reflective and formative measure sustainability factors. The findings of this study supports economic, social and environmental tap the conceptualization of sustainability factors based on a three industrial settings in Bangladesh. From a methodological point of view, this study has forwarded a reflective and formative measurement model of sustainability factor using PLS which would offer new understandings for variance based SEM. Apart from that, the implication for this study is highly relevant to the policy decision making in many industrial context. This is because sustainability factors in industrial context is supported having influence on a series of organizational outcomes linked with decision choice. The results enhance the insights of policy makers especially the regulatory authorities the extent to which economic, social and environmental factors influence sustainability in industrial context.

Despite the major findings, this research needs to be considered in view of its limitations. This research was conducted within the specific domain of the microenterprises (tea-stall business), supply chain (ready-made garment) and e-business (retail banking) and in one country like Bangladesh. But the reality is that sustainability concept is largely varied and complex. Thus, there might be variation in the applicability of the components and consequences. Replication in other contexts would increase confidence in the research model. Data were collected under a cross-sectional design, so the study contains typical limitations associated with this kind of research methodology. For example, the model represents the static nature of sustainability evaluation as the findings are confined to a single point of time. A longitudinal study can overcome this limitation by providing a deeper understanding.

7. CONCLUSION

In general, this study has enriched some knowledge into the epistemic nature of reflective and formative so that scholars can reach an information choice as to the appropriate measurement for their needs. Specifically, this study has explored a new horizon in view of model specification of sustainability factors in organizational level based on three distinct industrial setting. Most importantly, this study has provided empirical evidence that sustainability factor can either be reflective or formative which is not specified by previous studies. Finally, it expects that this study will help the future studies by comparing and contrasting the presented empirical evidence of the reflective and formative measure of sustainability factors.

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AUDIT, ACCOUNTING & REPORTING

SECTION 2

THE EFFECT OF THE OWNERSHIP STRUCTURE CHARACTERISTICS ON FIRM PERFORMANCE IN OMAN: EMPIRICAL STUDY

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Abstract

This study attempts to investigate the effect of the ownership structure characteristics (ownership concentration, managerial ownership and government ownership) on firm performance (ROA) among non-financial Omani companies during 2012-2014. For achieving the objective of this study, 81 firms were taken as a sample to test the above relations. The sampling was obtained from annual report of the companies for three years with a total sampling equal to 243 firms. Multiple regression analysis was employed to test the relationship between independent variables and dependent variable. In addition, this study tried to fill the gap in the existing literature concerning the relationship between ownership structure and firm performance in the developing countries such as Oman. This study found a positive and significant association between ownership concentration and government ownership to firm performance (ROA). The study provides some suggestions for future researchers before the conclusion.

Keywords: Agency Theory, Resource Dependence Theory, Ownership Concentration, Managerial Ownership, Government Ownership

1. INTRODUCTION

Corporate governance is one of the most widely researched topics as a mechanism to minimize conflicts of interests between managers and investors. Its objective is to safeguard the capital owners from opportunistic activities (Abdurrouf, 2011; Jensen and Meckling, 1976; Pandya, 2011; Pfeffer, 1972; Shleifer and Vishny, 1986) and to make sure that management exert effort to achieve the shareholders' and stakeholders' interests. Consequently, corporate governance mechanisms and regulations have been provided significant attention on a global scale as they improve the overall economic capability to produce public benefits to stakeholders (individuals and organizations) (Hsu and Petchsakulwong, 2010). More importantly, both local and foreign investors will be considerably attracted to the companies where the corporate governance mechanisms are applied. The proper implementation of corporate governance code can prevent the financial disputes and reduce the corruption and thus enhances the overall firm growth that collectively stimulates the country's overall economic growth and development (Al-Matari et al., 2012). There are many researchers, organizations and institutions, interests indicating that the role of corporate governance reduces the problem of conflict of interest as this study often mentions.

Effective corporate governance reduces the right of control and gives managers more leverage in a way that investment decisions managers improve the maximization of shareholder wealth. Corporate governance gives directors' rights to make the right decision which services a shareholders' target whereas at the same time this decision seeks to achieve shareholder and managers goals (Shleifer & Vishny, 1997). This, however, suggests that firms have adjusted better corporately improved operating performance (Irina & Nadezhda, 2009). Therefore, this study attempted to build a comprehensive model to investigate the factors that enhance the effectiveness of the corporate governance mechanisms and firm performance in Oman.

One of the primary corporate governance mechanisms is ownership structure. It has been extensively examined by analysts as well as scholars throughout the years. The pioneering study within the firm theory in light of Modern Corporation was done by Berle and Means (1932) who debated over conflicts of interest between management and controllers. According to them, with the increasing ownership diffusion, the shareholder's power to control management is minimized. In a related study Demsetz and Lehn (1985) stated that the ownership structure concept indicates that ownership is often endogenously determined for the maximization of the performance of the company as this benefits all owners.

CG mechanisms are developed to minimize agency costs arising from the ownership and control separation (Fama & Jensen, 1983; Jensen & Meckling, 1976). Prior studies evidenced that governance mechanisms improve firm value to a certain level (Weir et al., 2002). Moreover, the ownership and management separation is what exists in today's public corporations (Sing & Sirmans, 2008).

From the resource dependence theory perspective, ownership is considered as a source of power that can be utilized to reinforce or go against management according to how concentrated it is and how it is used (Pfeffer & Slanick, 1979). As a result Fazlzadeh et al. (2011) stated that ownership structure has a key role in corporate governance and provides insights to policy makers who are expending efforts to improve the system of corporate governance. In the context of majority of developed countries, ownership structure is greatly dispersed. Contrarily, in the developing countries where weak legal systems exist for the protection of investors' interest, the structure of ownership is highly concentrated (Ehikioya, 2009). Although the essence of ownership structure is to improve performance, studies have largely ignored the testing of the role of ownership structure on firm performance. There are many studies that have confined their examination to only board characteristics, audit committee, CEO with firm performance (Abdurrouf, 2011; Dar et al., 2011; Yasser, Entebang & Al Mansor 2011)

Despite the ample attention it is getting, there are no empirically findings concerning the ownership structure-firm performance relationship. While some authors reported a positive relationship like Barontini and Caprio (2006) and Chen et al. (2006), others confirmed a negative relationship (e.g. Brown and Caylor, 2004). Still others failed to report any relationship between the two variables (e.g. Masood, 2011). These mixed findings prompted researchers to further examine the relationship between ownership structure and firm performance (e.g. Abdurrouf, 2011; Al-Matari et al., 2012; Kajola, 2008; Liang et al., 2011; Millet-Reyes and Zhao, 2010). Moreover, ownership structure is critical in aligning the relationship between owners and management. In this regard, the present study considers some characteristics of ownership structure including concentration ownership, managerial ownership, government ownership, institutional ownership, and foreign ownership.

On the basis of the above findings, the present study attempts to fill the gap found in literature by investigating the ownership structure characteristics-firm performance relationship in Oman. The next section provides an in-depth discussion of the study procedures employed.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Ownership Concentration and Firm Performance

Ownership concentration is a reaction to various levels of legal protection of minority shareholders throughout countries (Azam et al., 2011). It is described as the proportion of the firm shares owned by a certain number of the majority shareholders (Sanda et al., 2005). Its measurement is done through the fraction owned by the five majority shareholders or by the significant number of shareholders (Karaca & Ekşi, 2012; Obiyo & Lenee, 2011).

Berle and Means (1932) were the first to reveal a positive association between ownership concentration and performance and conceptually, Shleifer and Vishny (1997) stressed that ownership concentration and legal protection are considered the two key CG determinants. Minority shareholders can benefit from their majority counterparts as the latter has the power and incentive to stop expropriation or management asset stripping. In addition, concentrated ownership of companies may minimize the freedom of management to carry out strategic decisions and take risks in taking advantage of opportunities (Brickley et al., 1997; Bushee, 1998; Pound, 1988). In other words, a large total share of equity may lead to the improvement of the majority shareholders monitoring management (Clarke, 1995).

Regarding the agency theory perspective, Berle and Means (1932) claimed that under a corporate regime, firm ownership is dispersed among shareholders with the control rights pooled in management hands. The consequent separation of control and ownership may give rise to agency problems (Jensen & Meckling 1976). Moreover, dispersed shareholders provide no monitoring of agents or managers. They think it cost-efficient to monitor management as they have to pay all the monitoring costs but only receive a meagre part of the gains (Grossman & Hart 1980; Shleifer & Vishny 1986).

On the other hand, from the resource dependence theory perspective, company ownership invest limited resources and this does not assist in helping the company's partnership with external investors and thus reducing the supply of external resources from other parties like the government or financial institutions. The investment percentage between foreign investors and owners should at least be similar as this helps in achieving the company's goals and in establishing different forms of wealth, which assist firms in minimizing risk. This may help in providing established experiences linked to external environment as internal and external partnership generally helps the firm to enhance its performance (Pfeffer, 1972).

Theoretically, the effects of ownership concentration on firm performance are still ambiguous whether in the extensive review in the developed or developing countries. The next review explains the presence of mixed results with regard to agency theory and resource dependence theory. Although there is widely done empirical studies that examined the relationship between ownership concentration and firm performance, the results are still diversified. For example there many authors around the world dedicated to reveal the association between concentration ownership and firm performance and confirmed a positive relationship in developed countries (Siala et al., 2009; Wang & Oliver, 2009) and in developing ones (Azam et al., 2011; Karaca & Ekşi, 2012; Obiyo & Lenee, 2011).

On the other hand, many studies confirmed a negative relationship between ownership concentration and firm performance in the developed countries (Hu et al., 2010; Millet-Reyes & Zhao, 2010) and in the developing countries (Roszaini & Mohammad (2006).

There are some researchers who found is no relationship between ownership concentration and firm performance whether in the developed countries (Shan & McIver, 2011) or in the developing countries (Fazlzadeh et al., 2011; Najjar, 2012; Wahla et al., 2012). These mixed results call for more research to re-examine this relationship in the future research work. Therefore, this study attempted to contribute to literature by introducing the following hypotheses to be tested.

H1: *There is a positive relationship between the ownership concentration and firm performance.*

2.2 Managerial Ownership and Firm Performance

Managerial ownership is gauged through the proportion of firm shares owned by insiders and board members or insider ownership (Liang et al., 2011; Wahla et al., 2012).

This type of ownership has also been viewed as a potential effective mechanism of corporate governance. According to Jensen and Meckling (1976), it provides a potential incentive to align the management interests to that of shareholders. Contrarily, according to Khan et al. (2011) and Shleifer and Vishny (1986), high managerial ownership may lead to management entrenchment because they are less subjected to board of directors' governance and to market discipline for corporate control.

There are theoretical and empirical studies that have investigated the relationship between managerial ownership and firm performance and they have provided mixed evidences. These inconclusive findings are discussed in the following paragraphs.

On the basis of the agency theory perspective, Jensen and Meckling (1976) claimed that managerial ownership can assist in improving agency conflicts between owners and management because a manager owning a large portion of the company shares has ample incentives to maximize job performance to guarantee better performance of the company. On the contrary, management entrenchment has been known to arise in firms with high managerial ownership and thus worsening agency problems (Demsetz, 1983; Fama & Jensen, 1983). On the other hand, from the resource dependence theory perspective, a partnership with external resources is encouraged because they will provide the company with multiple sources and different experiences as it works to maximize shareholder rights and all parties associated with the company. It is also focused on the involvement of all confiscated and merges them together in order to make the most of the experience and confiscation, which in turn helps to achieve the goals of the beneficiaries of the company. Therefore, large ownership by the managers and members of the board do not help improve performance of companies (Pfeffer, 1972).

Based on the previous argument, the result is still mixed regarding to the relationship between the managerial ownership and firm performance. Some studies in the developed countries have confirmed that a positive association between the two variables exist (e.g. Juras & Hinson, 2008; Leung & Horwitz, 2010). In the other direction but in the same line of results, there are many researchers in developing countries who found a similar finding; for example, Chung et al. (2008), Ehikioya (2009), Hasnah (2009), Sing and Sirmans (2008), and Uwuigbe and Olusanmi (2012).

Some other researchers confirmed a negative association between managerial ownership and firm performance in the developed countries such as Irina and Nadezhda (2009) and Juras and Hinson (2008). Similarly, the developing countries (e.g Liang et al., 2011; Mandacı & Gumus, 2010; Tsegba & Ezi-Herbert, 2011; Wahla et al., 2012) obtained similar results regarding this relationship. Other researchers however, found no relationship between two variables either in the developed countries (Juras & Hinson, 2008; Siala et al., 2009) or in the developing countries (NazliAnum, 2010; Nuryanah & Islam, 2011; Mohd, 2011). To empirically re-examine this relationship, this study proposes the following hypotheses.

H2: *There is a positive relationship between the managerial ownership and firm performance.*

2.3 Government Ownership and Firm Performance

Government ownership is measured by the ratio of the government owned shares in the firm (NazliAnum, 2010; NurulAfzan & Rashidah, 2011).

According to agency theory, government ownership holds the solution to the issue of information asymmetry resulting from the imperfect information provided to investors concerning the firm value. Additionally, the state owned shares can be used to align the owners and management's interests (Jensen & Meckling, 1979). The government generally gathers information from other sources and they are more privy to various channels of financing compared to their non-state counterparts (Eng & Mak, 2003).

Similarly, from the resource dependence theory perspective, the outsourcing helps to provide established sources of funding a variety of different and varied experience qualifications with working to reduce the cost of capital. It is also working on the efficient control of several aspects in order to help create a favourable effective working environment. This, in turn, works to improve the performance of the company (Pfeffer, 1972). And hence, the current study expects that the government is one of the most important effective and efficient outsourcing in improving the functioning of the company. In the same context, Rhoades et al. (2001) revealed that the selection of suitable governance mechanisms among management and owners ensures the interest alignment of principal and agent.

The findings in literature regarding this relationship lack conclusiveness. Some researchers found the relationship between government and firm performance to be positive in the developed countries (Irina and Nadezhda, 2009) and the developing countries (Aljifri & Moustafa, 2007; MoIlah &Talukdar, 2007; NazliAnum, 2010; NurulAfzan & Rashidah, 2011). On the other hand, some other evidence confirmed negative association between government ownership and firm performance such as Al Farooque et al. (2007) and Al-Hussain & Johnson (2009). The present study attempts to contribute to literature regarding this relationship by proposing the following hypotheses.

H3: *There is a positive relationship between the government ownership and firm performance.*

3. RESEARCH METHODOLOGY

Our sampling was comprised of 81 non-financial sectors (industry and service sectors) per year so that all sampling was 243 companies for three years (2012 to 2014). This data was collecting form annual reports that listed companies in the Muscat stock exchange. Move over, the measurement and model will provide as follow:

$ROA = \alpha 0 + \beta 1 * OWCONCE + \beta 2 * MANAGOW + \beta 3 * GOVEROW + \beta 4 * LEVERAG + \varepsilon$

Table 1. Summary of Variables Measurement

No	*VARIABLES*	*ACRONYM*	*OPERATIONALISATION*
	Dependent Variables (DV)		
1	**Return on Assets (%)**	ROA	Earnings before tax divided by total assets of the company.
	Independent Variables (IV)		
2	**Ownership Concentration (%)**	OWCONCE	The fraction owned by the five largest shareholders.
3	**Managerial Ownership (%)**	MANAGOW	The proportion of shared owned in the firm by insiders and board members.
4	**Government Ownership (%)**	GOVEROW	The ratio of shares owned by the government in the firm.
	Control Variables (CV)		
5	Leverage (%)	LEVERAG	The ratio of total liabilities to total assets.

4. DATA ANALYSIZ AND RESULTS

4.1 Descriptive Statistic

The descriptive statistics of the continuous variables including the mean, standard deviation, and minimum, maximum, skewness and kurtosis.

Table 2. Descriptive Statistics of Continuous Variables

Variable	Unit	Minimum	Maximum	Mean	Std. Deviation
		Statistic	Statistic	Statistic	Statistic
Ownership Concentration (OWCONCE)	Ratio	0.00	0.98	0.45	0.33
Managerial Ownership (MANAGOW)	Ratio	0.00	0.73	0.05	0.13
Government Ownership (GOVEROW)	Ratio	0.00	0.89	0.09	0.18
LEVERAGE (LEVERAG)	Ratio	0.02	1.72	0.48	0.28
Return On Assets (ROA)	Ratio	-0.34	0.32	0.06	0.10

4.2. Correlation Analysis

This study ran the correlation analysis via the multiple regression analysis. According to Pallant (2011), correlation analysis is used to describe the linear relationship between two variables in terms of strength and direction. Moreover, According to the results, the correlations did not exceed 0.90 indicating that Gujarati and Porter's (2009) recommendation was met. They contended that to ensure the absence of multicollinearity, the correlation matrix should stay below 0.90.

Table 3. Results of Pearson Correlation Analysis

Variable	1	2	3	4	5
Ownership Concentration (OWCONCE)					
Managerial Ownership (MANAGOW)	0.145***				
Government Ownership (GOVEROW)	0.017	-0.040			
LEVERAGE (LEVERAG)	0.033	0.059	-0.293***		
Return On Assets (ROA)	0.076	-0.064	0.275***	-0.449***	
***:p<0.001; **:p<0.01; *:P<0.05					

4.3 Testing the Normality of the Error Terms

Two analyses namely skewness and kurtosis were carried out to test the normality of data distribution. The former analysis displayed normality of data with output values between ±3 while the kurtosis analysis also displayed normality with the output values of between ±10 (Kline, 1998). Table 4 shows that the value of skewness is located between the ranges of ±3. Moreover, the values of kurtosis lie between ±10. Consequently, the data of the study as it shows normal outcome through kurtosis analysis regardless of the skewness analysis.

Table 4. Results of Skweness and Kurtusis for Normality Test

Variable	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Ownership Concentration (OWCONCE)	-0.31	0.16	-1.40	0.31
Managerial Ownership (MANAGOW)	2.77	0.16	8.30	0.31
Government Ownership (GOVEROW)	2.64	0.16	6.73	0.31
LEVERAGE (LEVERAG)	0.74	0.16	1.09	0.31
Return On Assets (ROA)	-1.01	0.16	3.23	0.31

5. REGRESSION RESULTS BASED ON ACCOUNTING MEASURE

5.1 Regression Results of Model

Based on the result obtained concerning the adjusted coefficient of determination (R^2), 0.233% of the variation of the dependent variable is explained by that of the independent variable. Stated differently, the firm performance variation, with ROA as a proxy, was explained and accounted for by the regression equation. The results listed in Table 4 shows the model's significance with F value equals to ($F=18.113$, $p<0.01$), which shows the validity of the model. Additionally, the Durbin-Watson (DW) test is employed as a statistical test to detect autocorrelation and in this regard, the rule of thumb follows that the acceptable range of autocorrelation is 1.5-2.5. In the present study, the Durbin-Watson value was found to be 1.810 – a value that falls in the acceptable range, indicating independence of observations. Moreover, the Tolerance value and VIF was run to test the collinearity, after which no issue was reported. With regards to the results of the hierarchical multiple regression analysis, they are explained and presented in Table 5.

Table 5. Regression Results of Model (Dependent= *ROA)*

Variables	Standardized Coefficients	t-value	Sig.	Collinearity Statistics	
	Beta			Tolerance	VIF
Ownership Concentration (OWCONCE)	0.094	1.638	0.103*	0.977	1.023
Managerial Ownership (MANAGOW)	-0.048	-0.832	0.407	0.975	1.025
Government Ownership (GOVEROW)	0.153	2.568	0.011***	0.913	1.096
LEVERAGE (LEVERAG)	-0.404	-6.795	0.000***	0.911	1.098
R^2			0.233		
Adjusted R^2			0.220		
F-value			18.113		
F-Significant			0.000		
Durbin Watson statistics			1.810		

***:p<0.001; **:p<0.01; *:P<0.05

6. DISCUSSION OF RESULTS

In this section, we discuss the results related to the relationship between ownership structures characteristics (ownership concentration, managerial ownership and government ownership) and ROA. This study found a positive and significant association between Ownership Concentration and ROA. This result is similar with previous studies that found positive and significant relationship between ownership concentration and firm performance whether in the developed countries (Siala et al., 2009; Wang & Oliver, 2009) or in the developing countries (Azam et al., 2011; Karaca & Ekşi, 2012; Obiyo & Lenee, 2011). In addition, we found no relationship between managerial ownership and ROA. This finding is similar with prior studies that found no relationship between the two variables either in the developed countries (Juras & Hinson, 2008; Siala et al., 2009) or in the developing countries (NazliAnum, 2010; Nuryanah& Islam, 2011; Mohd, 2011). Moreover, this study revealed significantly positive association between Government Ownership and ROA. This outcome is similar with previous studies that got a positive and significat association between Government Ownership and ROA in both the developed countries (Irina and Nadezhda, 2009) and the developing countries (Aljifri & Moustafa, 2007; MoIlah &Talukdar, 2007; NazliAnum, 2010; NurulAfzan & Rashidah, 2011).

7. CONCLUSION

This study aimed to achieve many objectives. Firstly, it targeted to examine the direct relationship between ownership structure characteristics and firm performance. Secondly and most importantly, this study attempted to examine the relationship between corporate governance and firm performance among non-financial in Omani listed companies. The sample was comprised of 243 firms in three years (2012 to 2014). This study used multiple regression analysis to test the relationship between independent variables and dependent variable. The results found a positive and significant relationship between ownership concentration and government ownership to ROA. On the other hand, this study revealed a negative correlation between managerial ownership and ROA but not significant.

This study, like any study has limitations and suggestions for future research. This study concentrated on ownership structure such as ownership concentration, government ownership and managerial ownership with firm performance and hence, it is suggested for future research to add other ownership structure like foreign ownership and institutional ownership that maybe help in improving firm performance. Moreover, this study focused on ownership structure such as ownership concentration, government ownership and managerial ownership with firm performance and therefore, it is advised for future research to add some internal corporate governance mechanisms such as, board of directors, audit committee, risk committee, executive committee, corporate governance committee, remuneration committee, nomination committee and others and their role in improving firm performance. Besides, this study considered three-year duration (2012-2014), and therefore future research should extend this period and cover all sectors in order to improve firm performance. Finally, this study only used one accounting measurement of firm performance and therefore, it is suggested that future research should take other measurements into account such as, ROE, ROI, Tobin's-Q among others.

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CORPORATE OWNERSHIP PATTERNS IN DEVELOPING COUNTRIES

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Abstract

This paper examines the effect of firm-, industry-, and country-level factors on corporate ownership pattern within the context of six African countries. Based on theory, we develop multi-dimensional models and examine data pertaining to 377 non-financial firms across a time period of 15 years using a battery of econometric procedures. In the sample countries, ownership concentration and/or block shareholding increases with firm level debt maturity structure, industry regulation, and perceived level of corruption in a country and its real GDP per capita. We also find ownership concentration and/or block shareholding decreases with firm level basic capital structure, firm size, and orientation of the financial system of a country. Our findings signify the role that information asymmetries, agency conflicts, and institutional pressures play in the determination of corporate ownership patterns in developing countries. The findings have practical implications for the investment community in assessing ownership patterns of companies listed in developing countries. Furthermore, the results spark insights that are potentially useful to enhance corporate governance institutions in developing countries.

Keywords: Corporate Ownership Structure, Developing Countries, Agency Conflicts, Information Asymmetries, Institutions

1. INTRODUCTION

The debate on ownership structure features prominently in economic theory of organizations (Demsetz and Lehn, 1985) ever since the works of Berle and Means (1933) and Veblen (1924). This preponderance of interest on the subject is partly driven by the impact that ownership structure has on economic growth, financial development, corporate governance and countries' ability to gain from global financial integration (Stulz, 2005). It is also because of the role that ownership structure plays in mitigating agency problems especially in developing economies. Nonetheless, there has not been a universal theory that explains ownership patterns across countries. We rather note the emergence of multiple theories ranging from politics (Roe, 2000) to law (Gilson, 2006; Hansmann, 1996), to economics (Demsetz and Lehn, 1985) to finance (Shleifer and Vishny, 1997, 1986) and to culture and sociology (Maurice and Sorge, 2000; Sorge, 1981) that attempt to explain corporate ownership patterns. Along this line, Hoskisson, Eden, Lau & Wright (2000), Elst (2004), and Richter and Weiss (2013) observe that ownership structures are usually explained by several variables arising from transaction cost, agency, resource dependence, and institutional considerations.

Thomsen and Pedersen (1998) report a highly significant "nation effect" attributable to institutional and macroeconomic factors in explaining disparities in ownership patterns across 12 European countries. Likewise, both Richter and Weiss (2013) and Aguilera, De Castro & Cladera (2011) observe that institutional factors explain cross-country variations in ownership concentrations. Similar cross-country comparisons of ownership patterns are found in Gugler, Mueller & Yurtoglu (2008), Wei and Zhang (2008) and Munisi, Hermes & Randoy (2014). However, the empirical results are mixed and often difficult to interpret. Moreover, still very little is understood about corporate ownership patterns in developing countries where the legal and market institutions render enforcement of agency contracts more costly and problematic (Wright, Filatotchev, Hoskisson & Peng, 2005). Certainly, there is not enough evidence on how theories formulated for firms operating in major developed markets could be applied to firms outside these markets and in countries with different institutional and legal environments. The present study attempts to fill the void in the literature by examining the association between several firm-, industry-, and country-level factors and corporate ownership structure within the context of developing countries.

Our empirical analyses focused 15-year (1996-2010) data pertaining to 377 non-financial firms. We find that firm level debt maturity structure, industry regulation, and perceived level of corruption in a country and its real GDP per capita are positively associated with measures of corporate ownership structure. We also find evidence that firm level basic capital structure, firm size, and orientation of the financial system of a country are negatively associated with measures of corporate ownership structure. Our findings signify the role that information asymmetries, agency conflicts, and institutional pressures play in the determination of corporate ownership patterns in developing countries. The findings also have practical implications for the investment community in assessing ownership patterns of companies listed in developing countries. Furthermore, the results spark insights that are potentially useful to enhance corporate governance institutions in developing countries.

The contributions of this paper are threefold. Firstly, unlike previous works on the subject, the paper examines the role of firm-, industry-, and country-level factors in the determination of ownership patterns from multiple theoretical perspectives. Second, by studying the determinants of ownership structure in economies that are typically epitomized by less developed capital markets, higher agency and information asymmetry costs and weaker protection of investor rights, it contributes to the more fundamental theoretical and policy debate about the effectiveness of transplanting corporate governance models to developing economies. Third, although many authors acknowledge that corporate ownership structure and capital structure could be used as substitute tools in corporate governance, most empirical works fail to model the two variables jointly. The only exception to our knowledge in this respect is Pindado and Torre (2006) who demonstrate that Swedish firms use ownership and basic capital structure decisions as substitutes in mitigating agency conflicts. We contend that studies that explicitly recognize the substitutability between governance mechanisms have the potential to advance our understanding of corporate governance.

The reminder of the paper proceeds as follows. Section 2 discusses the literature related to corporate ownership structure and its determinants. Section 3 presents the empirical framework. Section 4 presents the findings and the discussions thereof. Section 5 concludes.

2. LITERATURE REVIEW

2.1. Theories of ownership structure

The literature identifies that corporate ownership patterns are usually explained by firm-, industry-, and country-specific factors drawn based on institutional, agency, and information asymmetry considerations. According to institutional theory, "the role of institutions in an economy is to reduce transaction and information costs through reduction of uncertainty and establishment of stable structures that facilitates interaction" (Hoskisson et al., 2000). Several authors derive slight variations of this theory to explain corporate ownership. For instance, some invoke "political institutions" (Roe, 2000, 1991), while others examine legal institutions (La Porta et al., 1999, 1998; Shleifer and Vishny, 1986; Shleifer and Vishny, 1997; Desender, Aguilera, Crespi and Garcia-Cestona, 2012; Knyazeva et al., 2013). Still within the same theory, others (DiMaggio and Powell, 1983; Maurice and Sorge, 2000; Sorge, 1981) use "social and cultural institutions" to explain organisational decisions.

Agency theory, on the other hand, contends that there is an optimal way to structure ownership relations for a given set of activities; in addition, it views ownership structure as an efficient solution to risk allocation and incentive problems. The theory considers ownership as a governance tool that could be used to reduce managerial agency problems in firms (see Fama and Jensen, 1983; Williamson, 1985; Jensen and Meckling, 1976; Demsetz and Lehn, 1985; Arslan, 2006; among others). We contend that market and legal institutions are not only less developed but also vary across developing countries, thus, creating a more fertile ground for opportunistic behaviour by agents and making the enforcement of contracts more costly and problematic. And, agency theory predicts the probability that a firm will have concentrated ownership and block shareholding increases when and where a controlling shareholder finds it easier to take advantage of outside or minority shareholders (Helwege, Pirinsky & Stulz, 2007).

Information asymmetry theory contends that the extent to which insiders know more about a firm's value than does the rest of the world would affect a firm's choice of governance (Cai, Qian & Liu, 2009). The literature suggests that the private benefits of control are low when problems of information asymmetry are low. For example, Maug (2001) and Subrahmanyam and Titman (1999) point out that it becomes advantageous for firms to have more dispersed ownership, when information from outside the firm becomes more important to managerial decision making. Thus, more dispersed ownership becomes more advantageous when the informational advantage of insiders becomes less important. We would, therefore, conjecture that firms would have diffused ownership as more is known about them (Helwege et al., 2007).

2.2. Firm-specific characteristics and ownership patterns

Jensen (1986) suggests that debt, through the demand it puts on firm's free cash flow, may be used to reduce managerial agency problems since it constrains managers by requiring them to meet interest payments or face the likelihood of losing their job in case of bankruptcy and/or poor performance. Likewise, the shorter the maturity of a borrower's debt, the more likely that it would need to contact a lender for continuous renewal of its debt (e.g., Petersen and Rajan, 1995), and hence, the lender can more effectively monitor the borrower (e.g., Stulz, 1990). As such, Pindado and Torre (2006) and others argue that a firm's leverage and debt maturity provide some monitoring of managers that otherwise would have come from concentrated ownership or large block shareholding. Thus, agency theory postulates an inverse relationship between leverage (LEV) and debt maturity structure (D_STR), in the one hand, and measures of ownership structure, on the other.

In the same vein, agency theory concurs that higher levels of firm level investment tend to create greater opportunities for managerial discretion (Jensen, 1986; Farooque, 2010). Thus, we posit that firms with higher levels of investment (INVST) are likely to have concentrated ownership [and large block shareholders] in order to curb opportunistic behaviour by managers. On the contrary, the argument on the effect of firm performance (PRFT) on ownership structure is not straight forward. While Pindado and Torre (2006) argue that owners of firms with higher profit performance are likely to prefer to hold a larger fraction of their firm's shares to take advantage of future performance, Demsetz (1983) contends that there should be no systematic relationship between ownership patterns and firm performance.

Larger firms are likely to be better known as they are likely to have been around longer, likely to receive better attention from market analysts and regulators, and likely to have established and time-tested disclosure practices (Rajan and Zingales, 1995; Diamond and Verrecchia, 1991; Harris, 1994). Thus, larger firms are likely to have lesser information asymmetry problems and hence tend to have a reduced need for concentrated ownership or large block shareholders who would engage in monitoring. Fama and Jensen (1983) conjecture that large companies have more diffused ownership than smaller ones as the former are likely to benefit relatively more from risk sharing through ownership diversification. Likewise, Demsetz and Lehn (1985), Prowse (1992) and Lamba and Stapledon (2001) argue that the larger the firm, the larger the amount that has to be invested in the firm for any given fraction of equity. Thus, considering the constraints on controlling shareholder's wealth, they submit that the likelihood for block shareholding and/or concentrated ownership is a decreasing function of its size (SIZE) and age (AGE).

Both Bolton and Thadden (1998) and Kahn and Winton (1998) suggest that more volatile earnings (VOL) by a firm may mean that the cost of block or concentrated shareholding exceeds its benefit. It follows from this argument that instability in a firm's earnings is likely to lead to a diffused ownership. On the contrary, Demsetz and Lehn (1985) contend that the value of monitoring management increases with firm-specific risk, because managerial performance is harder to measure in a noisy environment. Hence, based on this this latter view, volatile earnings should give rise to more concentrated ownership structures.

With respect to growth opportunities (GRW), Smith and Watts (1992) argue that managers of high growth firms have superior knowledge about their firm's investment opportunity set, and a better knowledge of the expected future cash flows from their firm's existing assets than the rest of the world. Thus, firms with better growth opportunities are likely to have higher problems of information asymmetry which in turn lead to concentrated ownership and/or large block shareholding. On the other hand, the greater a company's growth prospects are the greater is its need for external finance; and the greater is its need for external finance, the more likely the firm is to have diffused ownership structure as such firms are likely to frequent going to the capital markets. This conjecture is reinforced by agency theory which suggests that high-growth firms are likely to have lesser agency problems as they tend to have lower free cash flow (Jensen, 1986).

Aguilera and Jackson (2003) identify three categories of shareholders – institutional investors, strategic blockholders and private investors – and show that shareholders in each category pursue different goals or interests in a firm. According to them, institutional investors aim at maximizing market value of shares, and hence, focus on portfolio diversification. On the other hand, strategic blockholders and private investors pursue non-financial goals such as control rights. These authors's view is corroborated in Bortolotti and Faccio (2009), Dittmann, Maug & Schneider (2010), Aguilera et al., (2011) and Coplan, Yoshikawa, Hikino & Del Biro (2011). Thus, based on this typology, it appears that institutional investors are less likely to concentrate large amounts of shares in one single firm in comparison to strategic blockholders and private investors. Nonetheless, Gillan and Starks (2003) submit that transmission of information about the firm to financial markets is among the roles of institutional investors. And, for such monitoring to be credible, the institutional investor needs to hold enough shares to mitigate the "free-rider" problem. This latter view implies that institutional investors (I_OWN) are more likely to have concentrated ownership and hence, are likely to be large block shareholders.

2.3. Industry characteristics and ownership structure

Corporate governance literature conjectures that there is inter-industry variation in ownership structure as firms in similar industries are influenced by a common set of forces. For instance, Putterman (1993) suggests that inter-industry differences in information asymmetries, risks, personal utility of ownership and externalities may lead to inter-industry differences in ownership patterns. Likewise, Pedersen and Thomsen (1999b) remark that variations in underlying factors such as firm size, asset turnover, earnings volatility, and industry growth are likely to cause inter-industry variation in ownership structure. In a similar vein, while Bebchuk (1999) alludes to inter-industry disparity in private benefits of control while Hansmann (1988) cites transaction costs to explain inter-industry differences in ownership structures.

Demsetz and Lin (1985) argue that ownership concentration of media firms and sports clubs should be higher as control in such firms may entail higher 'intrinsic value.' These authors contend that bigger ownership stakes, in the absence of regulation, ensure higher power of control for owners. Regulation (REG), however, restricts the options available to owners and renders the benefits of majority ownership less attractive, and thus, renders block shareholding less valuable. It may in addition provide some subsidized monitoring of management by regulators, thereby reducing the need for shareholders themselves to engage in monitoring. Demsetz and Lehn (1985), thus, conclude that fewer owners will acquire block shareholding, which leads to decreased ownership concentration. Elst (2004) and Bebchuk (1999) further argue that industry effect varies between countries as there are cross-country variations in institutional conditions for the respective industries.

2.4. Country characteristics and ownership structure

In the present work, we argue that the level of corruption (CRPT) in a country plays a considerable role in shaping corporate ownership pattern in that country for several reasons. Firstly, in countries marred with corruption where contract enforcement and property rights are compromised and regulation of capital markets is inefficient, minority shareholders will have no incentives to allocate financial resources on capital markets (Dyck and Zingales, 2004; Nenova, 2003). Conversely, in such environments, a large blockholder may have the incentive to increase its control position to strengthen its power toward other economic agents such as banks and the government to increase the shareholder's opportunities for economic payoffs. For example, Young, Peng, Ahlstrom, Bruton & Jiang (2008) suggest that in an environment where institutions are weak, large shareholders tend to use relational ties, government contacts and other informal mechanisms to achieve their interests. Secondly, corruption leads to instability in business environment and in such an environment managerial behaviour becomes more crucial in affecting firm performance and shareholders' monitoring has a role to ensure that managers are following and prepared to deal with external conditions. Therefore, the owners' profit potential from exercising control is higher in an environment where uncertainty is larger; and this uncertainty in turn should lead to a preference for more concentrated ownership. Thus, we postulate that higher level of corruption leads to more concentrated ownership and block shareholding.

In *market-dominated financial systems,* households invest in companies' publicly issued equities leaving the role of monitoring to institutional investors and other shareholders. On the other hand, in *bank-dominated financial systems,* banks are the key financial institutions mobilizing deposits from households and channelling them to firms. Aguilera and Jackson (2003) and Pedersen and Thomsen (1997) suggest that bank financing encourages concentration of corporate ownership structure as bank financing entails close capital monitoring and contingent control of firms. On the other hand, financing through stock markets encourages diffused ownership as shareholders make investments primarily to pursue financial goals; they hold control of the firm by having the option to exit if the firm no longer fulfils their goals. Pedersen and Thomsen (1997) also forward that firms in well-developed stock markets (FIN_STR) are more likely to go public and tend to have a diversified ownership citing the possibility that cost of capital is likely to be lower in such markets.

3. EMPIRICAL FRAMEWORK

3.1. The data

The present study focused on firms drawn from selected African countries including Botswana, Egypt, Ghana, Kenya, South Africa, and Tunisia for two reasons. Firstly, they are all African countries where the literature on corporate ownership patterns is limited and where legal institutions and macroeconomic conditions vary markedly. This diversity offers a good prospect for assessing the role of institutions and macroeconomic conditions on corporate ownership. Secondly, the deficiencies of the external governance mechanisms such as the market for corporate control, legal and financial institutions, the absence of separation of powers and the rule of law, and the widespread situation of state capture by organized groups, offer an interesting opportunity to investigate the role of institutional variables on ownership patterns.

The firm-specific data were extracted from annual reports of listed firms available in the OSIRIS database of the Bureau DIJK. We started with all the firms listed in all of the 17 functioning stock exchanges of African countries that had data in the database as at February 2012. We required that countries in our sample should have at least 10 listed firms. We dropped firms in the financial industry (US SIC code 6000~) as the ownership pattern in the financial industry is different from those in other industries and is influenced by factors other than those that influence the ownership patterns of non-financial firms. We used US SIC industry codes reported in the OSIRIS database to determine whether a firm is in a regulated industry or not. We adjusted differences in fiscal years of firms such that if the date of preparation of financial statements for a firm is on or before June 30, its year was stamped as one-year prior to its fiscal year and if a firm's fiscal year is after June 30, that same year was stamped as the firm's fiscal years. The final dataset comprised of 15-year data (1996-2010) pertaining to 377 non-financial firms. Data on country level variables were collected from the World Bank's website.

3.2. Measurement of variables

3.2.1 Dependent variables

The empirical literature measures ownership patterns using two dimensions: ownership distribution and composition of shareholders. The distribution of ownership may vary from single shareholder to a crowd of [minority] shareholders. Likewise, the composition of shareholders may include insiders and outsiders; active and passive shareholders; and institutional investors, strategic blockholders and private investors. While the first dimension measures the degree of concentration of ownership, the latter focuses on the identity of shareholders (Moerland, 1995). This study adopts aspects of the first dimension mainly due to availability, integrity and sufficiency of data for the type of analysis used in the present study.

In measuring the first dimension, existing studies use the percentage of shares owned by the most important shareholders of the firm. For instance, while La Porta et al. (1999, 1997) use the percentage of shares owned by the largest *three* shareholders, Demsetz and Lehn (1985), Elst (2004) and Farooque (2010) use the percentage owned by up to the largest *20* shareholders. However, increasing the number of shareholders taken into account (e.g., using five shareholders instead of 15 or 20) in the calculation of ownership concentration does not enhance, but rather decrease, the precision of the measure of ownership concentration (Elst, 2004; Richter and Weiss, 2013). Thus, in the subsequent analysis, pursuant to precedence (e.g., Prowse, 1992; Richter and Weiss, 2013; and others), we rely on a measure of ownership concentration that takes *five* shareholders into account [CON_5]. Other measures used to proxy the distribution of ownership patterns focus on the presence (or absence) of large block shareholders and assign dummy variables with a value of 1 if the percentage of share owned by a certain number of shareholders exceed a predetermined threshold, otherwise zero (Demsetz and Lehn, 1985; Elst, 2004). Since the current accounting standards consider a 20 percent ownership as "significant interest", we tabulated only results based on a 20 percent threshold [BLOCK_20].

3.2.2 Independent variables

As noted earlier, the literature was gleaned to identify several firm-, industry-, and country-level factors that affect ownership structure of a firm. Table 1 below presents the definition of all variables in the study.

Table 1. Definition of Variables

CON_5	Percentage of direct shares owned by the five largest shareholders of a firm.
BLOCK_20	A value of 1 if the percentage of shares owned by the largest shareholder is greater than 20 percent of the total shares outstanding; otherwise 0.
LEV	The ratio of total liabilities to total assets.
D_STR	The ratio of non-current liabilities to total liabilities.
DIV	The ratio of cash dividend paid to total assets.
INVST	The ratio of sum of the annual change in tangible fixed assets and depreciation, depletion, amortization and impairment to total asset.
I_OWN	A value of 1 if the largest shareholder is an institutional investor; 0 otherwise.
SIZE	The natural logarithm of annual sales of a firm.
AGE	The natural logarithm of the number of years since a firm floated its first IPO.
GRW	The first difference of natural logarithm of sales.
VOL	The absolute value of first difference of log of profit after tax of a firm.
REG	A value of 1 if firm is in a regulated industry, 0 otherwise
PRFT	The ratio earnings before interest and tax to total assets of a firm.
CRPT	The the reverse of "control of corruption" governance index constructed by the World Bank.
FIN_STR	Aggregate financial structure index constructed by Levine (2002).
GDP	The log of GDP per capita in $US from the World Development Indicators.

3.3 Model specification

We use the two dimensions of corporate ownership pattern identified in the literature review section to measure the dependent variable. Due to differences in the nature of data needed for the two dimensions of corporate ownership, we specify two separate models: one explaining ownership concentration (Equation 1), the other explaining the presence (or absence) of a block shareholder (Equation 2). That is,

$$CON_i = \beta_0 + Z^a_{it}\beta_a + Z^b_t\beta_b + v_i + \varepsilon_i \quad (1)$$

$$P(Blockholder = 1|Z) = \frac{exp\,(Z\beta)}{1+exp\,(Z\beta)} \quad (2)$$

where CON_i denotes ownership concentration of a firm as measured by the percentage of shares owned by the five largest shareholders (CON_5); Z^a_{it} denotes a vector of firm and industry level variables (i.e., LEV, D_STR, DIV, INVST, I_OWN, SIZE, AGE, GRW, VOL, REG, and PRFT) and β_a is a column vector containing the corresponding coefficients; Z^b_t refers to a vector of country level variables including CRPT, FIN_STR and GDP and β_b is a column vector controlling the corresponding coefficients; and $P(Blockholder = 1|Z)$ is the probability that a firm's largest shareholder would have 20 percent share-ownership or more (BLOCK_20) conditioned on the realization of Z, where Z represents a vector of explanatory variables outlined above and β is the corresponding coefficient vector.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

4.1.1 The Sample

We report the sample coverage by country (see Tables 2). The representativeness of sample firms varies across countries. In some countries almost 65 percent of listed firms (e.g., Kenya and South Africa) are included in the sample while in others only 27 percent of the total listed firms (e.g., Egypt) are included. While the level of coverage of our sample within a country may reflect the fact that OSIRIS has uneven coverage of firms, our results should be interpreted with the understanding that firms listed in stock exchanges tend to be the larger companies in an economy. The fact that a lion's share of firms in our sample comes from South Africa is reflective of the fact that Johannesburg Securities Exchange in South Africa has about 90 percent of the combined market capitalization of the entire continent (Yartey and Adjasi, 2007)).

Table 2. The Composition of the Sample

Country	*Number of firms in the sample*	*Number of firms in the sample/total number of firms listed*	*Percentage of firms in the sample*
Botswana	10	0.48	2.65
Ghana	19	0.54	5.04
Kenya	36	0.65	9.55
South Africa	231	0.64	61.27
Tunisia	26	0.46	6.90
Egypt	55	0.26	14.59
Total	**377**	**N/A**	**100.00**

Note: *Total number of firms = Number of firms listed in national stock exchanges as at December 2010 (Source: World Development Indicators).*

4.1.2 Preliminary results

Prior studies on corporate ownership document those firms in emerging countries exhibit higher levels of ownership concentration compared to those in developed countries (Classens and Yurtoglu, 2013). Thus, we assess whether corporate ownership concentration levels in our sample countries are comparable with those for emerging economies reported in Classens and Yurtoglu (2013). Table 3 presents the descriptive statistics and we note that there is a striking variation in corporate ownership patterns across our sample countries. For instance, while the average percentage of shares owned by the *five* largest shareholders (*CON_5*) is 59.2 percent, it spans from a low average of 26.7 percent in Ghana to a high average of 89.4 percent in Tunisia. Un-tabulated results show that *CON_1* (i.e., percentage of shares owned by the largest shareholder), in all of our sample countries, is much higher than the 5 percent, 7 percent, 19 percent, and 22 percent reported respectively for the U.S., Japan, South Korea and Germany (Classens and Yurtoglu, 2013). However, except for Egypt, *CON_1* is far lesser than those reported for Hong Kong (44.7 percent), Indonesia (48.2 percent), Malaysia (43 percent), Singapore (58 percent), and a sample of five Latin American countries (53 per cent). In an unreported result, we observe that CON_1 for Egypt is on the higher end of the ownership concentration spectrum (i.e., 51.2 percent) and is comparable to those reported for most Latin American countries (Classens and Yurtoglu, 2013).

The results also reveal inter-firm variations in ownership concentration in each sample country as evidenced by the wide gaps between the minimum and maximum ownership concentration figures. For example, *CON_5* spanned from a low of 26.8 percent to a high of 68.0 percent in Botswana, from a low of 26.8 percent to a high of 71.1 percent in Ghana, from a low of 26.8 percent to a high of 83.7 percent in Kenya, and from a low of 26.8 percent to a high of 89.4 percent in South Africa. While cross-country variations suggest that country level contextual factors might be at play, the observed within country variations suggest that firm- and industry-level variables may explain disparities in ownership patterns.

Table 3 (BLOCK_20 Column) provides a summary of the prevalence of block shareholding in the sample countries. It indicates that *circa* 60.5 percent of sample companies had their largest shareholder own 20 percent or more of outstanding shares and 51 percent had their largest shareholder own 25 percent or more of their outstanding shares. Furthermore, the prevalence of block shareholding in our sample countries is higher than those reported for large publicly traded firms in Australia (35 percent), Canada (40 percent), Ireland (35 percent), Japan (10 percent), the U.K. (0 percent), the U.S.A (20 per cent), France (40 percent), Germany (50 percent), South Korea (45 percent) and Switzerland (40 percent) in La Porta et al. (1999). However, we also note that block shareholding is less prevalent in our sample countries than those reported for Argentina (100 percent), Hong Kong (90 percent), Singapore (85 percent), Belgium (95 percent), Greece (90 percent), Israel (95 percent), Mexico (100 percent), Indonesia (*circa* 90 percent), Columbia (*circa* 93 percent) and Portugal (90 percent) in La Porta et al. (1999) and Classens and Yurtoglu (2013). In addition, the percentage of firms with a controlling shareholder is the highest in Tunisia (i.e., 86.6 percent of the sample firms from Tunisia had controlling shareholders) while it is the lowest in South Africa (i.e., 57.3 percent of the sample firms from South Africa had controlling shareholders)[3]. These figures show the disparity in the prevalence (or lack thereof) of widely owned firms across the African continent. The cross-country differences in block shareholding could probably be attributed to the cross-country disparity in the institutional and macroeconomic conditions of the sample countries.

4.1.3 Correlation Analysis

To gain an insight into how corporate ownership patterns are correlated with firm and country characteristics, we compute Pearson correlation coefficients between variables. The results in Table 4, consistent with financial theory, suggest that firm-specific factors, legal and financial institutions, and the macroeconomic environment in a country potentially influence firm level ownership patterns. In particular, the correlation matrix shows that *CON_5* is negatively correlated with *LEV* and *SIZE* while it is positively correlated with *AGE*. The correlation matrix also reveals that *CON_5* is positively associated with *CRPT* while it is negatively associated with *FIN_STR* and *GDP*. Finally, we note that correlation coefficients between the *CRPT*, *FIN_STR*, and *GDP* variables are very high suggesting that the models might suffer from problems of multicollinearity. To keep the estimation problem tractable and avoid problems of multicollinearity, we develop slightly different specifications of the models by excluding highly correlated variables.

[3] *A firm, within the context of this study, is said to have a controlling shareholding if a shareholder's direct voting rights exceed 20 per cent. Widely held companies are those without controlling shareholder.*

Table 3. Descriptive Statistics

Country	*LEV*	*D-STR*	*SIZE*	*VOL*	*PRFT*	*GRW*	*CRPT*	*FIN_ STR*	*GDP*	*AGE*	*DIV*	*INVST*	*CON_5*	*BLOCK_20*
	0.375	0.222	11.361	0.204	0.111	0.103	1.603	-0.055	8.607	2.565	0.000	0.000	62.400	
Botswana	0.171	0.000	9.318	-3.795	0.000	-1.819	1.245	-0.055	8.027	0.693	0.000	0.000	26.750	44.44
	0.732	0.788	14.459	3.197	0.251	2.671	3.475	-0.055	8.910	2.773	0.141	0.398	68.000	
	0.538	0.089	10.133	0.292	0.111	0.213	2.520	0.543	6.989	2.773	0.000	0.000	26.750	
Ghana	0.171	0.000	4.963	-3.540	0.000	-6.837	2.411	0.543	5.560	1.609	0.000	0.000	26.750	32.79
	0.774	0.788	14.456	3.546	0.251	1.568	2.874	0.543	7.157	3.091	0.417	0.476	71.130	
	0.467	0.429	15.079	0.181	0.097	0.111	3.452	-0.107	6.423	2.708	0.000	0.000	70.640	
Kenya	0.171	0.000	9.306	-2.029	0.000	-1.467	3.307	-0.107	5.990	0.693	0.000	0.000	26.750	69.74
	0.774	0.788	18.717	2.752	0.251	1.237	3.555	-0.107	6.660	3.178	0.257	0.554	83.670	
	0.513	0.290	13.995	0.188	0.109	0.117	2.109	0.555	8.563	2.639	0.000	0.000	57.055	
South Africa	0.171	0.000	2.197	-4.202	0.000	-6.983	1.741	0.555	7.800	0.693	0.000	0.000	26.750	47.24
	0.774	0.788	19.132	3.961	0.251	9.728	2.500	0.555	8.892	3.434	0.294	0.820	89.370	
	0.480	0.247	10.736	0.041	0.081	0.064	2.560	-0.222	8.077	2.773	0.000	0.000	89.370	
Tunisia	0.171	0.000	8.066	-2.113	0.000	-0.981	1.951	-0.222	7.717	1.609	0.000	0.000	32.410	86.57
	0.774	0.744	14.037	1.853	0.230	1.048	2.683	-0.222	8.377	3.091	0.313	0.387	89.370	
	0.455	0.081	12.381	0.104	0.112	0.101	3.032	-0.235	7.260	2.833	0.000	0.000	76.365	
Egypt	0.171	0.000	4.094	-4.643	0.000	-6.972	2.500	-0.235	6.977	0.000	0.000	0.000	26.750	62.69
	0.774	0.788	16.149	4.568	0.251	6.799	3.214	-0.235	7.900	2.996	0.529	0.840	89.370	
Total	0.498	0.243	13.743	0.157	0.104	0.114	2.387	0.543	8.013	2.708	0.000	0.000	59.160	
	0.171	0.000	2.197	-6.737	0.000	-8.912	1.245	-0.235	5.560	0.000	0.000	0.000	26.750	51.07
	0.774	0.788	20.641	4.685	0.251	9.728	3.822	0.555	8.936	3.434	0.821	0.840	89.370	

Note: *Except BLOCK_20 column which presents the percentage of firms whose largest shareholders own at least 20 percent of the shares, figures in the first rows refer to the median values whereas those in the second and third rows refer to the minimum and maximum values.*

Table 4. Correlation Matrix

	LEV [1]	*D_STR [2]*	*SIZE [3]*	*VOL [4]*	*PRFT [5]*	*GRW [6]*	*CRPT [7]*	*FIN_STR [8]*	*GDP [9]*	*DIV [10]*	*INVST [11]*	*AGE [12]*	*CON_5 [13]*
[1]	1.000												
[2]	0.028 *	1.000											
[3]	0.193 *	0.125 *	1.000										
[4]	0.005	-0.011	0.005	1.000									
[5]	-0.182 *	-0.099 *	0.211 *	0.261 *	1.000								
[6]	0.039 *	-0.026 *	0.126 *	0.308 *	0.137 *	1.000							
[7]	-0.037 *	-0.093 *	0.170 *	-0.015	0.017	-0.013	1.000						
[8]	0.114 *	0.094 *	0.027 *	0.016	0.055 *	0.013	-0.683 *	1.000					
[9]	0.081 *	0.096 *	-0.090 *	-0.002	-0.026 *	0.007	-0.821 *	0.607 *	1.000				
[10]	0.148 *	0.063 *	-0.019	0.077 *	-0.091 *	0.033	0.123 *	-0.045	-0.126 *	1.000			
[11]	0.016	0.155 *	-0.007	0.057 *	-0.045 *	0.149 *	0.058 *	-0.042 *	-0.062 *	0.341 *	1.000		
[12]	-0.066 *	0.020	0.083 *	0.023	0.016	-0.003	-0.153 *	-0.069 *	-0.079 *	0.001	-0.023	1.000	
[13]	-0.040 *	-0.011	-0.063 *	-0.023	0.032	-0.038	0.171 *	-0.283 *	-0.090 *	-0.007	0.001	0.108 *	1.000

***Note:** coefficients significantly different from zero at 10%, 5%, and 1% levels are marked *, **, and ***.*

Table 5. Determinants of Ownership Concentration

	CON_5	*CON_5*	*CON_5*
LEV	-0.980 **	-0.567 *	-0.722 **
	(0.324)	(0.264)	(0.279)
D_STR	0.124	0.168	0.074
	(0.257)	(0.196)	(0.209)
DIV	-0.178	0.004	-0.008
	(0.483)	(0.322)	(0.348)
INVST	0.256	0.074	0.138
	(0.351)	(0.229)	(0.248)
IOWN	0.513 ***	0.461 ***	0.469 ***
	(0.127)	(0.123)	(0.126)
SIZE	0.054	0.044	0.033
	(0.032)	(0.027)	(0.029)
AGE	0.325 ***	0.311 ***	0.332 ***
	(0.09)	(0.087)	(0.089)
GRW	0.009	0.000	0.001
	(0.037)	(0.025)	(0.027)
VOL	-0.026	-0.015	-0.020
	(0.038)	(0.025)	(0.027)
REG	0.784 ***	0.734 ***	0.813 ***
	(0.208)	(0.195)	(0.201)
PRFT	1.550 *	0.776	0.889
	(0.678)	(0.499)	(0.533)
CRPT	0.153		
	(0.141)		
FIN_STR		-0.824 ***	
		(0.228)	
GDP			0.055
			(0.085)
Constant	-1.620 **	-0.795 *	-1.450
	(0.549)	(0.386)	(0.769)
N	230	230	230
Chi-square	79.01 ***	82.86 ***	67.93 ***

***Noted:** The table presents GLS estimates of Equation 1. Coefficients significantly different from zero at 10%, 5% and 1% level are marked *, ** and ***, respectively. Robust standard errors are in brackets. The Chi-2 test statistic refers to the null hypothesis that all coefficients of the independent variables are jointly equal to zero.*

4.2 Regression Results

The results in Table 5 indicate that firms with higher leverage (*LEV*) tend to have less concentrated ownership (*CON_5)*. This evidence is in sync with agency theory which suggests that firms use capital structure as a substitute governance mechanism in monitoring opportunistic behaviour by managers. It is also in line with similar findings reported in Pindado and Torre (2006). Consistent with the monitoring role of institutional investors, we find that firms whose largest shareholder is also an institutional investor (*IOWN*) are more likely to have more concentrated ownership (*CON_5)* than those whose largest shareholder is a non-institutional investor (see Tables 5). This suggests that institutional investors in our sample firms may have abandoned their traditional "passive shareholder" role and have become more "active" participants in the governance of their corporate holdings. Gillan and Starks (2000) observes similar evolution in the role of institutional investors within the context of the U. S. A. In contrast to our expectation, the evidence shows that the length of time that has lapsed since a firm floated its firs IPO (AGE) is positively associated with ownership concentration (*CON_5)* independent of how the latter is measured. This could be attributable to the pattern that older companies in Africa are held as family-owned businesses whose ownership tends to be concentrated in the hands of particular families and have colonial legacies.

Contrary to Demsetz and Lehn's (1985) argument that industry regulation reduces the incentives for bigger ownership stakes, and hence leads to diffused ownership, our results show that sample firms operating in regulated industries are likely to have concentrated ownership patterns (see Table 5). This finding, however, meshes with Elst's (2004) argument that the effect of industry regulation on ownership pattern is not monolithic but, rather, is a function of the governance systems and the structure of institutions. Thus, our interpretation of this finding is that the relatively high level of corruption that we observe in the sample countries might have rendered industry regulation in those countries inefficient and ineffective and that industry regulation did no longer restrain owners from vying for bigger ownership stakes, which in turn could lead to diffused ownership patterns.

A perusal of Table 5 also reveals that countries with market dominated financial systems tend to have firms with less concentrated ownership structure. This finding is consistent with Aguilera and Jackson (2003) and Pedersen and Thomsen (1997) who contend that bank financing encourages concentration of ownership as bank financing entails close capital monitoring and contingent control of firms. It is also in line with the argument that financing through stock markets encourages diffused ownership as shareholders make investments primarily to pursue financial goals; they hold control of the firm by having the option to exit if the firm no longer fulfils their goals.

Table 6. Determinants of the Presence (or absence) of Block Shareholders

	BLOCK_20	BLOCK_20	BLOCK_20
	-0.511	-0.259	-0.387
LEV	(0.896)	(0.88)	(0.884)
	[-0.117]	[-0.059]	[-0.089]
	1.970 *	2.720 ***	1.650 *
D_STR	(0.808)	(0.795)	(0.765)
	[0.452]	[0.615]	[0.377]
	-1.370	-0.957	-1.580
DIV	(1.95)	(1.95)	(1.99)
	[-0.313]	[-0.217]	[-0.361]
	0.035	-0.351	0.346
INVST	(1.48)	(1.48)	(1.49)
	[0.008]	[-0.079]	[0.079]
	0.719 *	0.841 **	0.722 *
IOWN	(0.289)	(0.29)	(0.288)
	[0.159]	[0.183]	[0.16]
	-0.088	-0.038	-0.115
SIZE	(0.082)	(0.084)	(0.082)
	[-0.02]	[-0.009]	[-0.026]
	0.295	0.167	0.354
AGE	(0.199)	(0.211)	(0.202)
	[0.067]	[0.038]	[0.081]
	0.080	0.103	0.070
GRW	(0.125)	(0.132)	(0.122)
	[0.018]	[0.023]	[0.016]
	0.166	0.238	0.146
VOL	(0.188)	(0.199)	(0.186)
	[0.038]	[0.054]	[0.033]
	1.280 *	1.200	1.400 *
REG	(0.612)	(0.623)	(0.651)
	[0.233]	[0.219]	[0.248]
	2.390	2.500	2.300
PRFT	(2.06)	(2.12)	(2.03)
	[0.547]	[0.57]	[0.526]
	0.057		
CRPT	(0.345)		
	[0.013]		
		-1.740 ***	
FIN_STR		(0.482)	
		[-0.394]	
GDP			0.289

			(0.206)
			[0.066]
Constant	-0.055	-0.025	-2.05
	(1.31)	(0.96)	(1.79)
N	289	289	289
Chi-square	24.63 **	35.52 ***	26.33 ***

Note: *The Table presents LOGIT estimates of Equation 2. Presented in first rows are the natural logarithms of odds ratio* $[L = ln(\frac{P_i}{1-P_i})]$*, robust standard errors are in parenthesis.*

Our results in Table 6 indicate that the odds of a firm in our sample having a block shareholder with controlling ownership interest in the firm increases as the firm's debts take longer to mature (*D_STR*). Consistent with the relationship reported for *LEV* and *CON_5* in Table 5, this finding corroborates the agency view that firms use debt maturity structure as a substitute governance mechanism to curb opportunist managerial tendencies. In sync with the monitoring role of institutional investors, we find that firms whose largest shareholder is also an institutional investor are more likely to have block shareholding (i.e., *Block_20)* than those whose largest shareholder is a non-institutional investor (Table 6). This corroborates our findings reported in Table 5 above. Like our results in Table 5, we find that sample firms operating in regulated industries are more likely to have block shareholders than those operating in non-regulated industries (see Table 6). Finally, we observe that the odds of a firm operating in *bank-dominated* financial systems having a controlling block shareholder are significantly higher than is the case for those operating in *market-dominated* financial systems. This is in line with the result we reported in Table 5.

5. CONCLUSIONS

The interplays that we find between capital structure and debt maturity structure, on the one hand, and corporate ownership patterns, on the other, signify the role that agency conflicts play in shaping corporate ownership, and thus, corporate governance in developing countries. The positive relationship between ownership by institutional investors (IOWN) and the likelihood of a firm being controlled by a block shareholder or have a concentrated ownership structure suggest that institutional investors in the sample firms may have abandoned their traditional "passive shareholder" role and become more "active" participants in monitoring their corporations. Our interpretation of the respective relationships between industry regulations and orientation of the financial system as independent variables and block shareholding and/or ownership concentration as dependent variables is that institutional contexts within which a firm operates matters in the determination of corporate ownership patterns in developing countries.

Moerland (1995) suggested that examining the composition or type of shareholders would provide additional insight into corporate ownership patterns. However, limited availability of data on corporate ownership patterns on the African continent meant that we limit our investigation to ownership distribution alone. Future studies that cover larger samples and also composition/type of shareholders may shed further light into our understanding of corporate ownership patterns and governance systems in developing countries.

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DIFFERENTIAL EFFECTS OF PLURAL OWNERSHIP AND GOVERNANCE MECHANISMS IN LIMITING SHIRKERS AND FREE RIDERS

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Abstract

Using evidence from paired franchisor-franchisee dyads, this study identifies how plural formed ownership mechanisms curb the risk of shirking and free riding in franchise systems. These risks have damaging effects on the invested capital of franchisee entrepreneurs. Although shirking and free riding produce a major source of uncertainty for the franchisee entrepreneur it can be limited by plural formed governance dimensions. These mechanisms have different effects based on unit status, i.e., company owned-units versus franchisee-units. We tested our model using a paired-dyadic data approach to mitigate the problem of shared-method variance among the psychometric measures. Results support the contention that competition limits shirking and free riding across inter-firm relationships, but did not support the hypothesized role of relational mechanisms in lowering potential shirking and free riding. Also, endogeneity test uncovered that dealer's self-selected into either one of the plural form contracts. Drawing on the economics, marketing and management literatures, this study presents a basis for further investigation by placing international franchising entrepreneurship into a broader context of transactional and relational governance.

Keywords: Free Riding, Shirking, Transactional and Relational Governance Mechanisms, Franchising, Plural Form, Paired Dyadic Data, Endogeneity Test

1. INTRODUCTION

Franchising dominates the service industry. That is, the plural formed franchising systems apply both company owned units and franchisees to represent the exact same concept in the market. Although, franchise systems depend on entrepreneurial drive of the franchisees, these contracts has also been associated with incentives to free ride and the internal managers to shirk (Michael, 2002). Therefore the entrepreneur that invest in one particular franchise system is exposed to the potential risk of free riding and shirking behavior from the other units representing the same system. Franchisee entrepreneurs therefore depend on the power of the plural system to control these risks (Pfeffer and Salancik, 1978). Franchising as an organizational form is a relationship of mutual benefit as well as dependence, grounded in an on-going series of transactions and relationships. Franchising can be seen as an entrepreneurial growth strategy (Ketchen, Short and Combs, 2011) where the franchisor rapidly can expand geographically by selling territorial rights to franchisees, who pay fees as well as royalties generally based on percentages of sales. In the presented context of investigation the multinational oil company transformed the concept from a traditional gas station to a convenience store and fast food outlet. Both the corporate entrepreneurship and the entrepreneurial drive from each franchisee were needed to learn how to handle new products within in a new concept and business model. Franchisees can reap the benefits of a proven business model and partner with the franchisor in operations, marketing and brand development. However, the common benefits found in franchising are tempered by the fact that franchisor and franchisee interests may conflict (Michael and Combs, 2008), thus leading to potential negatives for both parties. Both franchisors and each single franchise entrepreneur run the risk of brand damage through the opportunistic actions of the other franchisees and managers in the company owned units.

Participants in franchise systems -- franchisors and franchisees -- derive value from their interactions with each other, using elements of contractual as well as relational exchange (Davies, et al., 2011). This study focuses on a key element of this symbiotic relationship: How franchisors use transactional and relational governance to maintain brand quality in plural arrangements among managers of both company-owned units and franchisee entrepreneurs within a retail system. Governance structures such as incentives, monitoring devices, contracts, norms and interpersonal trust are among the safeguards set up between principals and agents to reduce opportunistic behavior as a relationship between two parties is established and progresses. Despite such mechanisms, opportunistic behavior persists (Jap, 2001; Jap and Anderson, 2003), and franchisors are often unable to anticipate and safeguard against such behavior on the part of franchisees (Cochet and Garg, 2008) and their own company managers.

The interdependence of franchisor and franchisee creates the need for an organizational arrangement, the plural-formed franchise system, which consists of both corporate-owned units and franchised units (Bradach, 1997; Michael, 2000; Kidwell and Nygaard, 2011; Cliquet and Penard, 2012; Perryman and Combs, 2012). The international expansion and success of such systems strongly depends on strategies that safeguard brand names against channel member shirking and free riding, forms of withholding effort that can be defined as an undersupply of quality in interfirm relationships (Wathne and Heide, 2000). Although researchers have made an intensive effort on how to build associations related to a brand (Zablah, Brown, and Donthu, 2010; Sriram and Kadiyali, 2009; Homburg, Klarmann, and Schmitt, 2010; Kapoor and Heslop, 2009; Geuens, Weijters, and Wulf, 2009), fewer studies focus on how to protect the brand against the behavioural risk of opportunism after it is launched.

This study makes the following contributions: 1) Using paired-dyadic survey data, it extends research in transaction cost theory and opportunistic behavior from buyer-seller relationships (e.g., Jap, 2001; Jap and Anderson, 2003) and alliances (e.g., Berkovitz, Jap and Nickerson, 2006) to brand protection in plural formed franchise systems thus contributing to the study of relationships at the organization level, 2) It examines use of transactional and relational mechanisms to curb potential shirking and free riding, thus expanding entrepreneurship research to brand-related issues, and 3) It identifies governance mechanisms that have differential effects on withholding effort in plural forms by examining both corporate units as well as franchised entrepreneurs, extending previous research that focused on franchisee responses to governance mechanisms (e.g., Kidwell, Nygaard and Silkoset, 2007). Also, it tests the endogeneity effect of governance dimension on dealer's self-selection of plural contractual choice.

2. CONCEPTUAL FRAMEWORK

Franchise systems generally own and centrally operate some units (*company owned units*), while others are franchised (*franchise units*) through independent entrepreneurs (franchisees) (Perryman and Combs, 2011). Generally, the company owned units report in a hierarchical structure to corporate managers whereas the franchise units are owned and operated by individual entrepreneurs but monitored to varying degrees by corporate area managers. An entrepreneur that invests in a franchisee contract also takes a behavioral risk of opportunism. Thus, the study of such plural systems provides the ability to contrast the impact of corporate governance mechanisms to control opportunism on units that are "members" of the corporation with units that tend to be more entrepreneurial, as noted in a recent study of human resource practices in a plural franchise system (Brand and Croonen, 2010).

The plural system reflects both make and buy alternatives (Heide, 2003; Makadok and Coff, 2009), described by transaction cost theory as inter-organizational structures designed to safeguard transactions against opportunism, such as shirking and free riding (Williamson, 1985).Transaction cost theory state that markets always create the most efficient incentives. Only when the franchisor invests in i.e. brands, it has to safeguard its specific assets against opportunistic behavior (Williamson, 1985). The franchise entrepreneur invests in unique assets as well. The franchisee often has to undergo a course program to learn how to operate the concept and technology. Furthermore, the franchisee entrepreneur has to invest both in site specific assets, physical specific assets and human specific assets. This unique capital has little or no value outside the franchise system. Thus the single franchisee entrepreneur is exposed to "the horizon of opportunism" from the other units. Transaction cost associated with the asset specificity of the brand is created by incentive conflicts with the other company owned units and franchisees.

Although we point at franchisees investments in specific assets, that drive potential opportunism, we also apply agency theory to further understand the franchise system in an information asymmetry context. Like Anderson and Oliver (1987) we combine TCE and agency theory as complementary perspectives that add explanatory power into the investigation of franchise systems (Bergen et al., 1992). There is an agency relationship if a franchisor (principal) gives an agent (franchisee or company owned unit manager) the rights to represent the franchisor brand and concept in the market (Bergen et al., 1992). In other words, the franchisee and the manager of a company owned unit is agents representing the interests of the franchisor. Franchising as an agency problem has been seen as an information asymmetry problem in combination with opportunism (Eisenhardt, 1989). In a franchise system, the franchisor can choose between an outcome based franchisee contracts or a behavior based employee manager contract (company owned units). This investigation captures both alternatives proposed in agency theory (Bergen et al., 1992).

Following the logic of transaction cost theory and agency theory we examine the extent to which governance dimensions (centralized decision making, formalization) and relational governance mechanisms (communication) (Van de Ven, 1976) and the business environment (intra- and inter-brand competition) affect opportunism (Achrol et al.,1983), given the ownership structure, i.e., company owned (corporate) units or franchised units. Transaction cost theory and agency theory is viable theories to study franchisor-dealer interactions, brand representation and opportunistic behavior as (Hussain et al., 2012; Hennart, 2010).

Lowering quality standards is opportunistic behavior that jeopardizes brand strategy and produces a risk to franchisee entrepreneurs. Because franchisors delegate the rights to represent a brand to either an internal employee manager or franchisee entrepreneur retail unit, the quality reputation of the brand is at stake. When one dealer cheats on quality, all dealers operating under the brand are affected. Examples of such shirking and free riding include stale hot dogs, dirty restrooms, inferior repair service and other shoddy offerings (Png and Reitman, 1995). Motivated by short-term interests, lowering standards in this manner hurts perceived brand quality across units and the "intangible, overall feeling about a brand" (Aaker, 1996, p.86). Thus, through these acts of shirking and free riding, brand value and the overall franchise organization are harmed. Consequently, these problems jeopardize entrepreneurial investments in franchisee units.

In placing its reputation in the hands of dealers, the franchisor faces an important strategic problem of collective behavior between a franchisor and its plural formed retail network. This raises the issue of safeguarding brand name capital from degradation by the individual dealers. Dealers operating under the brand may supply lower quality associated with their representation (Wathne and Heide, 2000), thus franchisors must build constructive inter-firm alliances and effective internal mechanisms to protect brand name value and reputation from degradation (Davidson, 1982). As detailed later, we predict that the effects of vertical governance designed to control shirking and free riding will in some cases vary depending on the ownership status of the individual unit.

Opportunistic behavior in interorganiztional relationships and plural forms

This study extends previous theoretical and empirical work regarding opportunistic behavior in buyer-supplier relationships (Jap, 2001; Jap and Anderson, 2003; Jap and Anderson, 2007) and examines antecedents of opportunistic behavior in the context of a brand marketing channel in a plural formed system. Previous research on interorganizational relationships has found that specialized investments result in joint competitive advantages among buyers and sellers, but these advantages, which have positive economic outcomes, decay over time due to suspicions of opportunistic behavior in the relationship (Jap, 2001).

Michael (2000) applied the concept to franchising; arguing that running company owned units provides the franchisor with the ability to measure relative performance of franchisees and a wealth of operational knowledge, allowing for franchisor bargaining power with the franchisee in part to control free riding in the relationship. Using a transaction cost framework, Heide (2003) applied plural governance to examine why a firm would use both market contracting and vertical integration for basically the same transaction. He found that plural governance can be employed to deal with opportunistic behaviors that result from information asymmetry between buyers and suppliers. Such a plural form arrangement strikes a balance between a desire to control adjacent businesses and a need to be strategically flexible (Harrigan, 1984). Vertical integration, licensing, long-term contracts, joint ventures, global coalitions, dynamic networks and other types of alliances can all be examples of plural forms (Bradach and Eccles, 1989). Furthermore Perryman and Combs (2012) support a symbiotic view of plural forms. Theory of plural forms proposes that it is efficient to use both company owned units and external units (Parmigiani, 2007). Here we develop an empirical model based on the costs of withholding efforts in plural formed systems (Kidwell and Nygaard, 2011).

Effects of withholding effort and damage to brand reputation

Opportunistic behavior among franchisees can include releasing proprietary information about the franchise, not making royalty payments, free riding on the brand and not complying with quality standards (Combs, Ketchen, Shook and Short, 2011; El Akremi, Mignonac, and Perrigot, 2011). The brand-owner franchisor often invests heavily in marketing, promotion and communication to build the reputation of quality associated with the brand. These unique investments have limited alternative value in the market (Williamson, 1999). Whereas the franchise unit may tend to undersupply quality profile efforts, the company owned unit manager has no economic incentive to avoid supplying quality. The company owned unit manager may instead reduce efforts in general.

Failure to supply quality and/or engage in brand-building efforts by franchisee- and/or company owned-unit managers are examples of withholding effort (shirking or free riding) on job-related tasks (Kidwell and Bennett, 1993). A company owned unit manager's failure to provide full effort is shirking, which occurs when employee agents who lack an ownership stake lower effort levels because their efforts are not linked to their incomes (Kidwell and Nygaard, 2011). A franchisee's lowering of service or product quality to cut costs and obtain the nondivisible benefits of brand identity without bearing a proportional share of the costs is free riding (Albanese and Van Fleet, 1985) on the efforts of other units as well as the franchisor. In theory, the costs of shirking or free riding do not necessarily reduce a single retail unit's short term cash flow. Instead, the unit may increase profits by reducing his/her share of the costs associated with brand representation. Caves and Murphy (1976, p.577) state that "A franchisee who reduces the quality of the good or service he offers for a given price might increase his own profits, yet by disappointing buyers` expectations he could reduce by a greater amount the net returns to the common intangible goodwill asset – maintained by the franchisor and used jointly by his other franchisees."

Conflicts of interest between the owner of the brand name (franchisor) and each franchised unit produce the costs of opportunistic behavior (Rubin, 1978). Franchisees have an incentive to free ride on the brand by lowering quality thus depreciating brand reputation and the franchisor's future profits (Klein, 1980). This conflict of interest might vary with the ownership structure in the plural franchise system (Brickley, Dark and Weisbach, 1991). Thus, the way the company chooses to organize its corporate units and its franchised units might affect these costs. For example, Bradach (1998) indicated eight out of 10 franchise systems in the restaurant industry combined company owned units and franchise units.

Accordingly, due to these connections, opportunistic behavior by single retail units can adversely influence the business of all units (i.e. corporate, franchisees, licensed companies, etc.) under the same brand name. Anomalies may include service equipment in poor condition, untrained or impolite staff, etc. Whereas the brand company invests in reputation, a retail unit has incentives to ride free on the brand reputation if the negative effects of inferior service and product quality are not borne directly by the dealer. Thus, all other dealers in the network must bear the negative consequences of withholding effort.

Also, dealers make choices which generate comparative advantages. These choices are not random, but are based on expectations of how the alternatives would affect the company's future performance (Hamilton and Nickerson, 2003 p. 51). By treating contractual choices as ex-ante decisions, we investigate whether dealers were self-selected into either one of the plural form contracts. To test this assumption, the study implements a two-step procedure by Maddala (1983). First, the retail units might have made an ex-ante choice of ownership based on how the franchisor manages the company owned and the franchise units (Bradach, 1997). This means that ownership type might be endogenous with the dimensions centralization, formalization and communication in the model. Accordingly, it analyses whether the governance factors affects the retail unit's contractual choice. Second, the retail units might have made an ex-ante choice of ownership based on their potential to withhold efforts. This means that ownership type might be endogenous with withholding efforts. These two situations will be analyzed and discussed more in detail in the result section.

3. HYPOTHESIS DEVELOPMENT

Figure 1 provides an overview of the research model, illustrating the multi-informant research strategy and the variables/relationships of interest in the study. The make/buy (company owned/franchisee) element of the model locates it in a plural-form system. In summary, transactional governance mechanisms, i.e., centralization and formalization, and relational governance mechanisms, i.e., communication, are predicted to be antecedents of the potential for opportunistic behavior in the company owned and the franchised units. Intra and inter -brand competition reflect conditions in the channel environment proposed to affect withholding effort.

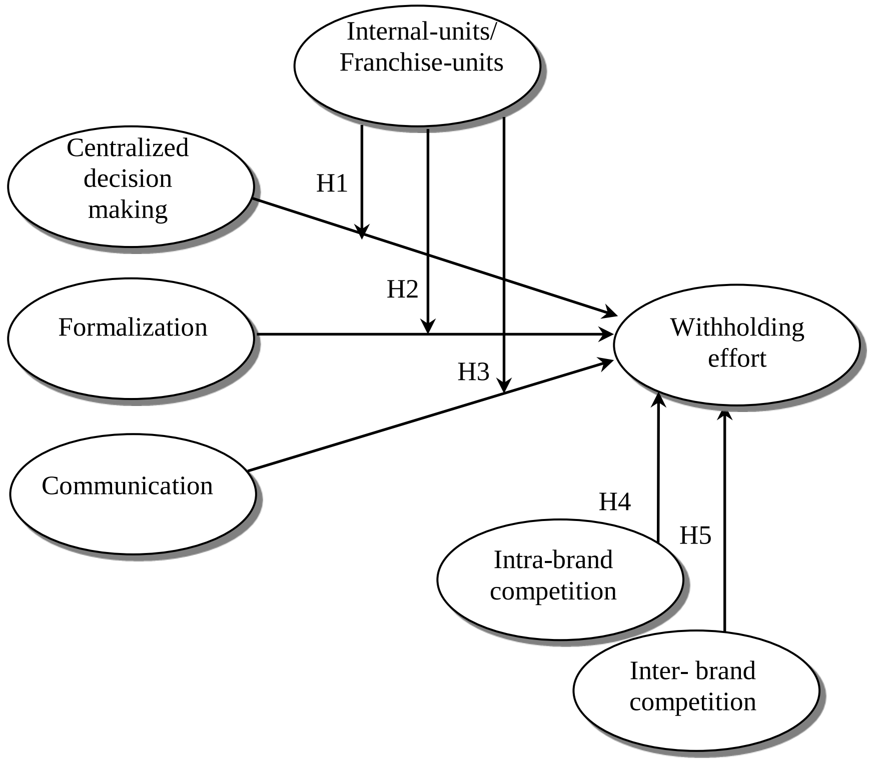

Figure 1. Antecedents of withholding effort in a plural-form franchise system

Transactional Mechanisms: Centralization and Formalization

The use of clear mechanisms to control opportunistic behavior on the part of organizational partners' is a general assumption when transaction cost theory is applied to the study of relationships between firms (Stump and Heide, 1996). Therefore, vertical governance through centralization and formalization is seen as one way to address the problem of withholding effort. In the franchising context, this posture is indicated by the franchisor's motivation to safeguard its brand capital by increased vertical control of transactions (Williamson, 1985); key means to achieve that end is central control of a firm's channel decisions and formal rules that guide behavior of the agents.

According to transaction cost theory, the implementation of more centralized control decreases the players' conflict of interests. Although it is possible that company owned units may have more knowledge about local markets and thus react negatively to centralized decisions, we argue that looser connections regarding decision making tend to increase the incentives for managerial shirking in company owned units. Centralized decision making leads to consistency between the strategic and operational decision levels and to convergent goals between the principal and agent (Arrow, 1974; Williamson, 1975), in this case, franchisor and manager/employee. The owner of the brand responds to potential costs of shirking, and centralized interfirm control leads to lower levels of shirking (Ruekert, Walker and Roering, 1985). Following the argument from transaction cost theory, centralization increases the ability to coordinate efficiently, and the potential for safeguarding long-term interests in the market. Centralized decisions reduce role ambiguity and conflicts for the company owned units (Nygaard and Dahlstrom, 2002). As a result, increased centralization is a response to anticipated costs of shirking in the employee manager/owner relationship (Alchian and Demsetz, 1972). Therefore, centralization negatively affects shirking under such circumstances.

Unlike company owned units, franchisee dealers are entrepreneurs that benefit from local market knowledge, managerial talent and entrepreneurial drive. Due to these factors, franchisees, unlike employee managers, may not favor centralized franchisor decisions. Rather, research findings indicate centralized interfirm decisions might constraint entrepreneurial spirit and managerial drive among franchisees (Kidwell et al., 2007). Consequently, although centralized decision making may hamper shirking among company owned units, it may encourage free riding among franchisee units.

H1: *The higher the level of centralization in channel decisions, a) the lower the potential for withholding effort among company owned units, and b) the higher the potential for withholding effort among franchisee units.*

Formal rules and regulations describe dyadic expectations for the purpose of restricting potential withholding of effort the franchisor can promulgate rules, restrictions, standards and operating procedures designed to protect the quality image reflected in the brand. Although formalization potentially creates stability and predictability and reduces uncertainty, it can also suppress self-regulation and autonomy among the company owned units, thus increasing the likelihood of shirking among employee managers in these units. Company owned units are not outcome dependent agents, so increased formalization does not decrease their risk (Bergen, Dutta and Walker, 1992). Formalization, through dysfunctional means-ends inversion and goal displacement often seen in bureaucratic organizations (Merton, 1957), might instead hamper individual initiative and innovative behavior. The resulting reduced initiative can lead to greater frustration among the employee managers who then disregard company policies and procedures. Consequently, increased formalization may lead to an increase in shirking among company owned units (John, 1984).

In contrast to the company owned units, formalization has the potential to clarify the interaction between the franchisee unit and the franchisor company. Although formal arrangements are often incomplete and misaligned over time, they also create stability and predictability in the relationship. Aaker (2004) consistently suggests that standardization of a service operation is an effective approach to achieving reliable quality and brand equity. As a result, formalization may provide a stable framework, making it easier for the parties to make plans and reduce uncertainty (Kidwell et al., 2007). Those franchisees who are more risk averse appreciate increased formalization resulting in reduced uncertainty (Bergen et al., 1992), thus one might assume that they welcome formalization of the relationship because one beneficial consequence for the franchisee entrepreneur is lower uncertainty (Thompson, 1967). Formalization therefore reduces the potential for conflicts of interest and free riding among franchisees.

H2: *The higher the level of formalization, a) the higher the potential for withholding effort among company owned units, and, b) the lower the potential for withholding effort among franchisee units.*

Relational Mechanisms: Communication

Previous research indicates that relational mechanisms including goal congruence, interpersonal trust and bilateral investments, can lessen detrimental effects of cheating among buyers and suppliers (Jap, 2001); when withholding of effort reaches higher levels, interpersonal trust becomes less effective but goal congruence is then a more powerful safeguard (Jap and Anderson, 2003). Berkovitz, Jap and Nickerson (2006) found that cooperative exchange norms play a role in performance relationships in strategic research and development alliances in those deviations between actual and expected levels of normative development affect exchange performance in the relationship, potentially leading to increased levels of shirking and free riding. In a study of distribution channel resellers regarding cooperative interorganizational relationships with manufacturers, Jap and Anderson (2007) found that goal congruence and information exchange norms fade after the build-up stage of the relationship life cycle, yet relationship harmony and reseller trust in the manufacturer maintain into the mature stage of the life cycle. In a logistics context, Fugate, Stank and Mentzer (2009) found that a shared interpretation of knowledge among operational personnel and an enhanced knowledge management process were positively related to operational and firm performance. These studies indicate the potential impact of relational mechanisms on opportunistic behavior and performance outcomes in interorganizational relationships.

The level of communication between two parties is a dimension that can reflect a relational mechanism that has the potential to limit opportunistic behavior and enhance cooperation (cf., Axelrod, 1984; Dant and Nasr, 1998). A high degree of communication may include the dealer unit more closely in planning and coordinating processes of the franchisor company. We propose that this effect will occur for both employee managers of company owned units and franchisees in franchised units. Closer cooperation between parties means information is more accessible to both franchisor and dealer. The magnitude and scope of the communication will thus increase inter-firm adaptation. Moreover, communication should help align interests of all parties. Communication initiated by the franchisor redirects franchisee dealers' and employee managers' motivation toward best serving the interests of the owner of the brand name.

The marketing channel literature portrays interaction as autonomous and voluntary cooperation by both parties in the dyad (Dwyer and Welsh, 1985). Acceptance of the right to make decisions regarding the collaboration improves transaction climate and reduces the level of unit potential for withholding effort, that is, the two parties can interact to combine resources in a way that creates synergy and reduces the need for bargaining and control. Thus, we propose that communication increases the openness between the parties and at the same time it decreases withholding effort on the part of the dealer, both company owned and franchisee.

H3: *The higher the degree of communication, a) the lower the potential for withholding effort among company owned units, and b) the lower the potential for withholding effort among franchisee units.*

Competitive environment

The competitive environment is also expected to influence the potential for withholding effort (Nygaard and Myrtveit, 2000), thus its potential effects should be considered in the franchisor-franchisee relationship. When brand competition is weak, retail units reduce brand building efforts because of the lower degree of competitive pressure. Low pressure may also decrease motivation to attend to obligations and efforts aimed at maintaining quality. Furthermore, less market competition obstructs transparency of information because the franchisor cannot easily compare retail units. Less competition makes control costly and renders the franchisor more vulnerable to withholding effort. As a result, small number market situations encourage shirking and free riding (Williamson, 1985).

Bradach (1997) emphasized the importance of competition between franchise and company owned units in the plural franchise system. When intra-brand (among retail units operating under the same brand) or inter-brand (between units operating with different brands) competition increases, the unit -- faced with potential risk of the unit's financial failure -- will be forced to avoid withholding effort (Machlup, 1967). Thus, as competition within and between brands intensifies, retail units will increase the quality efforts signaled by brand values, lessening the potential for withholding effort.

H4: *The higher the level of intra-brand competition, a) the lower the potential for withholding effort among company owned units, and b) the lower the potential for withholding effort among franchisee units.*

H5: *The higher the level of inter-brand competition, a) the lower the potential for withholding effort among company owned units, and b) the lower the potential for withholding effort among franchisee units.*

4. RESEARCH DESIGN

Sampling

The threat of random irrelevancies of causalities among constructs was managed by controlling extraneous sources of variation (Cook and Campbell (1979, p. 44). The theoretical relationships were therefore tested in a homogenous setting.We selected gasoline stations with convenience stores as the sampling frame in this study. These stations had the same business format, products and service offerings as well as a similar technical interrelationship with the franchisor (payment system, IT interface system, logistics/storage systems etc.). Consequently, we sought to keep third variables as constant as possible even though the set of company owned units reported through the corporate hierarchy of an oil company whereas the franchised units were outside the corporate system. Interorganizational research has previously used oil companies as an empirical research setting (John, 1984; Png and Reitman, 1995; Nygaard and Dahlstrøm, 2002; Shepard, 1993).

The first step was to collect data from the dealers. The plural-formed oil company had 520 gasoline stations in the market. The survey included the 320 gas stations that included convenience stores with a standardized operation agreement with the company regulating bilateral exchange. After contacting all of these gas stations, we received data from 192 of the dealers, a 60 percent response rate. A priori, we postulated that the different ownership relationships between the company and the retail units affect governance within the firm. Based on this, the initial sample consisted of company owned units, i.e., company-owned units, and franchisee units, i.e., franchisee owned and operated units. The company owned units returned 128 responses whereas the franchisee unit sample consisted of 64 respondents.

Paired dyadic data approach

Theoretically, the interfirm transaction is the level of analysis (Williamson, 1985, p. 41). Thus, the theoretical model required dyadic data, and a multi-informant strategy was instrumental to address the theoretical concepts in the model. Therefore, we sent a second round of questionnaires to sales area managers in the company. Each of the sales area managers serves a group of convenience store/gas stations in the market. We randomly selected retail units from the two groups of dealers who had answered the questionnaires in the first round, i.e. the company-owned stations (company owned-units) and the franchisee stations (franchisee-units). To ensure variation in the independent variables we chose a stratified random sampling design (Judd, Smith and Kidder, 1991). Consequently, we increased the proportion of company owned-unit (employee-managed) stations in the final dyadic sample. We asked sales area managers to sequentially fill out questionnaires referring *specifically* to retail units operating in their respective areas. We obtained 72 usable questionnaires from the sales area managers in the franchisor company. Consequently, we linked 144 respondents (72 sales area manager responses and 72 retail unit manager responses) into true-paired dyads; 58.3 percent of the respondents represent company owned units, and 41.6 percent represent franchisee units.

Our paired dyadic data approach represented a multi-informant strategy to the structural analyses. The sales area managers reported governance dimensions (centralization, formalization, and communication) while managers (franchisees or employees; both identified as dealers in the appendix of survey items) reported potential for withholding effort, business environment and ownership structure. Because of the novel nature of the study, previous research was unable to guide our attempt to build "unit potential for withholding effort" as a construct in this research setting; previous measures of withholding effort used in buyer-seller relationships (e.g., Jap and Anderson, 2003) were inappropriate. To investigate the issue, we organized an expert group consisting of one employee dealer (company owned unit), one franchisee dealer (franchisee unit), one sales area manager from the company, and one logistics director. Discussions with the expert group produced valuable insights for initial design and measurement models.

After designing the scales, we conducted a qualitative pilot survey using interviews with representative respondents. When a question did not generate variation or answers indicated the informant did not understand the question, we talked with the respondent and returned to the expert group with representatives from the company for suggestions on how to improve face validity of the measurement model.

We conducted a pilot test and went back to an expert group with the results in order to ensure face validity of all constructs. An independent-samples *t*-test analysis of early and late responses did not indicate any response bias. All of the items used in the final model are presented in the appendix.

Dependent variable: Unit potential for withholding effort

Unit potential for withholding effort was measured with a four-item scale that reflects the unit manager's opinion regarding the quality restrictions in the contract with the franchisor. This strategy was undertaken because we anticipated that the dealer would not directly admit or report that s/he broke the quality restrictions. Retail managers were asked to what extent the following sentences gave an erroneous or correct description: 1) It is totally unnecessary to control the way customer service is done at our station, 2) The company restriction to wear uniforms is necessary, 3) The company restrictions to keep the station clean and tidy are necessary and relevant to us and our station, 4) It is no problem to keep the station perfectly clean even when there are a lot of customers. The latter three items were reverse scored providing a measure of unit potential for withholding effort to occur.

Possible behaviors linked to the withholding effort items entail costs due to degradation of the brand name caused by inferior products or service quality produced by single retail units in the market. The items measure how much the dealer is dedicated to the standard quality signaled by the brand name. For example, dealers who refuse to wear uniforms take opportunistic advantage of other dealers' efforts to build a brand profile in the market. Likewise, dealers who do not follow cleaning instructions or prefer to boost sales rather than maintain cleanliness in the station take advantage of the quality efforts of other dealers operating under the brand name. The dealer, company owned or franchise, must ensure quality in all station activities that normally signal quality to the customers. The question, therefore, is whether the dealer informs his/her employees about quality standards and the importance of such standards. We assumed that if an employee at a gas station were uninformed about quality standards established by the brand-owning company, s/he was unable to maintain brand standards and thus there was higher potential for withholding effort. Other parties in the distribution system must bear the losses caused by such withholding of effort because the focal dealer was not properly engaged in quality management. The Cronbach Alpha for unit potential for withholding effort in our sample was 0.7.

Independent Variables

Centralized decision making: The definition of centralization of interfirm decisions is the perceived level of asymmetrical company decisions and implementation associated with the relation between the brand owner company (franchisor) and the single franchise unit (Van de Ven and Ferry, 1979). Centralization is the hierarchical governance structure that manages the relationship. Several other studies have operationalized the concept (i.e. Dwyer, 1995). The operationalization of the theoretical concept benefits from these studies and the pretest interviews with dealers and company-managers. Because we had a setting where the power relationship was highly asymmetrical, the five items focus on how the franchisor influenced company owned and franchisee dealers. The construct of centralization reflected the need to receive permission from the franchisor company and the freedom of the dealer to make autonomous decisions regarding retail activities. The Cronbach Alpha for centralization was 0.7.

Formalization: This study defines the concept of formalization as the perceived degree to which fixed policies, rules, operating procedures and programmability influence the interorganizational exchange. The operationalization followed the guidelines provided by previous research (Dwyer, 1995) as well as pre-test interviews. The construct of formalization reflected the programmability and the level of standardized procedures of deliveries, the formalized expected distribution of rules in the relationship as well as the level of formalization of interorganizational communication. The Cronbach Alpha for the four formalization items was 0.7.

Communication: The concept of communication can be defined as vertical flows of activities, resources and information from the franchisor company to the dealer (Van de Ven, 1976). Again, because we investigated a franchisor–dealer relationship, the operationalization indicates the magnitude and scope of assistance, service and programs offered by the brand name owner (franchisor). These activities contain both constructive contacts between the parties and communication between the parties so as to increase the competitiveness of the dealers. We have measured vertical communication through perceptions of joint activities and programs, and assistance systems developed to help realize the exchange between the parties in the distribution system. Previous research guided our operationalization of the concept (Dwyer, 1995). The Cronbach Alpha for the six communication items was 0.8.

Channel environment: Two dimensions measured the channel environment. Both intra-brand competition and inter-brand competition were ordinal scaled with a single-item approach and include measurement error in the final analysis.

Control variable: Firm size

We use sales revenue as a proxy for unit size to control whether unit size affects dealer's motivation for withholding effort by applying the sales revenue from the dealers' accounting data. Dess and Robinson (1984) strongly recommend using objectively defined data whenever they are available. Whereas both company owned and franchisee units were small in terms of sales and number of employees, an independent samples t-test indicated that company-owned units in the study were significantly larger than franchisee units in terms of sales volume and revenue. Thus, the company-owned units were not only directly tied to corporate control; they were larger in size than the franchisee units.

Measurement model / Convergent and discriminant validity

Our use of dyadic data enabled us to mitigate the problem of shared-method variance among the psychometric measures (Campbell and Fiske, 1959). Such common-method bias entails a major validity risk that may influence the test results (Podsakoff, Mackenzie, Lee, and Podsakoff, 2003; Viswanathan, 2005, p. 189). This use of paired-dyadic data made it impossible to bias the observed relationship between the sales area manager's governance dimensions and the retail unit's potential for withholding effort, and is the preferred approach according to Podsakoff et al. (2003). In the analyses, we therefore used the sales area manager sample to account for the predictor governance dimensions and the retail unit sample to account for the unit withholding effort criterion variable and the other variables in a paired-dyadic structural equation model.

To increase the credibility of the structural modeling, we used a test-retest statistical method to examine the reliability of the analyses. Accordingly, the initial scale refinement was done on those 120 dealer respondents whose data were not used as part of the 72 dyads in the structural model. Our first step, in accordance with the Anderson and Gerbing (1988) two-step approach, identified the factorial validity of the scores. We did this by running a confirmatory factor analysis (CFA), using EQS 6.1 for windows (Bentler, 2006) and the 120 dealer respondent sample. The standardized factor loadings for all of the items were above the level of |.3|. The fit indices for the CFA reported a significant Chi-square at 314.567 based on 228 degrees of freedom (df) and a *p*-value at > .05. The Comparative Fit Index (CFI) reported to be .99. The Root Mean-square Error of Approximation (RMSEA) value were .07, with a 95 percent confidence interval between .05 and .08. The Standardized Root Mean-square Residual (Standardized RMR) reported to be .09.

To assess discriminant validity, Fornell and Larcker (1981, pp. 45-46) indicate that for any two constructs, A and B, the average variance extracted for both constructs need to be larger than the shared variance (i.e., square of the correlation) between A and B. These criteria were met in this study. The constructs' standardized factor loadings together with corresponding *z*-values can be found in Table 1, while Table 2 reports the correlation matrix and the descriptive statistics for the dealer sample. Table 2 also includes the descriptive statistics of the two sub-samples of company owned-units and franchise-units. Based on Levene's Test for Equality of Variances none of the variables reports to have significant, equal, variance. Two of the constructs reports to have significant mean difference among the company owned-units sample and the franchise-units sample. These are centralized decision making, where the company owned-units sample reported the highest mean value of 2.32, while franchise-units reported a mean value of 2.22. Also, for communication the company owned-units sample reported the highest mean values of 4.68 while the value for franchise-units were 4.13.

Table 1. Measurement model of the study items

Items	*Factor Loadings*	*z-scores*
Potential for withholding effort		
Item1	.33[a]	--[b]
Item2	.65	(3.11)
Item3	.91	(3.12)
Item4	.39	(2.29)
Centralized decision making		
Item1	.39	--
Item2	.66	(3.25)
Item3	.46	(2.85)
Item4	.52	(2.99)
Item5	.57	(3.11)
Formalization		
Item1	.79	--
Item2	.50	(4.75)
Item3	.79	(6.38)
Item4	.37	(3.46)
Communication		
Item1	.82	--
Item2	.80	(7.84)
Item3	.45	(4.19)
Item4	.53	(4.39)
Item5	.43	(4.30)
Item6	.59	(5.92)
Item7	.52	(5.17)
Intra-brand competition		
Item1	1.00	--
Inter-brand competition		
Item1	1.00	--
Firm size		
Item1	1.00	--
Fit indices		
Chi-square	314.57	
Df	228	
p-value	.05	
CFI	.99	
S-RMR	.09	
RMSEA	.07	

n = 144 (72 paired dyads)
a Standardized factor loadings
b z-score marked with -- are fixed to 1.00 for the purpose of scaling

Table 2. Correlation matrix for the measurement scales

		1	2	3	4	5	6	7
1	Potential for withholding effort							
2	Centralized decision making	.18						
		(.05)[a]						
3	Formalization	-.15	.18					
		(.11)	(.05)					
4	Communication	-.10	.26	.47				
		(.30)	(.00)	(.00)				
5	Intra-brand competition	-.10	.14	-.01	-.04			
		(.26)	(.13)	(.91)	(.71)			
6	Inter-brand competition	.03	.08	.083	.06	.28		
		(.71)	(.39)	(.36)	(.53)	(.00)		
7	Firm size	-.15	.35	.01	.16	.16	.10	-.02
		(.11)	(.00)	(.95)	(.09)	(.09)	(.28)	(.86)
Descriptive statistics:								
Mean value		2.38	3.15	4.42	3.11	5.47	3.20	1.01
St. deviation		.83	1.21	1.16	1.17	1.29	1.81	.27
Skewness		.69	.61	.10	.39	-1.23	.38	-1.37
Kurtosis		.83	.61	-.48	-.55	2.03	-1.19	4.56
Descriptive statistics for the company owned-units sample:								
Mean value		2.31	4.34	5.26	4.68	2.98	5.57	1.07
St. deviation		.93	1.10	.87	.82	1.79	1.17	.27
Descriptive statistics for the franchise-units sample:								
Mean value		2.22	3.68	5.08	4.13	3.50	5.47	.98
St. deviation		.66	.96	.91	0.92	1.96	1.43	.24
Independent-samples t-test:								
Mean difference		.10	.65	.17	.56	.52	.10	.09
t-value		.53	2.69	.82	2.65	1.16	.33	1.47
Sig-level		(.60)	(.01)	(.42)	(.01)	(.25)	(.74)	(.15)

n = 144 (72 paired dyads)
a Two-tailed level of significance in parenthesis

5. RESULTS

Based on the tests just described, the convergent and divergent validity were within reasonable limits. Thus, we continued to the structural model with the remaining responses (72 paired dyads), where the 72 retail unit responses accounted for the dependent variable and the 72 sales area manager respondents accounted for the independent variables in the structural model. This accomplished the second step in the Anderson and Gerbing's two-step approach (1988). We analyzed the structural relationships by EQS/Windows 6.1 (Bentler, 2006). Table 3 presents the correlation matrices for franchise-unit and company owned-unit samples, while Model 1 and Model 2 in Table 4 present the results from the hypothesis tests. The structural relationship was based on a two-group analysis for the structural model, distinguishing between company owned-units and franchise-units (see appendix for the associated respondents).

Table 3. Correlation matrix for the sample units

		1	2	3	4	5	6	7
1	Potential for withholding		-.05	.07	-.07	-.08	-.22	-.16
	effort		(.80)	(.71)	(.71)	(.67)	(.24)	(.41)
2	Centralized decision making	-.05		.65	.77	.14	.04	-.02
		(.74) [a]		(.00)	(.00)	(.46)	(.83)	(.94)
3	Formalization	.06	.41		.3	.02	.01	.03
		(.73)	(.01)		(.04)	(.93)	(.97)	(.88)
4	Communication	.07	.59	.25		.12	-.15	.23
		(.68)	(.00)	(.11)		(.55)	(.43)	(.23)
5	Intra-brand competition	-.17	.01	.34	-.10		.37	-.11
		(.28)	(.98)	(.02)	(.54)		(.05)	(.57)
6	Inter-brand competition	-.21	.06	.02	.18	.33		.30
		(.18)	(.69)	(.90)	(.26)	(.03)		(.11)
7	Firm size	-.14	.27	.08	.22	-.05	.11	
		(.39)	(.08)	(.62)	(.15)	(.77)	(.49)	

Above diagonal Franchise-units. Below diagonal Company owned-units
n = 144 (72 paired dyads), a Two-tailed level of significance in parenthesis

Table 4. Estimates on Potential for withholding effort

	Structural Equation Modeling		**Difference test**	**Endogeneity analysis**		
	Model 1	**Model 2**		**Model 3**	**Model 4**	**Model 5**
Independent variables:	Company owned-units	Franchise-units	Model 1 and 2	Probit regression	Company owned-units	Franchise-units
Centralized decision making	-.75[a] (-1.75[b]) *	.74[a] (1.38[b]) †	4.55[c] *	-.54[d] (-3.98[b]) **	1.45[d] (3.10[e]) **	-.53[d] (-.90[e])
Formalization	.54 (1.65) *	-.47 (-2.69) **	3.71	-.15 (-1.35)	.18 (1.15)	-.25 (-1.40)
Communication	.36 (1.85) *	-.18 (-.71)	.90	.26 (2.18) *	-.66 (-2.81) **	.19 (.63)
Intra-brand competition	-.23 (-1.62) †	-.03 (-.20)	.38	.14 (2.31) **	-.29 (-2.50) **	.12 (.41)
Inter-brand competition	-.29 (-1.67) *	-.33 (-2.02) *	.20	-.16 (-1.84) †	.21 (1.37)	-.21 (-1.35)
Firm size	.02 (.17)	.09 (.62)	.11	-.00 (-.30)		
Constant				1.55 (2.57) **	2.27 (3.43) **	3.40 (6.61) **
Mills-ratio company owned-units					-3.06 (-2.67) **	
Mills-ratio franchise-units						-1.67 (.30)
R-squared	.31	.37		.18	.12	.11
Chi-square	317.22	379.33				
df	203	203				
p-value	.01	.01				
CFI	.99	.98				
SRMR	.12	.13				
RMSEA	.12	.17				

a Standardized regression coefficients
b z-scores
c Chi-square
d Coefficients
e t-scores
† significant at the .10 level
* significant at the .05 level
** significant at the .01 level

First, we investigated the correlation between manager's governance dimensions (centralization, formalization, and communication) and dealer's potential for withholding effort. First, for Hypothesis 1, we tested the effect of centralization on withholding effort. For H1a, we found that centralization for company owned-units had a markedly and significantly negative effect on unit withholding effort (H1a: -.75, *p*-value < .05). For H1b, the relationship for franchisee units reported a marked, although marginally significant, positive effect of centralization on unit withholding effort (H1b: .74, *p*-value < .10). This provides support for H1a and weak support for H1b. Hypothesis 2 concerned the effect of company formalization on dealer withholding effort. For H2a, we found that formalization increased potential withholding effort in the company owned units. The statistical test supported the hypothesis (H2a: .54, *p*-value < .05). H2b, a negative relationship between formalization and withholding effort for franchisee units, was statistically supported in our analysis (H2b: -.47, *p*-value < .01). For the final governance dimension, Hypothesis 3, we tested the effect of communication on withholding effort. First, in H3a we predicted that communication would reduce withholding effort for company owned units. The statistical test did not support this hypothesis (H3a: .36, *p*-value < .05). For H3b, we predicted that communication would decrease withholding effort for franchisee units. The statistical test supported the direction of the relationship, although it turned out to be insignificant (H3b: -.18, *p*-value NS). Therefore, both H3a and H3b were rejected.

The next set of hypotheses investigated the impact of the business environment. For Hypothesis 4, we predicted that competition between the dealers within the same brand affects withholding effort negatively for company owned-unit dealers (H4a) and for franchisee-unit dealers (H4b). Our statistical test supported this hypothesis for the company owned units (H4a: -.23, *p*-value < .05), but the franchisee unit results were not significant (H4b: -.03, *p*-value NS). Hypothesis 5 predicted that inter-brand competition negatively affects withholding effort. Our statistical test supported H5a, that inter-brand competition reduces withholding effort for the company owned-units (H5a: -.29, *p*-value < .05), as well as H5b, which predicted a negative relationship from inter-brand competition on withholding effort for the franchisee units (H5b: -.33, *p*-value < .05).

The sample size in the two company owned-unit and franchisor-unit samples were rather small, with 84 respondents for the company owned-units (yielding 42 paired dyads), and 60 respondents for the franchise-units (yielding 30 paired dyads). Therefore, we ran a power-test to investigate the Type-II error rate in the study, given the observed alpha-level at .05; six predictors, the observed R-square, and the paired dyads sample sizes. The observed Beta-level for the company owned-units sample reports a Beta-level at 87 percent [1 - .13 (observed beta level) = .87], which is within the recommended 80 percent level. The Beta-level for the franchise-units sample is 80 percent [1 - .20 (observed beta level) = .80], which is within the 80 percent level.

Results of this study supported seven out of 10 hypotheses, one of these at a marginal level of significance. The explained variance for free riding was 31 percent for the company owned units and 37 percent for the franchisee units. In our final test to validate the causality structures, we ran a Wald test to determine whether the model was overfitted. This test determined whether sets of parameters, specified as free in the model, could simultaneously be set to zero without substantial loss in the model fit (Bentler, 2006). The *Chi*-square test of each parameter, given a *p*-value > .05, suggests dropping the relationship between inter-brand competitions and free riding for the franchisee-units, with a *Chi*-square at .02.

5. ENDOGENEITY

When testing for endogeneity, the first step in Maddala's (1983) two step procedure tested whether governance factors of *centralization, formalization and communication* affected the retail unit's contractual choice. These analyses were based on the dealer sample. This test was based on result from a probit regression analysis (Ghosh and John, 2009, p. 605) of the two governance choice dimensions (see Model 3 in Table 4). The model reported a pseudo R-square of 0.18. The coefficient for centralization was significant (p < .01) and negative, indicating that the likelihood of choosing a franchise governance contract decreased with the level of centralization. Therefore, this analysis indicated that centralized decision making reduced the likelihood that actors would choose franchise. In other words, franchisees tend to avoid centralization though self-selection. This finding relates to the structural equation analysis (see Model 2 in Table 4) where the level of centralization increased franchisees potential to withhold effort. One can therefore speculate that franchisees strive to avoid centralization since it hampers their individual freedom. To put it differently, franchise entrepreneurs seem to avoid rules and regulations, and when exposed to such system restrictions they will break the rules to facilitate their new thinking and behavior. These findings capture the tensions among franchise entrepreneur's individual freedom on the one hand, and the standardization to secure the brand value within the franchise chain at the other. The coefficient for formalization was non-significant and negative (p = NS) (see Model 3 Table 4). This indicates that formalization had little influence on ownership type. Therefore, formalization did not seem to affect contractual choice ex-ante. Finally, the coefficient for communication were positive and significant (p < .05). It shows that the probability of choosing a franchise governance contract increased with the level of communication. In the structural equation modeling analysis (Model 2 in Table 4) there was a negative effect from communication on the potential to withholding efforts among franchisees. Therefore, franchisees facilitate communication as a governance factor, both when choosing franchisee as contractual affiliation, and as a factor reducing their opportunistic behavior.

The second step in Maddala's (1983) two step procedure tested whether the *potential to withholding effort* affected the retail unit's contractual choice (Model 4 and 5 in Table 4). This answers the questions of what gain in withholding effort franchise firms would achieve by following their strategy rather than being internally organized. A switching regression model was used to identify potential sources that contributed to the difference in withholding efforts within the two contractual arrangements (Maddala, 1983). In these models the analysis regress withholding efforts against the same independent variable as the first-stage model, in addition to two inverse Mills-ratios computed from the same first-stage model (Maddala, 1983). The first inverse Mills-ratio coefficient measured actor's self-selection into company owned-unit contract, whereas the second inverse Mills-ratio coefficient measured actor's self-selection into franchise-unit contract. As such, this analysis of withholding efforts was based on the two contracting stages; (1) behavior arising from the company owned-units contractual arrangement, and (2) behavior arising from the franchise contractual arrangement. Both inverse Mills ratio coefficients in these two equations reported negative signs (see Model 4 and 5 in Table 4). Since the inverse Mills ratio coefficient is always positive in the binary strategy choice case (see Hamilton and Nickerson, 2003, p. 64), one can expect that firms who choose franchise contract had above average level of withholding effort compared to the company owned units. Therefore, there is a selection bias into franchise contract with regards to withholding efforts (see Model 5 in Table 4). Further, the negative inverse Mills ratio coefficient for company owned units was non-significant (Model 4 in Table 4). This implies that the analysis did not identify any selection bias into these types of contracts.

When considering the two covariate terms together, both being negative, franchise firms would have above average level of withholding efforts regardless of whether they chooses a franchise or an internal contract. Company owned units would encounter below average level of withholding efforts, regardless of whether they choose a franchise or an internal contract. This indicates that franchise firms have what would be called an "absolute advantage" (see Hamilton and Nickerson, 2003), meaning that their tendency to withhold effort exceed that of company owned units, regardless of what kind of contractual arrangement all of them make. Of course, the label absolute advantage is a bit misleading when using withholding effort as dependent variable, although the intention behind the label is illustrative.

To summarize, the analysis showed that centralization and communication affected retail-units self-selection within the plural form arrangement. The next question answers how much damage a wrong contractual form causes the franchisor. Because the contract form is endogenous, the impact of the two drivers (centralization and communication) cannot be ascertained simply by inspecting the regression coefficients in the endogeneity analysis (see Gosh and John, 2009, p. 607). In the following figures, we calculated and illustrated the governance costs of making the wrong plural form, given the governance dimensions of centralization and communication. These calculation followed the procedure of Mayer and Nickerson (2005, p. 237). When assessing the single independent variables, the other independent variables, as well as the control variables, are held at their observed sample averages. Because we were concerned about a randomly selected (hypothetical) project and not an observed project, we did not include the inverse Mills ratio term. We calculated expected outcomes under four combinations: the two governance choices under low versus high (two standard deviations below and above the observed means, respectively) levels of each of the focal independent variables of interest.

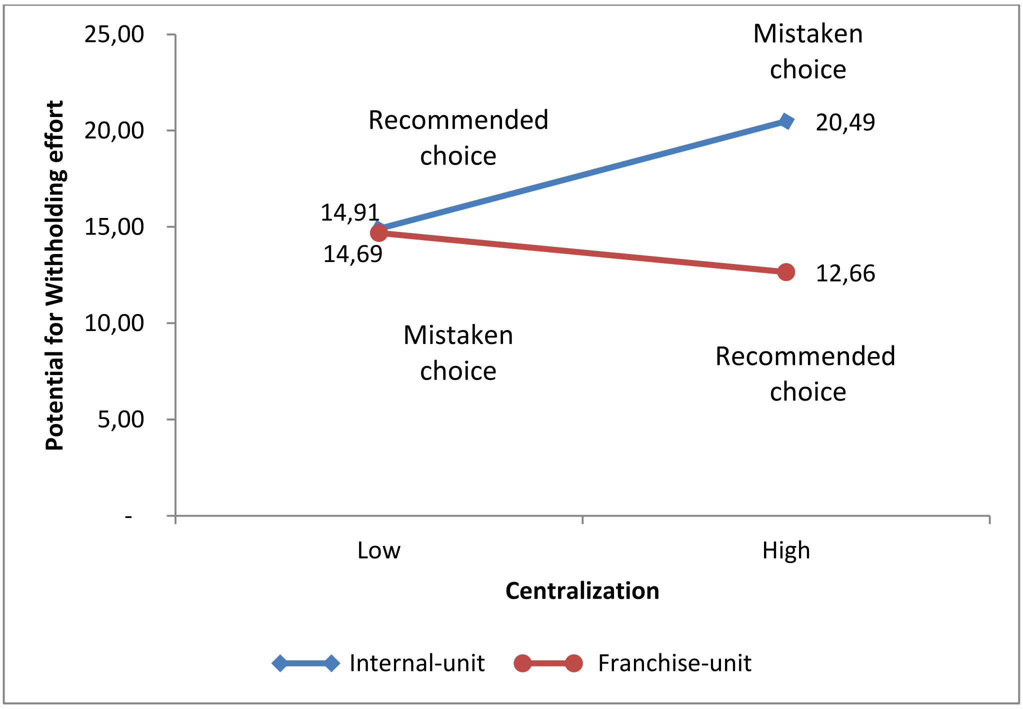

Figure 2. Governance costs of centralization under alternative contract forms

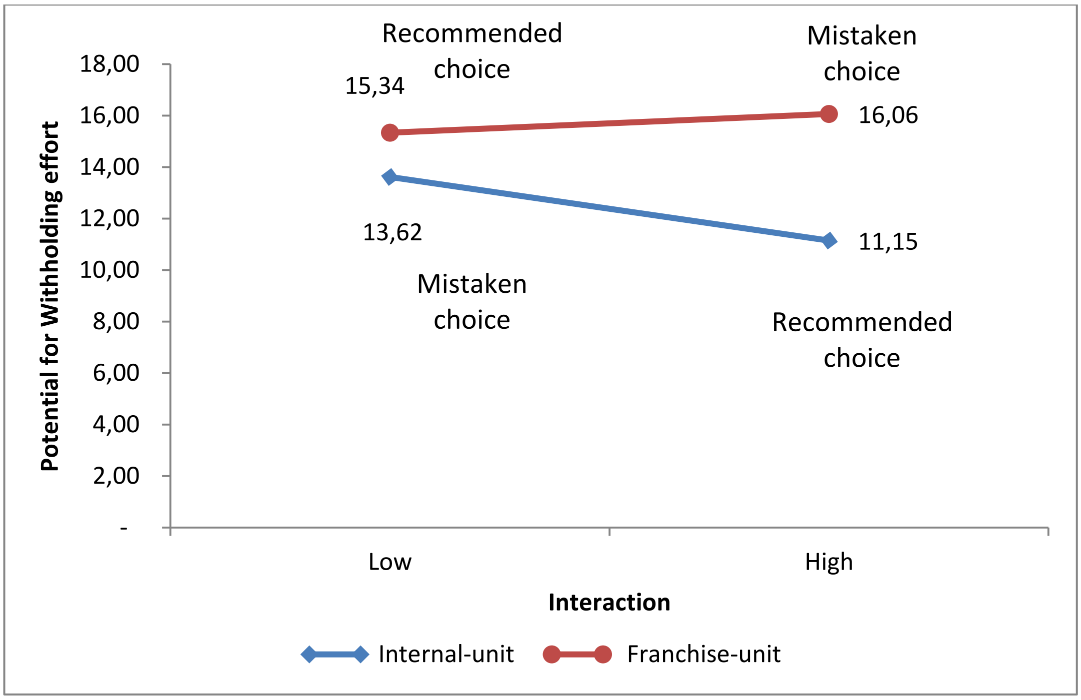

Figure 3. Governance costs of communication under alternative contract forms

Seen from the franchisors point of view, Figure 2 illustrates the costs of centralization when implementing the wrong plural form. For company owned-units the costs of implementing a low- instead of a high degree of centralization, withholding effort increases with 2.03 points. For franchise-units the costs of implementing a high- instead of a low degree of centralization, withholding effort increased with 5.58 points. Figure 3 illustrates the costs of communication when implementing the wrong plural form. For company owned-units the costs of implementing a high- instead of a low degree of communication, withholding effort increased with 0.72 points. For franchise-units the costs of implementing a low- instead of a high degree of communication, withholding effort increased with 2.47 points.

6. DISCUSSION

Management of the franchisor-franchisee relationship is a necessary element of any franchise system, yet it involves a struggle to avoid opportunistic behavior by both parties, which can threaten the survival of the system. This study focused on one element of that struggle: Withholding effort in franchise units and the impact of governance mechanisms in controlling such activities. This study extended transaction cost theory from dyadic buyer-seller relationships to brand protection in plural-formed franchise organizations. In addition, a key finding is that the effects of structural mechanisms on curbing the potential for opportunistic behavior vary between company owned units and franchised units, thus revealing insights into the complex nature of plural-formed governance and ownership.

The results indicate that the franchisor may be able to address shirking in company owned units through increased centralization of decisions. The company owned units do not lose sales revenue as a result of following quality restrictions in brand representation, thus the employee manager has no economic incentive to avoid supplying quality. Centralized decisions might reduce role ambiguity and conflicts for company owned units (Nygaard and Dahlstrom, 2002). Thus, reduced role ambiguity in brand representation may lower the potential for shirking.

On the other hand, centralization of decision making may result in extra costs for the franchisee units by extending operating hours and varying products and services, for example. These decisions can raise the franchisee's costs but will not necessarily increase the benefits of operating the brand. Thus, the franchisee units that have to bear extra costs associated with brand operations may tend to lower quality efforts. The results support previous observations that centralization may raise the level of transaction costs (Eccles and White, 1988) and indicate that centralization may hinder franchisee motivation for productive efforts and undermine commitment to quality standards. The findings regarding the differential effects of centralization on company owned and franchisee units is consistent with Crosno and Dahlstroms' (2008) meta analysis, which indicated that centralization increased free riding more in interfirm relationships than in intrafirm relationships.

The study results suggest that formalization may increase the potential for shirking in company owned units. Company owned units are not outcome dependent agents, so more formalization does not decrease their risk (Bergen et al., 1992), but serves as a costly constraint imposed on their operations. Among franchisee units, higher levels of formalization lead to lower levels of opportunistic behavior. This finding is consistent with the theory that franchisee units are risk averse and appreciate the predictable source of governance that formalization offers (Bergen et al., 1992). Formalization adds stability, predictability and less complexity to the interfirm business environment, thus it seems to create commitment to brand representation among the franchisee units.

Regarding communication, the opposite result of what was hypothesized occurred for the company owned units as increased communication related to a higher potential for withholding effort. Communication reflects cooperation offered by the franchisor to the retail units. Earlier studies have emphasized that high levels of interactive cooperation might foster a “groupthink” situation lacking critical views, room for disagreement and new ideas (Janis, 1972). Strong bonds between the franchisor’s corporate representatives and the employee managers in the company owned units may reduce respect for quality restrictions. Often, the personal connections of sales area managers in the franchisor company are closer with company owned unit managers than with franchisees. In this situation, increased cohesiveness between sales area managers and unit managers may limit fruitful discussion between the parties about quality signals in the brand, possibly explaining why communication is positively linked to shirking in company owned units. Alternatively, the unit manager may perceive communications that we measured – assistance with budgets, marketing plans and accounting -- as unnecessary micro-management or unwarranted interference, thus raising potential for shirking by the unit.

Competition in the business environment, both intra-brand and inter-brand, served to constrain the potential for withholding effort in company owned units. These findings support theoretical perspectives that competition provides comparative information in the market, allowing retail units to control one another (Akerlof, 1970). Whenever the dealer observes and compares market performance, the market acts as an incentive mechanism (Lazear and Rosen, 1981). Our data also indicate that inter-brand competition reduces potential for withholding effort among franchisee units. Thus, competition might supplement hierarchical control structures. As noted, competition has a consistent effect on company owned units. Both intra-brand and inter-brand competition seem to control the dealer’s representation in the market. Consistent with Parmigiani (2007), our findings support the notion that competition is an important managerial instrument in plural systems. Competition as added control is interesting because company owned units are less outcome dependent than franchisee units. Thus, company owned units have stronger incentives to shirk quality restrictions under weaker competitive circumstances.

Whereas research on franchise systems indicates brand name value affects the level of vertical control (Lafontaine and Shaw, 2005), earlier empirical studies relate brand name value to a low degree of vertical control (Hellenier and Lavergne, 1979; Lall, 1978). We speculate that reputation is associated with the service rather than product. Service quality is often easily observable in convenience store gas stations, whereas product quality such as differences between premium and regular gasoline are more difficult for consumers to monitor. Therefore, there is potential for withholding effort in a franchisor-dealer relationship because an essential part of the service interaction between customer and retail unit is difficult and costly to control. The dealer’s information superiority and lack of willingness to provide information (Dant and Nasr, 1998) increases the possibility of withholding effort.

The finding that centralized governance seems to increase withholding effort among franchisee units sheds light on empirical results indicating that a combination of decentralized management and outcome-based contracts results in free riding (Knez and Simester, 2001). As is the case in franchise systems, centralization is based on relationship information. However, agency theory emphasize that information asymmetry might reduce the quality of information and efficiency of centralized decisions (Bergen et al., 1992). Alternatively, withholding effort may lead to greater levels of centralized decision making, thus, future research should investigate causal direction and address one weakness of the current study by obtaining longitudinal data. Furthermore, longitudinal research might also control for life cycle theory of plural formed franchise systems (Oxenfeldt and Kelly, 1968; Manolis et al., 1995). In addition, measurement of actual opportunistic behavior rather than the potential for such behavior to occur would strengthen the conclusions. Future studies might also test for interaction effects between governance mechanisms, channel and business environment characteristics on withholding effort and examine the relative efficacy of transactional and relational mechanisms in cross-cultural franchise arrangements. Finally, research into franchisor withholding effort, e.g., unfair contract agreements and profit distributions (Lawrence and Kaufmann, 2010) and its connection to incidences of negative franchisee exits (Frazer and Winzer, 2005) would offer a more complete picture of the relationship. Franchisor withholding effort should also be studied in terms of franchisee perceptions that the contributions of the franchisor are diminishing and how such perceptions may lead to a shift in power toward franchisees, resulting in increasing compliance and commitment hazards (Davies et al., 2011), a cycle of withholding effort that damages the system.

This study raises practical implications for franchising system strategy in that the results support the application of centralization among company owned units and formalization among franchisee units. Thus, alternate effects of centralization and formalization should be given managerial focus as alternative governance dimensions. This is especially important for brand management based on less formalization, such as administrative systems and first generation franchise systems. The damaging effect of centralized decisions in franchisee units should be followed up with managerial analyses designed to determine how centralized decisions may be mitigated, redefined or even replaced by more formalized governance structures.

In terms of brand competition, managers of plural franchise systems may reduce the level of costly control mechanisms when such competition provides disciplinary incentives. Success of international expansion of plural franchise systems strongly depends on strategies that safeguard brand names against such forms of withholding effort such as free riding and shirking.

CONCLUSIONS

In conclusion, shirking and free riding among dealers undermines brand reputation, jeopardizes long-term channel viability, and is a welfare loss to the economy (Aaker, 1996). Thus, relational systems such as franchise chains must employ a cornerstone strategy to guard against it. Rindfleisch and Heide (1997) emphasized the need to describe free riding more accurately. As withholding effort involves a shortage of quality relationships between firms, the phenomena of shirking and free riding can be identified as an undersupply of quality that affects brand perceptions in the market. This investigation attempts to refine how dimensions of interfirm governance and ownership relate to undersupply of quality. Transaction cost theory predicts that opportunistic behaviors are transaction costs related to interfirm relationships. A test of our model generally supports relationships among transactional governance dimensions, plural-formed ownership structures and the potential for withholding effort.

By applying a paired-dyadic data approach to structural equation modeling, this study presents a unique basis for the empirical investigation of governance mechanisms in franchise organizations. Because we obtain the predictor and the criterion variables from different sources (Viswanathan, 2005), our statistical test requires no additional remedies (Podsakoff et al., 2003). Therefore, the ability to link the different information sources together creates a unique dataset, which controls for confounding effects of shared method biases in the analysis. Thus, this study also contributes to methods for interorganizational research in corporate, small firm, franchising and plural-form contexts.

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Appendix. Items in final measurement model

Potential for withholding effort *(dealer)*	To what extent do the following sentences give an erroneous or correct description?[1]
Item1	It is totally unnecessary to control the way customer service is done at our station
Item2	The company restriction to wear uniforms is necessary (Reversed)
Item3	The company restrictions to keep the station clean and tidy are necessary and relevant to us and our station (Reversed)
Item4	It is no problem to keep the station perfectly clean even when there are a lot of customers (Reversed)
Company owned-units/ Franchisee-units *(dealer)*	Please mark the kind of contract you have with the Company-owned and dealer-operated units (employee managers) (company owned-units)
	Company-owned and operated units (employee managers) (company owned-units) Franchisee-owned and operated units (franchisee-units)
Centralization *(manager)*	Through your cooperation with the dealer, there are a number of matters where the company has more or less influence. Please indicate the extent to which you consider the company influences the dealer's decisions regarding his/her own business on the following matters?[2]
Item1	Loan warrant
Item2	Opening hours at the station
Item3	Design at the station
Item4	Whether equipment other than cash register and fuel pumps shall be bought at the station
Item5	Determination of salaries to employees at the station
Formalization *(manager)*	In the relationship between the gasoline company and this dealer, there are established more or less defined routines, procedures, rules and plans about how various problems should be solved. To what extent do the following statements represent a correct or an erroneous of this aspect of the relationship?[1]
Item1	There are clear routines for how the dealer should run his or her sales work with customers
Item2	Clear routines are developed for handling customer complaints
Item3	There are clear routines for dealing with the customers and customer service
Item4	There are clear routines for the design of the station's shop
Communication *(manager)*	The company offers this dealer cooperation in a number of business activities. How often do you cooperate with the dealer in the following activities?[3]
Item1	We cooperate with the dealer in order to develop budgets
Item2	We cooperate with the dealer in order to design marketing plans
Item3	We help the dealer to improve his/her competitive position
Item4	We have continuous interactive contact with the dealer
Item5	We help the dealer with economic analysis and accounting questions.
Item6	We help the dealer with questions regarding human resource management
Item7	We help the dealer to improve his/her purchasing routines and inventory control
Intra-brand competition *(dealer)*	Is this a good or a bad description of your situation?[4]
Item1	The competition between "the company name" dealers in this market is very fierce
Inter-brand competition *(dealer)*	Is this a good or a bad description of your situation?[4]
Item1	The competition between the dealers in this market is very fierce regardless of brand
Firm size *(dealer)*	
Item1	a) Net operating income/gross sales revenue in NOK millions

[1] = 1 erroneous description, to 7 completely correct descriptions
[2] = 1 no influence, to 7 complete control
[3] = 1 never, to 7 always
[4] = 1 very strongly disagree, to 7 very strongly agree

CORPORATE GOVERNANCE & PERFORMANCE

SECTION 3

ACCOUNTING DISCLOSURE OF SOCIAL RESPONSIBILITY BY LISTED COMPANIES IN SAUDI STOCK MARKET

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Abstract

Purpose: this study aims to explore accounting disclosure through analysis financial and executives' mangers, and external auditors' Perceptions concerning disclosures of social responsibility practices inside listed companies in Saudi Stock Market.
Design/Methodology/approach: The current study adopted quantitative approach to explore accounting disclosure of social responsibility for Saudi' registered companies in the light of Global Reporting Initiatives (GRI) to fill the current gap in social responsibility and sustainable development topic inside Saudi' environment.
Findings: According to the statistical results the researcher reached to the following results: First, Saudi' companies used standalone reports separate from their annual reports for their accounting disclosure of social responsibility& sustainable development disclosure.
Second, Saudi' companies design their social responsibility & sustainable development reports to suit with the requirements of GRI. Third, there are significant differences between commitment of Saudi' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors, occupational position, and their work experience. In contrast, there are no significant differences between respondents' perceptions according to their academic qualifications.
Originality/Value: The current study provides a contribution to the prior studies in social responsibility and sustainable development issue through examine the disclosure level of social responsibility in companies registered in Saudi Stock Market. As well as, to examine the respondents' Perceptions regarding the variance level between companies' commitment concerning their disclosures of social responsibility & sustainable development practices according to their differences in industry sectors.

Keywords: Accounting Disclosure, Social Responsibility, Sustainable Development, Global Reporting Initiatives (GRI), Saudi Arabic

1. INTRODUCTION

Recently, the international and local importance of social responsibility has been increased. While, the existing and ongoing of any organization in the business field based on their social responsibility obligation toward the society especially during the continuous development in economic life. As a result, all companies should take all economic, social, and environmental aspects in their consideration when perform their activities.

The increased demand from a lot of organizations such as: national society organizations; press and media organizations; researchers and academic organizations; legislation and monitoring organizations; and professional accounting organizations over the world was the main reason behind the increased attention toward social responsibility and sustainable development issue.

Consequently, accountants and auditors have increased their attentions with corporate social responsibility and sustainable development topics to investigate the accounting disclosure of social responsibility by companies in their annual reports according to Global Reporting Initiatives (GRI) requirements.

Due to the increased level of social responsibility issue, the researcher will analyse the accounting disclosure of corporate social responsibility and sustainable development by listed companies in Saudi stock market. Also, the researcher will investigate the level of companies' commitment with Global Reporting Initiatives (GRI) requirements in preparing their annual reports concerning to disclosure of social responsibility and sustainable development.

Most of previous studies were carried out in developed countries. In addition, to the best of the researcher knowledge there is no studies has been conducted in Saudi as an example of a developing country to explore the disclosure level of social responsibility in the light of Global Reporting Initiatives (GRI).As a result, the researcher will carry this study in Saudi to fill the current gap in social responsibility and sustainable development topic inside Saudi' environment. Consequently, this study is considered the first study to examine the research issue in Saudi as a developing country in the light of Global Reporting Initiatives (GRI).

This study aims to explore accounting disclosure through analysis respondents' Perceptions concerning disclosures of social responsibility practices inside Saudi listed companies.

Furthermore; the current study provides a contribution to the prior studies in social responsibility issue through examine the accounting disclosure of social responsibility in Saudi companies. As well as, to examine the respondents' Perceptions regarding the variance level between companies' commitment concerning their disclosures of social responsibility practices according to their differences in industry sectors.

2. RESEARCH OBJECTIVE

This study aims to explore accounting disclosure through analysis financial and executives' mangers, and external auditors' Perceptions concerning disclosures of social responsibility practices inside listed companies in Saudi Stock Market.

The main objective can be divided into to the following **Sub-objectives**: Explore the commitment level of Saudi' companies concerning disclosure of their social responsibility & sustainable development according to the Global Reporting Initiatives (GRI) requirements, test the research hypotheses validity which are analysis the contents of sustainable development reports in the light of Global Reporting Initiatives (GRI), and determine the variance level between commitment of Saudi companies concerning disclosure of their social responsibility & sustainable development practices according to differences in: their industry sector; and companies characteristics.

3. LITERATURE REVIEW

Most of previous studies in disclosure of social responsibility & sustainable development issue were carried out in developed countries. Also, some of these studies used a qualitative approach to investigate the disclosure level of social responsibility & sustainable development. While, another studies used a quantitative approach to investigate the disclosure level of sustainable development (Sen, Mitali, & et.al, 2011, Ahmed, N.N.N. & Sulaiman, M., 2004, Boiral, O. 2013, Fifka, S. & .drabble, M., 2012, Roca, L. & Searcy, C., 2012, and Bouten, L., et al., 2011).

Also, according to (Murthy, V. & Parisi, C., under press), it is appears that there are no studies have been conducted in the Middle East countries during the previous 20 years. In addition, to the best of the researcher knowledge there is no studies has been conducted in kingdom Saudi Arabia as an example of a developing country to explore the disclosure level of social responsibility & sustainable development in the light of Global Reporting Initiatives (GRI) requirements.

As a result, the researcher will carry this study in kingdom Saudi Arabia as an example of developing countries to fill the current gap in social responsibility and sustainable development topic inside Saudi' environment. Therefore, the current study will adopt quantitative approach to explore accounting disclosure of social responsibility for Saudian' registered companies. Consequently, this study is considered the first study to examine the disclosure level of social responsibility & sustainable development in Saudi as a developing country in the light of Global Reporting Initiatives (GRI). Furthermore; the current study provides a contribution to the prior studies in social responsibility and sustainable development issue through examine the disclosure level of sustainable development in companies registered in Saudi Stock Market. As well as, to examine the respondents' Perceptions regarding the variance level between companies' commitment concerning their disclosures of social responsibility & sustainable development practices according to their differences in: industry sector.

4. RESEARCH METHODOLOGY

To achieve the study objective, the researcher used the questionnaire survey which distributed on a sample size (150 participants) selected from listed companies in Saudi Stock Market (which covered four sectors: (Banking, Petrochemical, Real Estate sector, and Power &Utilities) to explore the accounting disclosure level of Saudi' companies regarding their social responsibility & sustainable development practices.

Also, the researcher used some of the statistical techniques by using **SPSS** software to test the hypotheses validity which is analysis the accounting disclosure level of Saudi' companies regarding their social responsibility & sustainable development practices in the light of Global Reporting Initiatives (GRI).

5. RESEARCH HYPOTHESES

Based on the previous studies (E.g. Sen., M., & et.al, 2011; Boiral, O., 2013; Fifka, S. & .Drabble, M., 2012; Roca, L. & Searcy, C., 2012; and Bouten, L., et al., 2011) in social responsibility & sustainable development issue the researcher formulated the following hypotheses:

H1: *Saudian' Companies will be use sustainable development reports as a standalone reports for sustainable development disclosure.*

H2: *Saudian' Companies will design their sustainable development reports according to the Global Reporting Initiatives (GRI) requirements.*

H3: *There are significant differences between commitment of saudian' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors; and features.*

H4: *There are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of social responsibility & sustainable development practices according to their academic qualifications, occupational position, industry sector and their work experience.*

6. STATISTICAL RESULTS

6.1. Descriptive statistics for sample data

The researcher distributed 150 questionnaires survey on executive and financial managers inside Saudian companies that registered in Saudi Stock Market. The researcher collected 113 questionnaires, 8 of 113 were invalid due to the missing data. The usable questionnaires reached to 105 respondents. Based on this information the response rate reached to 70 % (105/150).The researcher used the following statistics techniques:

1-Descriptive Statistics which include: frequencies, percentages, the arithmetic means, standard deviation, coefficient of variance, and ranking.

2-One sample T- test to measure the differences between Saudi' Companies regarding their disclosure of social responsibility.

3-One Way ANOVA (F test) to find the differences between more than two sample according to their academic qualifications, occupational position, industry sector and their work experience.

4- Cronbach's Alpha Coefficient Test to measure the reliability of the content variables of the study.

The variables of the study were divided into 3 main parts (Aktas, R., et al., 2013, GRI, G3.1):

Part I: Profile Disclosure

Part II: (Standard Disclosures) Disclosure on Management Approach (DMAs)

Part III: Performance Indicators

Part I: Profile Disclosure: included the following 2 dimensions:

I: Profile Disclosure

2. Reporting Parameters.

Part II: (Standard Disclosures) Disclosure on Management Approach (DMAs): included the following 6 dimensions:

1- Economic Aspects (DMA EC)
2- Environmental Aspects (DMA EN)
3- Labor Practices and Decent work Aspects (DMA LA)
4- Human Rights Practices (DMA HR)
5- Society Aspects (DMA So)
6- Product Responsibility Aspects (DMA PR)

Part III: Performance Indicators: included the following 6 dimensions:

1-Economic Performance Indicators (EC)
2-Environmental Performance Indicators (EN)
3-Labor Practices and Decent Work Indicators (LA)
4-Human Rights Indicators (HR)
5-Society Indicators (SO)
6-Product Responsibility Indicators (PR)

To assess the categories of the weighted average according to the statement for the Fully Disclosed/ Covered, Partially Disclosed, and Not Disclosed/Covered, the researcher used the framework of a measure of the Likert Scale as follows:

Scale	*Interval*
-1.00 1.66	Not Disclosed/Covered
-1.67 2.37	Partially Disclosed
3-2.38	Fully Disclosed/ Covered

6.2. Hypotheses Test

The researcher used the fowling statistical techniques to test the validity of hypotheses:

1- Reliability and Validity:

The researcher used Cronbach's alpha coefficient to assess the reliability of the content variables of the study. According to the statistical results this coefficient for the whole sample size concerning "Accounting Disclosure of Social Responsibility " has reached (0.863), this is indicates that the high degree of persistence of the study sample .As a result, the reliability level was high and led to increasing in the validity degree which has been reached to (0.928).

Also, the finding showed that Cronbach's alpha coefficients for: (Profile Disclosure: Part 1), (Disclosure on Management Approach (DMAs): Part 2), and (Performance Indicators: Part 3) have reached to (0.810), (0.838), and (0.787), respectively. The Cronbach's alpha coefficients for reliability and validity are shown in table (1) as follows:

Table 1. Cronbach's alpha coefficients

Part	*Dimensions*	*Reliability*	*Validity*	*Rank*
1	Profile Disclosure	0.810	0.900	2
2	Standard Disclosures	0.838	0.915	1
3	Performance Indicators	0.787	0.887	3
Total		**.863**	**.928**	**-**

2- Descriptive statistics for Personal Data:

The researcher distributed 150 questionnaires survey on executive and financial managers inside Saudi companies that registered in Saudi Stock Market. The researcher collected 113 questionnaires, 8 of 113 were invalid due to the missing data. The usable questionnaires reached to 105 respondents.

Based on this information the response rate reached to 70 % (105/150).The descriptive Statistics for usable questionnaires are shown in table (2) as follows:

Table 2. Frequency distribution of the Personal Data

No.	*Personal Data*	*Frequency*	*Present*	*Rank*
1- Academic Qualification				
1	MSc	2	1.9	3
2	BSc	100	95.2	1
3	Others	3	2.9	2
Total		**105**	**100**	-
2- Professional Qualifications				
1	CPA	17	25.8	2
2	CIMA	12	18.2	3
3	CIA	3	4.5	4
4	CFA	1	1.5	5
5	SOCPA	33	50.0	1
Total		**66**	**100**	-
3- Occupational Position				
1	Executive Manager	18	17.1	3
2	Financial Manager	24	22.9	2
3	Accountant	56	53.3	1
4	External Auditor	7	6.7	4
Total		**105**	**100**	-
4- Work Experience				
1	< 1 Year	2	1.9	4
2	1: < 5 Years	44	41.9	2
3	5:10 years	50	47.6	1
4	> 10 Years	9	8.6	3
Total		**105**	**100**	-
5- Industry Sector				
1	Banking	51	48.6	1
2	Petrochemical	22	21.0	3
3	Real Estate Investment	24	22.9	2
4	Power& Utilities	8	7.6	4
Total		**105**	**100**	-
6- GRI application Level				
1	A	4	3.8	2
2	B	101	96.2	1
Total		**105**	**100**	-

From the above table it is clear that:

1 - The most of the respondents (95.2%) hold a B.Sc. degree. While the percentage of M.Sc. and others degree holders reached to (2.9%), (1.9%) respectively.

2 - Regarding to Professional Qualifications, (50%) of the respondents hold (SOCPA) certificate , followed by (25.8%) of the respondents hold (CPA) certificate, then (18.2%) of the respondents hold (CIMA) certificate, and finally the percentage of (CIA) and (CFA) holders reached to (4.5%), (1.5%) respectively.

3 - Regarding to occupational position, the percentage of accountants reached to (53.3%), while the percentage of (Financial Managers) reached to (22.9%), then the percentage of (Executive Managers) reached to (17.1%), and finally the position of (External Auditors) reached to (6.7%).

4 - Concerning to work experiences, the percentage of category group (5:10 years) reached to (47.6%), then category group (1: < 5 Years) which reached to (41.9%), and finally the percentage of category group (> 10 Years) and (< 1 Year) reached to (8.6%), (1.9%) respectively. This is mean that, the majority of respondents have work experience from 5 to 10 years.

5 - Relating to industry sector, (48.6%) of the respondents from (Banking Sector), followed by (22.9%) of the respondents from (Real Estate Investment), then (21.0%) of the respondents from (Petrochemical Sector), and finally (7.6%) of the respondents from (Power& Utilities Sector).

6 - In relation to (GRI application Level**)**, the majority of the respondents referred that GRI application Level (B) was adopted inside their companies, while it is percentage reached to (96.2%) , then (3.8%) for GRI application Level **(A)**.

The following tables shows the descriptive statistics (which include: mean, standard deviation, and rank) for the variables of research, these statistics show the responses of participants, which received the highest Fully Disclosed/ Covered and Not Disclosed/Covered accordance with the responses of research sample, and then shows the general trend for each axis according to the mean average.

Part I: Profile Disclosure:

Table 3. Descriptive Statistics for "Profile **Disclosure**" Part I

Dimensions	*Mean*	*Std.*	*Rank*
1-Profile			
1-Profile	2.81	0.39	-
2-Reporting Parameters			
2-Report Profile	2.89	.32	1
3-Report Scope and Boundary	2.81	.37	4

Dimensions	Mean	Std.	Rank
4-GRI Content Index	2.09	.83	7
5-Assurance	2.75	.47	6
4-Governance, Commitments, and Engagement	2.82	.37	3
6-Governance	2.83	.37	2
7-Commitment to External Initiatives	2.75	.43	5
Mean average :Reporting Parameters	**2.70**	**0.36**	-
Mean average: Profile Disclosure	**2.75**	**0.37**	-

From the above table it is clear:

-That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for Part 1 " Profile Disclosure ". While the mean average reached to (2.75) with standard deviation (0.37).

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for "Profile "Variable. While the mean average reached to (2.81), with standard deviation (0.39).

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for the axis of "Reporting Parameters "Variable. While the mean average reached to (2.70), with standard deviation (0.36).

- The most items that (Fully Disclosed/ Covered), were (Report Profile) and (Governance). While the mean average reached to (2.89), (2.83) respectively.

- In contrast, the least disclosure item that (Partially Disclosed) was (GRI Content Index). While the mean average reached to (2.09).

Part II: (Standard Disclosures) Disclosure on Management Approach (DMAs):

Table 4. Descriptive Statistics for " (Standard Disclosures) Disclosure on Management Approach (DMAs)" Part II

Dimensions	Mean	Std.	Rank
1- Economic Aspects (DMA EC)			
1-Economic Performance	2.81	.39	1
2-Market Presence	2.66	.55	2
3-Indirect economic impacts	2.60	.59	3
Mean average : Economic Aspects	**2.68**	**0.36**	-
2- Environmental Aspects (DMA EN)			
4-Materials	2.56	.57	6
5-Energy	2.68	.47	1
6-Water	2.66	.47	2
7-Biodiversity	2.30	.82	7
8-Emissions, Effluents, and waste	2.62	.56	3
9-Products and Services	2.60	.46	5
10-Compliance with environmental laws.	2.62	.52	4
11-Transport	1.70	.72	8
12-Overall	1.17	42	9
Mean average : Environmental Aspects	**2.32**	**0.32**	-
3- Labor Practices and Decent work Aspects (DMA LA)			
13-Employment	2.70	.46	2
14-Labor /management relations	2.81	.39	1
15-Occupational health and safety	2.47	.57	4
16-Training and Education	2.54	.53	3
17-Diversity and equal opportunity	2.37	.68	5
18-Equal remuneration for women and men	2.28	.68	6
Mean average : Labor Practices and Decent work Aspects	**2.52**	**0.37**	-
4- Human Rights Practices (DMA HR)			
19-Investment and procurement practices	2.75	.43	1
20-Non- Discrimination	2.56	.69	3
21-Freedom of association and collective bargaining	2.52	.50	4
22-Abolition of Child labor	2.52	.60	5
23-Forced and compulsory labor	2.64	.48	2
24-Security practices	2.50	.57	6
25-Indigenous rights	1.68	.70	7
26-Assessment	1.40	.62	8
27-Remediation	1.19	.48	9
Mean average : Human Rights Practices	**2.19**	**0.32**	-
5- Society Aspects (DMA So)			
28-Local communities	2.63	.52	2
29-Corruption	2.70	.53	1
30-Public policy in anti-corruption	2.33	.64	3
31-Anti- competitive behavior	2.12	.70	5
32-Compliance with laws	2.26	.76	4
Mean average : Society Aspects	**2.40**	**0.43**	-
6- Product Responsibility Aspects (DMA PR)			
33-Customer health and safety	2.64	.55	1
34-Product and service labeling	2.58	.56	2
35-Marketing communication	2.47	.57	3
36-Customer privacy	2.33	.64	4
37-Compliance with environmental laws	2.26	.70	5
Mean average : Product Responsibility Aspects	**2.45**	**0.43**	-
Mean average: Standard Disclosures	**2.43**	**0.30**	-

From table (4) it is clear:

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for Part 2 " Disclosure on Management Approach (DMAs) ". While the mean average reached to (2.43), with standard deviation (0.30).

1- Economic Aspects (DMA EC):

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for "Economic Aspects (DMA EC) "Variable. While the mean average reached to (2.68), with standard deviation (0.36).

- The most items that (Fully Disclosed/ Covered), were (Economic Performance), (Market Presence). While the mean average reached to (2.81), (2.66) respectively.

- In contrast, the least disclosure item that (Partially Disclosed), was (Indirect economic impacts), While the mean average reached to (2.60).

2-Environmental Aspects (DMA EN):

- That the trends in the whole sample had shown a general trend of the (Partially Disclosed) for "Environmental Aspects " Variable. While the mean average reached to (2.32), with standard deviation (0.32).

- The most items that (Fully Disclosed/ Covered), were (Energy) and (Water). While the mean average reached to (2.68), (2.66) respectively.

- In contrast, the least disclosure item that (Partially Disclosed) was (Overall). While the mean average reached to (1.17).

3-Labor Practices and Decent work Aspects (DMA LA):

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for "Labor Practices and Decent work Aspects" While the mean average reached to (2.52), with standard deviation (0.37).

-The most items that (Fully Disclosed/ Covered), were (Labor /management relations) and (Employment). While the mean average reached to (2.81), (2.70) respectively.

-In contrast, the least disclosure item that (Partially Disclosed) was (Equal remuneration for women and men). While the mean average reached to (2.28).

4- Human Rights Practices (DMA HR):

- That the trends in the whole sample had shown a general trend of the (Partially Disclosed) for "Human Rights Practices (DMA HR)" Variable. While the mean average reached to (2.19), with standard deviation (0.32).

- The most items that (Fully Disclosed/ Covered), was (Investment and procurement practices), (Forced and compulsory labor). While the mean average reached to (2.75), (2.64), respectively.

- In contrast, the least disclosure item that (Partially Disclosed), was (Assessment). While the mean average reached to (1.19).

5- Society Aspects (DMA So):

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for " Society Aspects (DMA so) " Variable. While the mean average reached to (2.40), with standard deviation (0.43).

- The most items that (Fully Disclosed/ Covered), were (Corruption) and (Local communities), While the mean average reached to (2.70), (2.63), respectively.

- In contrast, the least disclosure item that (Partially Disclosed), was (Anti- competitive behavior), While the mean average reached (2.12).

6- Product Responsibility Aspects (DMA PR):

- The trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for "Product Responsibility Aspects (DMA PR) "Variable. While the mean average reached to (2.45), with standard deviation (0.43).

- The most items that (Fully Disclosed/ Covered), were (Customer health and safety), (Product and service labeling). While the mean average reached to (2.64), (2.58) respectively.

- In contrast, the least disclosure item that (Partially Disclosed), was (Compliance with environmental laws). While the mean average reached (2.26).

Part III: Performance Indicators:

Table 5. Descriptive Statistics for Performance Indicators Part III

Dimensions	***Mean***	***Std.***	***Rank***
1-Economic Performance Indicators (EC)			
1-Economic Performance	2.77	.42	1
2-Market Presence	2.64	.48	2
3-Indirect economic impacts	2.54	.60	3
Mean average : Economic Performance Indicators	**2.65**	**0.39**	-
2- Environmental Performance Indicators(EN)			
4-Materials	2.42	.60	6
5-Energy	2.68	.47	1
6-Water	2.64	.48	2
7-Biodiversity	2.10	.77	7
8-Emissions, Effluents, and waste	2.31	.60	3
9-Products and Services	2.54	.57	5
10-Compliance with environmental laws.	2.44	.60	4
11-Transport	1.55	.72	8
12-Overall	1.13	.34	9
Mean average : Environmental Performance Indicators	**2.20**	**0.31**	-
3- Labor Practices and Decent Work Indicators(LA)			
13-Employment	2.57	.53	2
14-Labor /management relations	2.56	.57	1
15-Occupational health and safety	2.42	.56	4
16-Training and Education	2.64	.48	3
17-Diversity and equal opportunity	2.50	.63	5
18-Equal remuneration for women and men	2.26	.68	6
Mean average: Labor Practices and Decent Work Indicators	**2.49**	**0.35**	**-**
4- Human Rights Indicators(HR)			
19-Investment and procurement practices	2.45	.63	1
20-Non- Discrimination	2.52	.60	3
21-Freedom of association and collective bargaining	2.43	.66	4
22-Abolition of Child labor	2.47	.72	5
23-Forced and compulsory labor	2.68	.50	2
24-Security practices	2.41	.60	6
25-Indigenous rights	2.01	.74	7
26-Assessment	1.73	.65	8
27-Remediation	1.34	.55	9
Mean average : Human Rights Indicators	**2.22**	**0.38**	**-**
5- Society Indicators(SO)			
28-Local communities	2.53	.53	2
29-Corruption	2.73	.44	1
30-Public policy in anti-corruption	2.21	.56	3
31-Anti- competitive behavior	2.28	.66	5
32-Compliance with laws	2.47	.60	4
Mean average : Society Indicators(SO)	**2.44**	**0.31**	-
6- Product Responsibility Indicators(PR)			
33-Customer health and safety	2.77	.42	1
34-Product and service labeling	2.75	.43	2
35-Marketing communication	2.46	.53	3
36-Customer privacy	2.41	.66	4
37-Compliance with environmental laws	2.47	.69	5
Mean average : Product Responsibility Aspects	**2.57**	**0.35**	**-**
Mean average: Performance Indicators " Part III	**2.44**	**0.27**	**-**
Mean average: Total three parts of GRI for Social Responsibility& sustainable development Disclosure	**2.54**	**0.27**	**-**

From table (5) it is clear:

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for " Performance Indicators " Variable. While the mean average reached to (2.44), with standard deviation (0.27). The descriptive statistics for 6 dimensions of Performance Indicators as follows:

1- Economic Performance Indicators (EC):

-That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for "Economic Performance Indicators (EC)" Variable. While the mean average reached to (2.68) with standard deviation (0.36).

-The most items that (Fully Disclosed/ Covered), were (Economic Performance) and (Market Presence). While the mean average reached to (2.77), (2.64) respectively.

-In contrast, the least disclosure item that (Partially Disclosed), was (Indirect economic impacts). While the mean average reached to (2.54).

2- Environmental Performance Indicators (EN):

- That the trends in the whole sample had shown a general trend of the (Partially Disclosed) for "Environmental Performance Indicators (EN)" Variable. While the mean average reached to (2.20), with standard deviation (0.31).

- The most items that (Fully Disclosed/ Covered), were (Energy) and (Water). While the mean average reached to (2.68), (2.64) respectively.

- The least disclosure item that (Partially Disclosed), was (Overall). While the mean average reached to (1.13).

3- Labor Practices and Decent Work Indicators(LA):

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for "Labor Practices and Decent Work

Indicators (LA) "Variable. While the mean average reached to (2.49), with standard deviation (0.35).

- The most items that (Fully Disclosed/ Covered), were (Labor /management relations) and (Employment). While the mean average reached to (2.57), (2.56) respectively.

- The least disclosure item that (Partially Disclosed) was (Equal remuneration for women and men). While the mean average reached to (2.26).

4- Human Rights Indicators(HR):

- That the trends in the whole sample had shown a general trend of the (Partially Disclosed) for "Human Rights Indicators (HR)" Variable. While the mean average reached to (2.22), with standard deviation (0.38).

- The most items that (Fully Disclosed/ Covered), were (Investment and procurement practices) and (Forced and compulsory labor). While the mean average reached to (2.45), (2.68) respectively.

- The least disclosure item that (Partially Disclosed) was (Remediation). While the mean average reached to (1.34).

5- Society Indicators (SO):

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for "Society Indicators (SO) "Variable. While the mean average reached to (2.44), with standard deviation (0.31).

- The most items that (Fully Disclosed/ Covered), were (Corruption) and (Local communities). While the mean average reached to (2.73), (2.53) respectively.

-The least disclosure item that (Partially Disclosed) was (Anti- competitive behavior). While the mean average reached to (2.28).

6- Product Responsibility Indicators (PR):

- That the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) for "Product Responsibility Indicators (PR) "Variable. While the mean average reached to (2.57), with standard deviation (0.35).

- The most items that (Fully Disclosed/ Covered), were (Customer health and safety), (Product and service labeling). While the mean average reached to (2.77), (2.75) respectively.

-The least disclosure item (Partially Disclosed), was (Compliance with environmental laws). While the mean average reached to (2.47).

In general, the trends in the whole sample had shown a general trend of the (Fully Disclosed/ Covered) concerning three parts of accounting disclosure of social responsibility " Profile Disclosure part 1, "Standard Disclosures " Part II, and Performance Indicators " Part III . While the mean average reached to (2.54), with standard deviation (0.27).This is means that Saudi companies tend to disclose of their social responsibility according to the GRI requirements. While the mean average reached to (2.54), with standard deviation (0.27).

7-Testing of Hypothesis:

In this section the researcher will test the following hypotheses:

H1: *Saudian' Companies will be use sustainable development reports as a Standalone reports for social responsibility & sustainable development disclosure.*

H2: *Saudian' Companies will design their sustainable development reports According to the Global Reporting Initiatives (GRI) requirements.*

H3: *There are significant differences between commitment of saudian' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors.*

H4: *There are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of social responsibility & sustainable development practices according to their academic qualifications, occupational position, industry sector and their work experience.*

7-1: Hypothesis 1:

This hypothesis formulated as follows:

H1: *Saudian' Companies will be use sustainable development reports as a Standalone reports for sustainable development disclosure.*

- Statistical method used:

- The researcher used **One sample T test**: To determine the impact on the average value if the level of significance is less than (0.05).This is indicate that, there is statistically significant effect, if the level of significance is greater than (0.05). This is indicating that, there is no statistically significant effect. The results of one sample T-test are shown in table (6):

Table 6. Statistical Results of One sample T- test

Dimension	N	Mean	Std.	DF.	T-value	P-value	Result
Part I: Profile Disclosure							
1-Profile	105	2.80	0.39	104	31.412	0.001**	H.S
2- Reporting Parameters	105	2.70	0.36	104	30.793	0.001**	H.S
1-Total: Profile Disclosure	105	2.75	0.37	104	31.932	0.001**	H.S
Part II: (Standard Disclosures)							
1- Economic Aspects	105	2.68	0.36	104	30.838	0.001**	H.S
2- Environmental Aspects	105	2.23	0.32	104	22.721	0.001**	H.S
3- Labor Practices and Decent work	105	2.52	0.37	104	25.482	0.001**	H.S
4- Human Rights Practices	105	2.19	0.32	104	19.007	0.001**	H.S
5- Society Aspects	105	2.40	0..43	104	19.224	0.001**	H.S
6- Product Responsibility Aspects	105	2.45	0.43	104	20.249	0.001**	H.S
2- Total: Standard Disclosures	105	2.43	0.30	104	27.750	0.001**	H.S
Part III: Performance Indicators							
1-Economic Performance Indicators	105	2.65	0.39	104	27.570	0.001**	H.S
2-Environmental Performance Indicators	105	2.20	0.31	104	19.854	0.001**	H.S
3-Labor Practices and Decent Work Indicators	105	2.49	0.35	104	25.387	0.001**	H.S
4-Human Rights Indicators	105	2.22	0.38	104	16.869	0.001**	H.S
5-Society Indicators(SO)	105	2.44	0.31	104	27.450	0.001**	H.S
6-Product Responsibility Indicators	105	2.57	0.35	104	28.425	0.001**	H.S
3- Total: Performance Indicators	105	2.44	0.27	104	31.329	0.001**	H.S
Total Accounting Disclosure of Social Responsibility by Listed Companies in Saudi Stock Market	105	2.54	0.27	104	34.579	0.001**	H.S

** Significant level less than (0.05)*
*** Significant level less than (0.01)*

From table (6) it is clear:

- Regarding to total accounting disclosure of social responsibility by listed companies in Saudi stock market, the results conclude that there are significant differences between the average samples. While, the value of "T-test" reached to (34.579) with an average of arithmetic mean (2.54).This is meaning that the average value of the mean is higher of the neutral value (1.5) and is going to be the degree of Fully Disclosed/ Covered , at significant level lower than (0.05).

In other words, Saudi companies used standalone reports separate from their annual reports for their accounting disclosure of social responsibility& sustainable development disclosure. As a result, Saudi companies adopted the GRI requirement, which claimed that the disclosure of sustainable development should be in standalone reports and divided into three parts (Part I: Profile Disclosure, Part II: Standard Disclosure, and Part III: Performance Indicators**.** Consequently, hypothesis I is accepted

-Concerning to Part I: Profile Disclosure, it is appear that there are significant differences between the average samples. While, the value of "T-test" reached to (31.412) with an average of arithmetic mean (2.75). This is meaning that the average value of the mean is higher of the neutral value (1.5) and is going to be the degree of fully disclosed/ covered**,** at significant level lower than (0.05). These results indicate that, Saudi company's commitment with fully disclosed form regarding part I of GRI requirements (**Profile** Disclosure**)**. As a result, hypothesis 1 concerning Part I is accepted.

- Concerning to Part II: (Standard Disclosures) **Disclosure** on Management Approach (DMAs)**,** it is appear that there are significant differences between the average samples. While, the value of "T-test" reached to (27.750) with an average of arithmetic mean (2.43). This is meaning that the average value of the mean is higher of the neutral value (1.5) and is going to be the degree of fully disclosed/ covered**,** at significant level lower than (0.05). This result indicate that, Saudi companies' commitment with fully disclosed form regarding part II of GRI requirements (Standard Disclosures**)**. As a result, hypothesis 1 concerning Part II is accepted.

- In relation to Part III: Performance Indicators, the results conclude that there are significant differences between the average sample. While, the value of "T-test" reached to (31.329) with an average of arithmetic mean (2.44). This is meaning that the average value of the mean is higher of the neutral value (1.5) and is going to be the degree of fully disclosed/ covered**,** at significant level lower than (0.05). This result show that, Saudi companies commitment with fully disclosed form regarding part III of GRI requirements (Performance Disclosures**)**. As a result, hypothesis 1 concerning Part III is accepted.

Generally, hypothesis 1 in all its three Parts is accepted. While, the results show that Saudi companies used standalone reports separate from their annual reports for their accounting disclosure of social responsibility& sustainable development disclosure.

7-2: Hypothesis 2: This hypothesis formulated as follows:

H2: *Saudi' Companies will design their sustainable development reports according to the Global Reporting Initiatives (GRI) requirements.*

The researcher used **One Way ANOVA (F - Test):** To determine the differences between accounting disclosure of social responsibility by listed companies in Saudi stock market. The results of **One Way ANOVA (F - Test):** are shown in table (7) as follows:

Table 7. Statistical Results of One Way ANOVA (F Test)

Dimension	*Parts*	*N*	*Mean*	*Std.*	*F-Test*	*P-value*	*Sig.*
Disclosure of Social Responsibility Practices	Profile Disclosure	105	2.75	0.37	36.669	0.001**	Sig
	Standard Disclosures	105	2.43	0.30			
	Performance Indicators	105	2.44	0.27			

*** Significant level less than 0.01*
** Significant level less than 0.05*

From the table (7) it is clear:

- That there are significant differences between Saudi' Companies regarding their accounting disclosure of social responsibility & sustainable development disclosure. While, the value of (F-Test) reached to (36.669) at significant level less than (0.01).Regarding, the design of sustainable development reports according to the requirements of Global Reporting Initiatives (GRI). The results indicate that Saudi' Companies design their social responsibility & sustainable development reports to suit with the requirements of GRI. While, the means for GRI Parts: (Part 1: Profile Disclosure), (Part II: Performance Indicators), and (Part III: Standard Disclosures), were (2.75), (2.44), and (2.43), respectively. Accordingly, Saudi companies adopted the requirements of GRI in their disclosure of social responsibility & sustainable development. Consequently, hypothesis 2 is accepted.

7-3: Hypothesis 3: This hypothesis formulated as follows:

H3: *There are significant differences between commitment of Saudi' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors.*

The researcher used **One Way ANOVA (F - Test):** To determine the significant differences between commitment of Saudi' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors. The results of **One Way ANOVA (F - Test):** are shown in table (8) as follows:

Table 8. Statistical Results of One Way ANOVA (**F- Test**)

Parts	*Sectors*	*N*	*Mean*	*Std.*	*F-Test*	*P-value*	*Sig.*
1-Profile Disclosure	Banking	51	2.95	0.05	30.462	0.001**	Sig
	Petrochemical	22	2.83	0.24			
	Real Estate Investment	24	2.45	0.45			
	Power& Utilities	8	2.20	0.43			
2-Standard Disclosures	Banking	51	2.52	0.24	12.229	0.001**	Sig
	Petrochemical	22	2.54	0.27			
	Real Estate Investment	24	2.27	0.20			
	Power& Utilities	8	2.02	0.32			
3-Performance Indicators	Banking	51	2.52	0.17	9.394	0.001**	Sig
	Petrochemical	22	2.42	0.27			
	Real Estate Investment	24	2.35	0.28			
	Power& Utilities	8	2.06	0.36			

*** Significant level less than 0.01*
** Significant level less than 0.05*

From the table (8) it is clear:

1-There are significant differences between commitments of Saudi' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors. According to part 1" Profile Disclosure " as the value of (F-test) equal to (30.462) at significant level less than (0.01), and for the benefit of sector (Banking), (Petrochemical), (Real Estate Investment), and (Power& Utilities).While, the means reached to (2.95), (2.83), (2.45), and (2.20), respectively.

2-There are significant differences between commitments of Saudi' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors. According to part 2" Standard Disclosures " as the value of (F-test) equal to (12.229) at significant level less than (0.01), and for the benefit of sector (Petrochemical), (Banking), (Real Estate Investment), and (Power& Utilities). While, the means reached to (2.54), (2.52), (2.27), and (2.02), respectively.

3-There are significant differences between (Sectors), according to part 3" Performance Indicators" as the value of (F-test), equal to (9.394) at significant level less than (0.01) and for the benefit of sector (Banking), (Petrochemical), (Real Estate Investment), and (Power& Utilities). While, the means reached to (2.52), (2.42), (2.35), and (2.06), respectively.

All the above results indicate that there are significant differences between commitments of Saudi' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors. Consequently, hypothesis 3 is accepted.

7-4: Hypothesis 4: This hypothesis formulated as follows:

H4: There are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of social responsibility & sustainable development practices according to their academic qualifications, occupational position, and their work experience.

To determine these significant differences, the researcher used **One Way ANOVA (F -Test).** The results of **One Way ANOVA (F - Test)** for each qualification are shown in tables (from 9 to 11) as follows:

1-academic qualifications:

Table 9. Statistical Results of One Way ANOVA **(**F- Test**)** for academic qualifications

Parts	*academic qualifications*	*N*	*Mean*	*Std.*	*F-test*	*P-value*	*Sig.*
1- Profile Disclosure	MSc	2	3	0.0	1.102	0.33	N .Sig
	BSc	100	2.7	0.37			
	Others	3	3	0.0			
2-Standard Disclosures	MSc	2	2.39	0.0	1.080	0.34	N .Sig
	BSc	100	2.42	0.31			
	Others	3	3.68	0.20			
3-Performance Indicators	MSc	2	2.59	0.0	0.849	0.43	N .Sig
	BSc	100	2.43	0.26			
	Others	3	2.27	0.47			

From table (9) it is clear that:

1- There are no significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part 1: "Profile Disclosure "due to differences in their academic qualifications. While, the value of (F-test) equal to (1.102) at significant level less than (0.05).

2-There's no significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part 2" Standard Disclosures "due to differences in their academic qualifications. While, the value of (F-test) equal to (1.080) at significant level less than (0.05).

3-There's no significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part: 3" Performance Indicators" due to differences in their academic qualifications. While, the value of (F-test) equal to (0.849) at significant level less than (0.05).

2-Occupational position:

Table 10. Statistical Results of One Way ANOVA **(**F- Test**)** for occupational position

Parts	*occupational position*	*N*	*Mean*	*Std.*	*F-test*	*P-value*	*Sig.*
1-Profile Disclosure	Executive Manager	18	2.69	0.40	2.511	0.06	N .Sig
	Financial Manager	24	2.87	0.25			
	Accountant	56	2.70	0.40			
	External Auditor	7	3.0	0.0			
2-Standard Disclosures	Executive Manager	18	2.55	0.22	7.244	0.001**	Sig
	Financial Manager	24	2.48	0.28			
	Accountant	56	2.33	0.31			
	External Auditor	7	2.78	0.0			
3-Performance Indicators	Executive Manager	18	2.46	0.22	4.548	0.005**	Sig
	Financial Manager	24	2.48	0.23			
	Accountant	56	2.35	0.29			
	External Auditor	7	2.70	0.0			

*** Significant level less than 0.01*
** Significant level less than 0.05*

From table (10) it is clear that:

1- There's no significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part 1: "Profile Disclosure "due to differences in their occupational position. While, the value of (F-test) equal to (2.511) at significant level less than (0.05).

2- There are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part 2: "Standard Disclosures "due to differences in their occupational position. While, the value of (F-test) equal to (7.244) at significant level less than (0.01), and for the benefit of (External Auditor), (Executive Manager), (Financial Manager), and (Accountant) position. As, the mean equal to (2.78), (2.55), (2.48), and (2.33), respectively.

3- There are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part 3:" Performance Indicators" due to differences in their occupational position. While, the value of (F-test) equal to (4.548) at significant level less than (0.01), and for the benefit of (External Auditor), (Financial Manager), (Executive Manager), and (Accountant) position. As, the mean equal to (2.70), (2.48), (2.46), and (2.35), respectively.

3- Work experience:

Table 11. Statistical Results of One Way ANOVA (F- Test) for work experience

Parts	*Work experience*	*N*	*Mean*	*Std.*	*F-test*	*P-value*	*Sig.*
1-Profile Disclosure	< 1 Year	2	2.92	0.0	1.705	0.06	N .Sig
	1: < 5 Years	44	2.75	0.36			
	5:10 years	50	2.71	0.39			
	> 10 Years	9	3.0	0.0			
2-Standard Disclosures	< 1 Year	2	2.36	0.0	2.797	0.04*	Sig
	1: < 5 Years	44	2.43	0.29			
	5:10 years	50	2.38	0.32			
	> 10 Years	9	2.69	0.16			
3-Performance Indicators	< 1 Year	2	2.45	0.0	2.981	0.03*	Sig
	1: < 5 Years	44	2.40	0.26			
	5:10 years	50	2.41	0.28			
	> 10 Years	9	2.68	0.04			

*** Significant level less than 0.01*
** Significant level less than 0.05*

From table (11) it is clear that:

1- There's no significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part 1: "Profile Disclosure "due to differences in their work experience. While,

The value of (F-test) equal to (1.705) at significant level less than (0.05).

2- There are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part 2: "Standard Disclosures "due to differences in their work experience. While, the value of (F-test) equal to (2.797) at significant level less than (0.05), and for the benefit of category: > 10 Years, 1: < 5 Years, 5:10 years, and < 1 Year. As, the mean equal to (2.69), (2.43), (2.38), and (2.36), respectively.

3- There are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of part 3:" Performance Indicators" due to differences in their work experience. While, the value of (F-test) equal to (2.981) at significant level less than (0.05), and for the benefit of (category: > 10 Years, < 1 Year, 5:10 years, and 1: < 5 Years. As, the mean equal to (2.68), (2.45), (2.41), and (2.40), respectively.

All the above results, indicate that there are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of social responsibility & sustainable development practices according to their, occupational position, and their work experience. While, the results indicate that there's no significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of social responsibility & sustainable development practices according to their academic qualifications. Consequently, hypothesis 4 is partially accepted.

8-Research Conclusion & Recommendation:

According to the statistical results the researcher reached to the following conclusions:

1- The Cronbach's alpha coefficient for the whole sample size reached to (0.863).Therefore the reliability degree was high for the sample size (0.928).

Based on the statistical results of One sample T- test**,** hypothesis 1 in all its three Parts is accepted. While, the results show that Saudi' companies used standalone reports separate from their annual reports for their accounting disclosure of social responsibility& sustainable development disclosure. While, the value of "T-test" reached to (34.579) with an average of arithmetic mean (2.54) at significant level lower than (0.05). As a result, Saudi' companies adopted the GRI requirement**. Consequently, hypothesis 1 is accepted.**

2- The statistical results of One Way ANOVA (F-test) indicate that Saudi' companies design their social responsibility & sustainable development reports to suit with the requirements of GRI. While, the value of (F-Test) reached to (36.669) at significant level less than (0.01). This is mean that, Saudi' companies adopted the requirements of GRI in their disclosure of social responsibility & sustainable development. **Consequently, hypothesis 2 is accepted.**

3-The statistical results of One Way ANOVA (F - test) indicate that there are significant differences between commitment of Saudi' companies concerning their disclosure of social responsibility & sustainable development practices according to their industry sectors. **Consequently, hypothesis 3 is accepted.**

4- The statistical results of One Way ANOVA (F -test) indicate that there are significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of social responsibility & sustainable development practices according to their, occupational position, and their work experience. While, the results indicate that there's no significant differences between respondents' perceptions regarding the commitment of companies concerning their disclosure of social responsibility & sustainable development practices according to their academic qualifications. **Consequently, hypothesis 4 is partially accepted.**

Also, based on the statistical results the researcher concludes to the following **recommendations:**

The current study applied on a sample of Saudi' companies which covered four sectors (Banking, Petrochemical, Power & Utilities and Real Estate Investment. Also, the current study adopted quantitative approach to explore accounting disclosure of social responsibility & sustainable development for Saudi' registered companies. Due to these limitations, a future research is needed to explore the motivations which encourage Saudi' companies toward accounting disclosure of social responsibility & sustainable development. As well as, to determine the obstacles of disclosure which related to accounting disclosure of social responsibility inside Saudi' companies in different sectors. As well as, a future research is needed to used the content analysis approach to analysis the annual reports across a period of time to determine the progress of accounting disclosure of social responsibility& sustainable development inside Saudi' companies.

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CORPORATE GOVERNANCE AND RISK DISCLOSURE: EVIDENCE FROM SAUDI ARABIA

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Abstract

Purpose- This study aims to empirically explore corporate governance and the demographic traits of top management teams as the determinants of voluntary risk disclosure practices in listed banks. This study also aims to contribute to the existing risk disclosure literature by investigating the effect of a combination of determinants on voluntary risk disclosure practices in an emerging market. Furthermore, this study seeks to contribute to risk disclosure theories by employing the upper echelons theory to examine the determinants and their effects on voluntary risk disclosure practices.
Design/Methodology/Approach- This investigation uses manual content analysis to measure the levels of risk disclosure in all Saudi listed banks from 2009 to 2013. It also uses ordinary least squares regressions analysis to examine the joint effect of corporate governance and demographic traits on risk disclosure.
Results- The empirical findings show that external ownership, audit committee meetings, gender, size, profitability and board size are primary determinants of voluntary risk disclosure practices in Saudi listed banks. The remainder of the independent variables of both corporate governance mechanisms and demographic traits are insignificantly correlated with voluntary risk disclosure practices in Saudi listed banks. This study supports upper echelons theory and further encompasses demographic research into the risk disclosure field.
Potential Implications- The empirical findings offer several important implications by reporting to banks' stockholder, regulatory bodies and any other interested group on the importance of corporate governance and demographic determinants, which can be used to augment risk reporting in the banking industry. This study also backs upper echelons theory and encourages further demographic research into the risk disclosure field.
Originality- To the best of the researcher's knowledge, no prior research has been conducted on the determinants of risk disclosure in Saudi Arabian listed banks. Therefore, this is the first study to investigate the determinants of risk disclosure in the context of Saudi Arabia.

Keywords: Banks, Saudi Arabia, Risk Disclosure Determinants, Upper Echelons Theory, Board Demography

1. INTRODUCTION

Regulatory institutions have had to reconsider the basis of banking regulations due to the global financial crisis. Beltratti and Stulz (2012) and Erkens et al. (2012) argued that this event resulted in serious concerns regarding risk disclosures. Due to this catastrophic corporate failure, investors' and stakeholders' attention has been drawn to the importance of risk reporting (Linsely et al., 2008). These concerns are coherent with the argument put forward by Meier et al. (1995), Schrand and Elliot (1998), Beretta and Bozzolan (2004), Cabedo and Tirado (2004), Ahmed et al. (2004), Linsley, Shrives and Crumpton (2006), Linsley and Shrives (2006), Abraham and Cox (2007), Linsley and Lawrence (2007) and Hassan (2009), which is that risk disclosure is a pivotal aspect of business risks, where reporting offers greater transparency and enhances investors' confidence. As is evident, the global crisis also resulted in a deceleration of the global economy and thus the demand for risk reporting increased. This had led to a number of regulatory reforms, for example, the birth of the International Financial Reporting Standard 7 Financial Instruments and BASEL II, which includes greater measures on risk transparency and disclosure. It also emphasises the significance of informative risk disclosure in the banking industry for the overall enhancement of market discipline. The disclosure of informative risk information in banks has been cited as instrumental in eluding banking catastrophes (Financial Stability Board, 2012).

Disclosure of financial risk information is important since it increases transparency, thus giving shareholders' more confidence and lowering their uncertainty about future cash flow as well as making it more viable for corporations to obtain external funding at a cost of capital, hence increasing capital market activities in general (Deumes, 1999; Easley and O'Hara, 2004; Kothari et al., 2009). Institutions are encouraged not only to report their activities but also the risks associated with them as well as their strategy for and capacity to manage these risks (ICAEW, 1999).

However, prior research shows that financial statements suffer from serious deficiencies and inadequacies in terms of the provision of risk and uncertainty disclosures (Cabedo and Tirado, 2004). One of the main causes of the global financial disaster in 2007 was the absence of adequate risk disclosure available to investors. This dearth of risk disclosure prohibited investors from having adequate appropriate information to evaluate corporations' risk reportage (Rahman, 1998). Solomon et al. (2000) found that institutional investors consider risk reporting inadequate in the UK. Therefore, this leaves investors unable to adequately assess a firm's risk profile, and hence they are unable to deliberate on the scale and categories of risk in their venture decisions (Linsley et al., 2008). This dearth of risk information in annual reports indicates the necessity to examine the determinants of risk disclosure in different settings, particularly developing markets, such as in our case study, Saudi Arabia.

Whilst previous literature discusses extensively the relationship between the determinants of risk disclosure in developed economies (Lajili and Zeghal, 2005; Linsely and Shrives, 2006; Abraham and Cox, 2007; Konishi and Ali, 2007; Deumes and Knechel, 2008; Hill and Short, 2009; Taylor, Tower and Neilson, 2010), there is very little mention of developing markets (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdullah and Hassan, 2013). Furthermore, none of the preceding risk disclosure studies have investigated the impact of the joint effect of corporate governance and demographic variables on risk disclosure practices. This study aims to investigate risk disclosure practices in an emerging market, Saudi Arabia, empirically examining corporate governance and demographic traits as the determinants of risk reporting practices in Saudi listed banks. To the best of the researcher's knowledge, this is the only study that has attempted to examine the joint effect of corporate governance and demographic traits on risk disclosure in emerging markets, and thus this research makes a novel contribution to the existing accounting literature. Furthermore, this study contributes to the risk disclosure literature by employing upper echelons theory in order to examine the determinants and their effects on risk disclosure practises. In addition, this is the only study that examines the demographic traits of the board of directors in a developing country. In particular, this study contributes to the board demography, governance and risk disclosure literature by theoretically justifying and empirically investigating the implications of such determinants and theories in regards to risk disclosure in the banking industry. This study is motivated, firstly, by the call made by Dobler et al. (2011) for more investigation into the influence of corporate governance determinants on risk disclosure, especially in developing markets and, secondly, by the call made by Abdullah, Hassan and McClelland, (2015) for more research into the relationship between demographic characteristics and risk disclosure.

This study differs from Mousa and Elamir (2013), Mokhtar and Mellett (2013) and Abdullah, Hassan and McClelland (2015), who examined a single attribute of corporate governance characteristic and from Amran, Bin and Hassan (2009), Hassan, (2009), Abdullah and Hassan (2013) and Al-Shammeri (2014), who did not investigate corporate governance and demographic attributes by comprehensively examining corporate risk disclosure and exploring demographic characteristics. Moreover, not a single study has examined corporate governance as a determinant of risk disclosure in the Saudi context. Also, not one of the above-mentioned studies explored the demographic traits of a top management team in emerging markets. This investigation differs from all of the above-mentioned studies in that it examines the demographic characteristics of the top board of directors, employing upper echelons theory to examine risk reporting practices in the banking industry. Furthermore, this study differs from Amran, Bin and Hassan, (2009), Hassan, (2009), Abdullah and Hassan, (2013), Mousa and Elmir, (2013), Mokhtar and Mellett, (2013), Al-Shammeri, (2014) and Abdullah, Hassan and McClelland (2015) by being the first to examine risk disclosure over a period of five years in a developing economy.

The empirical findings show that large banks with high outsider ownership, high profitability, high regularity of audit committee meetings and gender are more likely to demonstrate higher levels of risk disclosure practices. Also, risk disclosure is negatively affected by board size. Moreover, as can be seen from our empirical findings, external ownership, audit committee meetings, gender, size, profitability and board size are primary determinants of risk disclosure practices in Saudi listed banks, while the rest of the independent variables of both corporate governance mechanisms and demographic traits are insignificantly correlated with risk disclosure practices in Saudi listed bank. Our findings have several important implications for banks stockholder, regulatory bodies and any other interested group on the importance of corporate governance and demographic determinants, which can be used to augment risk reporting in the banking industry. This study also supports upper echelons theory and further encompasses demographic research into the risk disclosure field.

The remainder of the paper proceeds as follows: section 2 discusses the theoretical framework; section 3 develops the hypotheses; section 4 outlines the research design and methodology; section 5 discusses empirical analysis; section 6 is the discussion; and section 7 offers conclusions.

2. CORPORATE GOVERNANCE AND BANKING

It has been argued that compared with other industries, the banking industry is the industry which has the highest requirements for corporate governance and disclosure regulations. As such industry is a financial intermediary body which is an important part in every country's economy and has a major role in the financial system of that country (Khaled, 2008). Furthermore, the banking industry is based on trust, however banks as financial entities deal with all kinds of risks on a daily bases since it is a part of their business (Barakat and Hussainey, 2013). Therefore, to keep public confidence and decrease risks, Saudi banks need to have good financial performance and demonstrate corporate governance best practice. Such behaviour is greatly important for shareholders when considering investment decision makings.

3. THEORETICAL FRAMEWORK

Corporate governance has been defined by Solomon and Solomon (2004: 14) as "the system of checks and balances, both internal and external to companies, which ensures that companies discharge their accountability to all stakeholders and act in a socially responsible way in all areas of their business activities". Also, Sharman and Copnell, (2002) defined corporate governance as "the system and process by which entities are directed and controlled to enhance performance and sustainable shareholder value, and it is concerned with the effectiveness of management structure, the sufficiency and reliability of corporate reporting and the effectiveness of risk management systems".

The literature has established a robust relationship between disclosure and corporate governance. The FRC (2008) affirmed that management effectiveness, firm performance and shareholder value is supported by the combined code on corporate governance, which also promotes certainty in corporate disclosure and governance. Mallin (2002: 253) stated that "corporate governance codes and their recommendations undoubtedly contribute towards increased transparency and disclosure". Previous studies by Solomon et al. (2000) and Solomon and Solomon (2004) have also contributed to the relationship between corporate governance and risk disclosure.

In concordance with various theoretical debates (i.e. agency theory regards corporate governance as a control mechanism), the literature has generally reported a link between reporting and corporate governance (Ho and Wang, 2001; Elshandidy and Neri, 2015). For instance, the impact of corporate governance attributes on disclosure exercises has proven to diminish information asymmetries and enhance the functionality of organisational stewardship. Furthermore, the precision of risk information is used as an external control mechanism, which lessens agency costs and is of great importance to all interested groups (investors and analysts). This provides all interested groups with the functionality to formulate precise investment decisions and evaluate institutions' risk profiles effectively (Elshandidy and Neri, 2015; Campbell et al., 2014; Kravet and Muslu, 2013; Miihkinen, 2013).

The theoretical association between corporate governance and disclosure has mainly been examined through information asymmetry (signalling theory) and agency theory. In the case of future disclosure examinations, the literature has proposed the employment of agency and signalling theories to examine the links between disclosure and managerial incentives (Core, 2001; Beyer et al., 2010). Moreover, corporate governance mechanisms have been recognised as controlling agency problems and guaranteeing that directors' actions are in the best interest of shareholders (Ho and Wong, 2001).

Agency theory explains the disagreements between directors and shareholders when directors' interests differ from those of shareholders. However, it has been established by a number of prior investigations that various monitoring mechanisms, such as audit committees, independent external auditing and well-timed financial reviews (Deumes and Knechel, 2008; Spira and Page, 2003) are able to mitigate agency problems since they provide top management with more reliable information for financial reporting purposes. Jensen and Meckling (1976) argue that monitoring plays a central part in controlling the conduct of directors. Healy and Palepu (2001) proposed four resolutions for agency problems, the second of which includes corporate governance, with an emphasis on the board of directors' responsibility to monitor and discipline management in the best interest of outside owners.

Information asymmetry conflicts (also underpinned by signalling theory) between internal directors and external investors could extend to internal control systems in the case of corporate governance (Akerlof, 1970; Spence, 1973). Accordingly, outsiders cannot observe internal control activity and conduct in some circumstances due to the lack of regulations and guidance on internal control activity and conduct. Therefore, shareholders tend not to have a full understanding of the nature and scope of internal control systems. This leads to shareholders having difficulty appreciating managers' efforts to counter risks. Yet, managers could reduce information asymmetries by using their discretion to provide more information on internal control and risk management, potentially benefitting analysts, investors and other market users (Lajili and Zeghal, 2005; Deumes and Knechel, 2008).

It has been noticed from prior literature that agency theory and information asymmetry, both of which underpin signalling theory, are deployed to explicate risk disclosure to investors (Abraham and Cox, 2007; Lopes and Rodrigues, 2007; Vandemaele et al., 2009; Elshandidy et al., 2013). When internal management decides to disclose risk information to decrease agency conflicts, this culminates in mitigating information asymmetries between both parties. However, internal management might sometimes choose to release some risk information to signal their competence and capability to handle risks to distinguish themselves from the rest, which might translate into an improved reputation and some monetary gain. In addition to formulating this paper's hypotheses, the following section discusses a number of corporate governance attributes and their potential impact on risk disclosure practices.

Corporate governance studies investigate the relationship between corporate governance attributes and corporate performance. This investigation concentrates on the impact of corporate governance attributes on risk disclosure. Whilst a number of studies have looked into the effect of corporate governance on disclosure in developed countries, the impact of corporate governance on risk disclosure in developing markets has received scant attention. Thereafter, this research will try to address this gap and contribute to the literature by examining the effect of corporate governance attributes on risk disclosure practices in

Saudi Arabia.

The Upper Echelons Theory

In pioneering work by Hambrick and Mason (1984), the two concepts of the dominant coalition and demographic research were combined. The authors suggested that certain organizational effects are linked to top management teams having specific demographic profiles. Moreover, upper echelons theory proposes that the characteristics of top management, in particular demographic characteristics, might affect strategic decision-makings and hence performance. At the centre of this theory is the notion that the background knowledge and values of corporate directors impact upon the essential strategic decisions made by these central corporate managers. Hambrick and Mason also claimed that observable attributes, e.g. age, practical experience and tenure, could function as practical proxies for the cognitive base that directs top directors' decisions. Moreover, upper echelons theory is categorized according to several important elements. As highlighted by Hambrick and Mason (1984), demographic features influence strategic decision making and performance. Thus, in this study the concept is extended to the determinants of risk disclosure, investigating whether such features of the top board could impact upon the determinants of risk reportage in the banking sector.

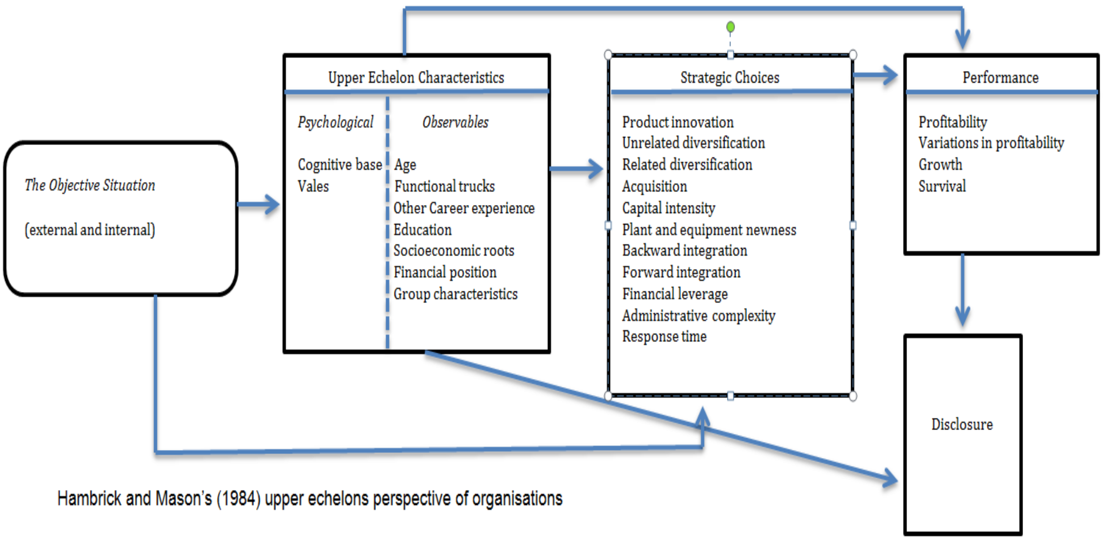

Figure 1. The Upper echelons model

Above is the adapted upper echelons framework, which is based on three fundamental principles: first, the strategic choices taken by institutions (the representations of the cognitive bases and values of the dominant players, the top board members); second, the cognitive bases and values of such players (the ramifications of their observable characteristics, such as functional trucks and education); and third, significant institutional consequences that are related to the observable characteristics of such players. In fact, this theory proposes that institutional performance is only a representation of its top board directors. However, the fourth dimension (disclosure) added to the above framework can be directly influenced by upper echelons theory characteristics or indirectly by the ramifications of the overall performance of the company, where sometimes risk disclosure would mean survival for an institution. This model also plays a vital part in determining key institutional effects, such as the provision of risk disclosure. It also grants us the opportunity to investigate the core determinants of board demography in relation to risk disclosure.

This theory implies that certain organizational effects are linked to top management teams having specific demographic profiles. Moreover, upper echelons theory proposes that the characteristics of top management, in particular demographic characteristics, might affect strategic decision-makings and hence performance. At the centre of this theory is the notion that the background knowledge and values of corporate directors impact upon the essential strategic decisions made by these central corporate managers. Moreover, this theory incorporates several important elements such as the demographic features, strategic decision making and performance. Thus, in this study the concept is extended to the determinants of risk disclosure, investigating whether such features of the top board could impact upon the determinants of risk reportage in the banking sector. Such demographic traits play an important role in determining key institutional effects, such as the provision of risk disclosure in the annual reports. This theory will also assist this investigation in interpreting the findings of the current study's second question to identify what determines risk information in the annual reports. This theory will also be employed for reinforcing the results to the second research question. It also grants this study the opportunity to investigate the core determinants of board demography in relation to risk disclosure.

This theory has only been used in fields other than disclosure. For example, Peterson et al. (2003) deployed upper echelons theory when examining the determinants of organisational performance, while Tihanyi et al. (2000) used it when exploring the effects of firm international diversification and Mutuku et al. (2008) employed it when studying the quality of decisions and performance. To the best of the researcher's knowledge, no prior research has investigated disclosure in relation to upper echelons theory. Hence, this is the first study to extend the employment of upper echelons theory into the area of disclosure.

4. LITERATURE

While many studies have examined the individual characteristics of corporate governance, such as ownership structure and independent outside directors (Mohobbot, 2005; Konishi and Ali, 2007; Deumes and Knechel, 2008; Hill and Short, 2009; Taylor, Tower and Neilson, 2010), only a few have explored corporate governance characteristics in developed countries (Abraham and Cox, 2007; Oliveira, Rodrigues and Craig, 2011b; Elzahar and Hussainey, 2012), Apart from Mousa and Elamir (2013), Mokhtar and Mellett (2013) and Abdullah, Hassan and McClelland (2015), who examined a single attribute of corporate governance characteristics, percentage of foreign ownership, duality and board size, the literature on developing economies has not explored comprehensively corporate governance characteristics (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdullah and Hassan, 2013; Al-Shammeri, 2014). Furthermore, not a single study has examined corporate governance as a determinant of risk disclosure in the Saudi context in particular. Therefore, this is the first study that focuses on the Saudi market in that domain. In addition, the current study is the only one that explores corporate governance characteristics and risk disclosure in the GCC market since the previous literature focused on firm-specific characteristics.

Furthermore, whilst a small number of studies have examined risk disclosure over more than a one year period in developed economies (Cabedo and Tirado, 2004; Deumes, 2008; Deumes and Knechel, 2008; Rajab and Schachler, 2009; Hill and Short, 2009; Taylor, Tower and Neilson, 2010; Elshandidy, Fraser and Hussainey, 2015), none have examined risk disclosure over more than a one year period in developing economies (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdullah and Hassan, 2013; Mousa and Elmir, 2013; Al-Shammeri, 2014; Abdullah, Hassan and McClelland, 2015). Therefore, the current study is the only study that examines risk disclosure over a period of five years in developing economies.

While nonfinancial and mixed institutions in developed countries have been widely researched and reported upon in the literature (Carlon, Loftus and Miller, 2003; Beretta and Bozzolan, 2004; Linsley and Shrives, 2005; Lajili and Zeghal, 2005; Combes-Thuelin, Henneron and Touron, 2006; Abraham and Cox, 2007; Deumes and Knechel, 2008; Hill and Short, 2009; Taylor, Tower and Neilson, 2010; Oliveira, Rodrigues and Craig, 2011b; Dobler, Lajili and Zeghal, 2011; Elzahar and Hussainey, 2012; Elshandidy, Fraser and Hussainey, 2015), only a few studies have focused on financial institutions in developed countries (Solomon, Solomon and Norton, 2000; Linsley, Shrives and Crumpton, 2006; Oliveira, Rodrigues and Craig, 2011a; Maffei et al., 2014) and no investigations have been conducted on financial institutions in developing markets (Amran, Bin and Hassan, 2009; Hassan, 2009; Abdullah and Hassan, 2013; Mousa and Elmir 2013; Al-Shammeri, 2014; Abdullah, Hassan and McClelland, 2015). Therefore, this is the only study that investigates financial institutions in developing economies, particularly Saudi Arabia. Also none of the above studies have examined the demographic attributes of top management teams nor have they employed upper echelons theory in examining the nature and determinates of risk disclosure. Therefore, this is the only study that examines the demographic traits of the top boards in developing countries. This is a response to the call for more research into the relationship between the demographic characteristics and risk disclosure made by Abdullah, Hassan and McClelland (2015). Based on the developing and appropriate preceding literature on disclosure and risk disclosure in relation to corporate governance, a number of corporate governance attributes will be presented along with their potential impact on risk disclosure practices. This paper's hypotheses will thus be formulated.

5. HYPOTHESES DEVELOPMENT

5.1. Ownership Structure

Corporate governance and financial reporting have been markedly affected by ownership structure and corporate culture (Beattie et al., 2001). It has been argued that ownership and governance (which constitute the board of directors) could affect companies' risk reporting since the directors compose the yearly reports for shareholders (Abraham and Cox, 2007). Moreover, when reviewing the literature for the purpose of conducting this investigation, it was noticed that a variety of proxies have been applied to the ownership structure variable. These are: ownership concentration; institutional ownership; the number of shareholders; government ownership; the proportion of shares owned by outsiders; family ownership; managerial ownership; the percentage of closely held shares (CHS); foreign ownership and the NOSH-Factor, which combines the free-float shares; the percentage of total share available to the ordinary investor; total strategic holdings; and investment-company held shares. However, empirical research has discovered a mixture of outcomes in this regard, which might be explained by the dissimilarity between the employment measurement and the ownership factor.

As a consequence, Fama and Jensen (1983) stated that modern establishments are distinguished by the detachment of ownership from control i.e. detaching management decisions from monitoring decisions. Additionally, Cooke (1989b, p.177) stated, "Where there is a divorce of ownership from control, the potential for agency costs exists because of conflict between, firstly, shareholders and managers and, secondly, bondholders and shareholder-managers". Owusu-Ansah (1998) confirmed that ownership structure and disclosure connection is explained by agency theory since modern corporations are distinguished by the detachment of ownership from control.

On the one hand, corporations with dispersed public ownership of securities will be inclined to have high agency costs, whereby stockholders can pressurize management for more information as part of the monitoring activity. On the other hand, in the event of concentrated ownership, there is little or no physical segregation between owners and managers of the capital and most of the risk related information can be exchanged at boardroom meetings or in a casual manner. Hence, less risk related information will be accessible to the public (Mohobbot, 2005).

Furthermore, information asymmetry can also be related to the discussion on the effect of ownership structure on financial reporting. Concentrated ownership companies may not encounter a high level of information asymmetry via augmented exposure, and these companies are not as easily able to comply with public reportage since most of the information is communicated at meetings and other informal manners (Mohobbot, 2005). What's more, Owusu-Ansah (1998) claimed that when there is extensively distributed ownership, individual shareholders are not in a strong position to influence company disclosure policies and practices owing to not having the power to access the firm's internal information. Conversely, Hossain, Tan and Adams (1994) posit that discretionary reporting tends to be more common in extensively held companies in order for directors to efficiently oversee managers so as to optimize the firm's financial interests and ensure that they are operating in the best interests of the owners. Nevertheless, Kothari (2000) stated that the ownership distribution pattern and dispersed managerial ownership foster the demand for reporting to be high. However, Mohobbot (2005) argued that in the case of concentrated ownership concentration, most of the risk related information could be exchanged at the boardroom meeting or by any other casual manner, which will result in less risk related information being available to the market. Thus, there may be a negative relationship between risk disclosure and the number of shareholders. What's more, Wallace and Nasser (1995) argued that the more people who demand to know about the activities of a company, the more comprehensive the reporting of the company. The authors also proposed that the boost in risk reporting could solve supervising difficulties related to growth in the proportion of the company owned by outsiders.

Konishi and Ali (2007) established that there was an insignificant correlation between the ownership diffusion pattern and the number of risk disclosures. However, the researchers still felt that there was an association between the two variables. They explained that managers could hold a high proportion of stocks and choose not to report all risk related information. Konishi and Ali (2007) confirmed that risk reporting policy is controlled by the board of directors or the top management team, implying that there can be no risk disclosure without their involvement. In addition, Deumes and Knechel (2008) discovered a negative relationship between internal control disclosures and both ownership concentration and managerial ownership. The authors suggested that this could indicate that there are monetary reasons why corporate managers voluntarily disclose more/less information on internal control and that corporate managers evaluate the disclosure's costs and advantages then only disclose if the advantages outweigh the costs.

In spite of this, The Office of Fair Trading (2009) argued that government ownership can influence markets through immediate participation, for example, as market makers or as suppliers and buyers of goods and services or by indirect participation in private markets via taxation, regulations and subsidies. Moreover, Owusu-Ansah (1998) claimed that government ownership could lead to unusual access to corporations' information so as to monitor their investment actions, making them less motivated to increase public disclosure.

Konishi and Ali (2007) acknowledged that the aim of those corporations' disclosure strategies is to respond to the disparities in the demand for public exposure encountered. They also argued that where the government owns the majority of shares, risk reportage would be lower than when ownership is dispersed. This is due to the increased pressure on corporate managers to report more risk related information. However, Cooke (1998) documented an insignificant relationship between government ownership and disclosure.

Nonetheless, Mohobbot (2005) contended that if the number of foreign investors is high, there is more pressure on corporate managers to report higher numbers of risk related disclosures. Furthermore, Mangena and Tauringana (2007) reported a positive relationship between disclosure and foreign holdings, whereas Konishi and Ali (2007) documented an insignificant relationship between the two variables.

In the case of institutional holdings, Hassan (2008) affirmed that company directors respond to demands from institutional environments by adjusting some practices, such as the reportage of risk related information, so as to acquire social legitimacy. Additionally, Taylor (2011) stated that institutional stockholders are expected to reduce asymmetrical information by performing an overseeing role due to close contacts with the management of organizations as well as preventing management from withdrawing risk information. However, Solomon, Solomon and Norton (2000) reported that institutional stockholders in the UK acknowledged that expanded corporate risk disclosure would aid their portfolio investment decision-making, yet they did not support a regulated setting for risk disclosure or any general statement on business risk. Furthermore, Abraham and Cox (2007) discovered that there was a negative relationship between risk disclosure and long-term institutional investors in the UK, whereas they found a positive correlation with short-term investors. However, Taylor (2011) reported that there was no significant association between long-term institutional shareholders and disclosure in Australia. He also discovered a positive correlation between short-term institutional shareholders and risk reportage.

Elshandidy et al. (2013) documented a positive significant correlation between ownership structure (proxied by CHS and NOSH-Factor) and risk disclosure. In addition, some empirical research results have revealed that institutions with lower insider ownership (proxied by CHS) are prone to higher risk disclosure (Elshandidy et al., 2013; Marshall and Weetman, 2007; Gelb, 2000). Also, institutions with higher outsider ownership (proxied by NOSH-Factor) are prone to considerably higher levels of risk disclosure (Elshandidy et al., 2013; Deumes and Knechel, 2008; Abraham and Cox, 2007). Therefore, the following hypotheses were formulated:

H1: *There is a negative relationship between risk disclosure and insider ownership.*

H2: *There is a positive relationship between risk disclosure and outsider ownership.*

5.2. Board Size

To date, there have been few specific investigations into the relationship between board size and risk disclosure. However, a number of researchers have examined board size in the context of voluntary disclosure. Furthermore, Cheng and Courtenay (2006) claimed that there is no consensus regarding a connection between the level of voluntary exposure and board size and that it remains an empirical issue. The same could be said for the relationship between board size and risk disclosure. Moreover, Chen and Jaggi (2000) argued that a large number of directors on the board could lessen the information asymmetry issue and instigate more disclosure. Also, Healy and Palepu (2001) confirmed that the number of directors on the board could affect its control and monitoring operations, though disclosure is regarded as a monitoring item that could be increased.

Conversely, Cheng and Courtenay (2006) agreed that the more directors on the board the less efficient it would be at monitoring management. According to agency theory, bigger boards are bad and corrupt, while smaller boards are good and effective in terms of enhancing performance and disclosure (Jensen and Meckling, 1976). Free rider problems between executives, expanded decision making time, raised costs, poor communication and monitoring could all have an adverse effect on disclosure levels and good practice (Jensen, 1993). However, several recent studies have associated large boards with greater risk disclosure (Allegrini and Greco, 2013; Elshandidy et al., 2013; Ntim et al., 2013; Elshandidy and Neri, 2015)

All in all, the empirical findings on this issue have been mixed. Ntim et al. (2013), Elshandidy et al. (2013), Allegrini and Greco (2013) and Elshandidy and Neri (2015) all found a positive relationship between the number of directors on the board and risk disclosure. In addition, Abeysekera (2010) discovered that there was a positive connection between discourse and board size in Kenya. However, Cheng and Courtenay (2006) established that there was no significant association between the two variables, while Jia et al. (2009) Guest (2009) and Coles et al. (2008) documented a negative relationship between board size and disclosure and performance. Therefore, the following hypothesis was formulated:

H3: *There is a positive relationship between risk disclosure and board size.*

5.3. Independent Directors

It has been claimed by agency theorists that the board of directors acts as a shield and plays a substantial part in corporate governance in terms of decision control and the monitoring of operations (Cheng et al., 2006). However, Ho and Wong (2001) contented that agency theory does not assume that all groups on the board of directors enhance accountability and extend disclosure. There is a mixture of corporate insiders and outsiders on the board, all of whom may have distinctive views on disclosure. The outsiders (independent directors) act as a measure of corporate governance quality and are more likely to minimize agency problems and lower the demand for regulatory intervention in corporate disclosure (Abraham and Cox, 2007). Accordingly, Lopes and Rodrigues (2007) claimed that more independent directors are required on boards of directors to control and monitor the operations of managers and that this leads to more disclosure from corporations.

However, the empirical findings on independent directors and risk disclosure are diverse. Abraham and Cox (2007) and Elshandidy et al. (2013) confirmed that there was a positive correlation between independent directors and risk disclosure, whereas Lopes and Rodrigues (2007) found no significant relationship between risk disclosure and independent directors. Therefore, the following hypothesis was formulated:

H4: *There is a positive relationship between risk disclosure and independent directors.*

5.4. Non-executive Directors

The empirical findings on the influence of non-executive directors on disclosure practices have been mixed. Fama and Jensen (1983) claimed that the existence of non-executive directors on the board could result in the reduction of agency conflicts among owners and managers. Moreover, Barako et al. (2006) argued that non-executive directors are regarded by investors and stockholders as a fundamental control and monitoring element of corporate governance, delivering the indispensable checks and balances required to improve board effectiveness. Also, Haniffa and Cooke (2002) affirmed that non-executive directors are considered to be the control, check and balance mechanism that increases board effectiveness. However, Ho and Wong (2001) contented that agency theory does not assume that all groups on the board of directors enhance accountability and extend disclosure.

In opposition, Abraham and Cox (2007) claimed that an increased number of non-executive directors on the board makes it more likely that stockholders' preferences on accountability and transparency are met. Furthermore, the authors argued that the findings illustrated that the combination of boards plays a substantial part in the transmission of risk related disclosures to shareholders and different groups of directors. As a result, more reportage is predicted if the non-executive directors are in fact performing their monitoring job rather than their perceived-monitoring job, putting pressure on management to release more information (Haniffa and Cooke, 2002; Eng and Mac, 2003).

Berry (2008) confirmed that in his roles as a non-executive director of a number of UK corporations he had endeavored to contribute to the expansion of efficient risk management as well as attempting to clarify the key risks to the board. He also argued that not all non-executive directors are independent and that dependent non-executive directors could have contacts with management which would call to question their role in monitoring, controlling and increasing disclosure levels.

Empirical investigations by Abraham and Cox (2007) and Deumes and Knechel (2008) found that there was no significant relationship between non-executive directors and risk disclosure, whereas, Eng and Mac (2003) and Elshandidy et al. (2013) reported a positive relationship between non-executive directors and risk disclosure. Based on this discussion the following hypothesis was formulated:

H5: *There is a positive relationship between risk disclosure and non-executive directors.*

5.5. Audit Committee Independence

It has been argued that limited research has attempted to examine the link between disclosure and the features of audit committees (Albitar, 2015). As a part of the internal control system and corporate governance, corporations assign audit committees. Audit committee members have to work on behalf of the board of directors and for the benefit of investors. Moreover, Barako et al. (2006) explained that the audit committee can play a supervisory role, which would lead to an enhanced quality of information flowing between stockholders and directors, particularly in the event of financial reporting wherein the two parties hold unequal levels of information. Similarly, Forker (1992) stated that an audit committee can act as an efficient monitoring mechanism that minimizes agency costs and augments disclosure. In addition, Ho and Wong (2001) claimed that because audit committees contain predominantly non-executive managers, they have the power to moderate the amount of information withheld. Audit committees play possibly important part to in ensuring sound corporate governance (Avison and Cowton, 2012)

Furthermore, Taylor (2011) argued that the agency theory argument suggests that the more independent the audit committee is from upper administration, the more probable it is to act in the best interests of the firm's investors in terms of decreasing information asymmetry. The researcher also acknowledged that audit committees have two main responsibilities, firstly, to make sure that risks are coped with and internal controls exist to protect against risks and secondly, to ensure that corporate statements are examined to guarantee the integrity of financial and other investor related disclosures for shareholders.

Nevertheless, the empirical findings on disclosure and audit committee independence have been mixed. Taylor (2011) and Oliveira et al. (2011b) reported a positive association between audit committee independence and risk disclosure. However, they also reported an insignificant association between risk disclosure and the financial expertise of audit committee members. Furthermore, Neri (2010) found an insignificant relationship between these two variables. Therefore, the following hypothesis was formulated:

H6: *There is a positive relationship between risk disclosure and the independence of audit committee.*

5.6. Audit committee size

As previously stated, a part of the internal control system and corporate governance corporations assign audit committees. This concept was first proposed and examined by Forker (1992). He stated that an audit committee can act as an efficient monitoring mechanism that can minimize agency costs and augment disclosure. Moreover, Ho and Wong (2001) claimed that the presence of an audit committee significantly affects the extent of disclosure. Also, the authors claimed that because audit committees contain predominantly non-executive managers, they have the power to moderate the amount of information withheld. Moreover, Chen and Jaggi (2000) argued that a large number of directors on the committee could lessen the information asymmetry issue and lead to more disclosure. Prior empirical research has indicated a positive relationship between disclosure and audit committee size (Barako et al., 2006). Therefore, the following hypothesis was formulated:

H7: *There is a positive relationship between audit committee size and risk disclosure*

5.7. Audit committee meetings

Previous literature has offered pragmatic evidence on the advantages of directors meticulously controlling disclosure, with the number of meetings being a key aspect of this control (Alegrini and Greco, 2013). Karamanou and Valeas (2005) claimed that regular meetings have a fundamental impact on audit committee effectiveness. It has also been argued that regular audit committee meetings are more likely to lead to compliance with responsibilities and the monitoring of financial reporting (to improve the quality of information that flows between stockholders and directors, where the two parties hold unequal levels of information (Barako et al., 2006)). In addition, Chen et al. (2006) affirmed that meeting more regularly decreases the risk of fraud. Karamanou and Vafeas (2005) documented a positive relationship between the regularity of audit committee meetings and the probability of making earnings forecasts, thus leading to greater disclosure. Also, Allegrini and Greco (2013) reported a positive link between the regularity of audit committee meetings and disclosure. Therefore, the following hypothesis was formulated:

H8: There is a positive correlation between the number of meetings of the audit committee and risk disclosure.

5.8. Demographic Variables

There have been a number of examinations of the relationship between the attributes of top organizational managers and various organizational effects (Michel and Hambrick, 1992; Bantel, 1993; Walt and Ingley, 2003; Kang et al., 2007; Mutuku et al., 2008; Adams and Ferreira, 2009). Two essential theoretical advances in the area of organizational research are key. Firstly, Cyert and March (1963) developed the concept of the dominant coalition, which shifts the focus from the individual CEO to the whole team of the board of directors in terms of organizational leadership. The second concept is the increased emphasis on utilizing observable demographic characteristics, such as age, gender, tenure and experience in organizational studies and investigating the link between these attributes and organizational consequences (Pfeffer, 1983; Tehanyi et al., 2000; Mutuku et al., 2008)

In groundbreaking work by Hambrick and Mason (1984), these two concepts, namely the dominant coalition and demographic research, were combined. The authors suggested that certain organizational effects are linked to top management teams having specific demographic profiles. Moreover, upper echelon theory proposes that top management characteristics, in particular their demographic characteristics, could impair strategic decision making. At the centre of this theory is the idea that background knowledge and the values of corporate directors impact upon essential strategic decisions made and acted upon by these central corporate managers. Hambrick and Mason also claimed that observable attributes, for example, age, practical experience and tenure, could function as practical proxies for the cognitive base that guides top directors' decisions.

However, a number of academic researchers have criticized the demographic approach (Pettigrew, 1992; Lawrence, 1997; Aldrich, 1979). Therefore, the main concern is the necessity to access the "black box" that might contain the operative mechanism connecting demographic characteristics to organizational aftermath consequences (Finkelstein and Hambrick, 1996). Pettigrew (1992: 178) claimed that little is known about "the processes by which top teams go about their tasks". Lawrence (1997) illustrated that demographic variables are sometimes employed as representatives for subjective concepts. The author noticed that investigators depending on the demographic approach make a congruence assumption via which demographic variables are employed to represent subjective concepts without offering a logical justification for why this is a valid approach.

Yet, studies investigating team demography and processes have offered important insights into the reported "black box". For instance, Smith et al. (1994), Tehanyi et al. (2000) and Mutuku et al. (2008) reported that top management team demography was indirectly associated with performance via intervening process variables incorporating social integration and communication. Meanwhile, Pelled, Eisenhardt and Xin (1999), Walt and Ingley (2003), Kang et al. (2007) and Adams and Ferreira (2009) reported that team demography diversity can lead to disagreement, which can affect group performance, which in turn affects all aspects of organizational decision-making and outcomes. In addition, some of these investigators found that these associations were further controlled by task routines and group longevity.

Limitations are inherent in any approach. However, a strand of literature that depends predominantly on top management team demographic variables has produced important findings. These investigations mostly concentrated on two dimensions of team composition. Firstly, they focused on the impact of demographic attributes on the consequences of organizational decisions based upon the notion that particular demographic attributes are connected with top management perceptions, which eventually lead to certain actions and consequences. Some of these investigations recognized a significant link between top management team demographic traits and corporate strategies (Wiersema and Bantel, 1992; Bantel, 1993; Mutuku et al., 2008; Adams and Ferreira, 2009; Nielsen and Huse, 2010; Ellwood and Gracia-Lacalle, 2015; Allini et al., 2015).

All in all, the dependence on the demographic approach still appears to be justified (Finkelstein and Hambrick, 1996). Lawrence (1997) also demonstrated that demographic variables have important qualities, offering high content validity and replicability in a domain where replication is all too rare. In addition, Pfeffer (1983) recommended the employment of observable managerial traits as a means of addressing the shortcomings of subjective studies, which sometimes incorporate measurement error, differences in conceptualizations and low levels of explained variance. This is also reflected in Finkelstein and Hambrick's (1996: 47) work, which demonstrated that, "an executive's tenure in the firm is open to essentially no measurement error". Furthermore, the authors responded to the limitations of the dependence on psychological as matched to demographic variables. Finkelstein and Hambrick (1996: 46) also noted that demographic traits are more easily obtainable by investigators since top directors are normally reluctant to "submit to batteries of psychological tests".

The decision that institutions make to disclose risk related information necessitates careful assessment and consideration of a huge collection of complicate organizational issues. However, extending the demographic approach into the field of banks' risk disclosure practices could lead to better understanding of the role of top management teams and their decisions in relation to risk disclosure at their banks. In the following section, the demographic characteristics are explored and hypotheses are developed.

5.9. Gender

The presence of woman on the board of publicly listed institutions is becoming of interest to researchers (Ellwood and Gracia-Lacalle, 2015). However, one could argue from an agency theory viewpoint that gender does not influence the effectiveness of the board of a firm. However, upper echelons theory argues that top management demographic characteristics, such as gender, could influence strategic decision-making. Hence, gender differences might indicate variations in behaviour and skills between board members (Allini et al., 2015). Moreover, prior studies have generally revealed a mixture of results regarding women directors. Adams and Ferreira (2009) and Nielsen and Huse (2010) reported that women on top management teams influence decisions positively, while Bianco et al. (2011) strongly question their capacity to impact upon or add extra value to the team. In contrast, evidence from previous risk disclosure studies falls into two strands of literature. The first strand found that there is a positive correlation between gender and risk disclosure (Ntim et al., 2013; Allini et al., 2015), whereas the second strand reported a negative relationship between the two variables (Allini et al., 2014). Therefore, the following hypothesis was formulated:

H9: *There is a positive relationship between gender and risk disclosure*

5.10. Tenure

Tenure is a significant factor in group procedure within a top management group. On the one hand, augmented tenure is related to decreased disagreement, permanence and better communication (Kats, 1982). It has also been argued that more tenure time on the board could be linked with shared cognitive structures and social cohesion (Michel and Hambrick, 1992). On the other hand, it has been argued that top board tenure could have negative outcomes (Keck, 1997) since directors working together for extensive periods of time could be inclined to develop similar views owing to the long-term acculturation of top team associates, which then results in a shared common perspective and corporate paradigm (Pfeffer, 1983). Such effects might result in dysfunctional decision-making, generating combined defensive avoidance (Keck, 1997; Janis and Mann, 1977). However, due to the ambiguous and difficult nature of risk disclosure decisions, a common understanding of the nature of risk disclosure could be fundamental. Therefore, members of the top management team with extended tenure could cultivate a more precise shared cognitive structure regarding the nature of risk disclosure decisions. Furthermore, extended tenure enables board members to better evaluate the surrounding environment of banks' risk disclosure. Therefore, the following hypothesis was formulated:

H10: *There is a positive relationship between tenure of the board and risk disclosure.*

5.11. Education

Prior literature has indicated that educational background affects strategic decision making procedures and outcomes (Hitt and Tyler, 1991). Moreover, it ensures better monitoring and the effectiveness of top management boards in light of agency theory (Allini at al., 2015). Also, it is an important determinant in the disclosure exercise (Farook et al., 2011; Haniffa and Cooke, 2002). Therefore, Hambrick and Mason (1984) claimed that executives with superior educational qualifications are better able to embrace new and innovative actions as well as uncertainty. Moreover, educational qualifications could be perceived as an important institutional asset, which may influence accounting values and exercises (Gray, 1988). Top executives with a strong educational background tend to have superior technical knowledge and a more open-minded attitude to risk disclosure decisions, which could lead to the reduction of information asymmetry (Domhoff, 1983). However, Guner et al. (2008) stated that there is a dearth of empirical studies on the association between board effectiveness and educational background. Only a few studies have examined this relationship empirically and revealed the same results. Gul and Leung (2002) and Allini et al. (2015) reported a negative association between educational background and risk disclosure. Therefore, the following hypothesis has been formulated:

H11: *There is a negative association between educational background of the board and the risk disclosure.*

5.12. Diversity

Top management team diversity is referred to as the heterogeneity of top executive teams regarding age, gender, tenure, educational background, nationality, ethnicity and functional background (Williams and O'Reilly, 1998; Simons et al., 1999; Walt and Ingley, 2003; Carter et al., 2003; Kang et al., 2007; Allini et al., 2015). Moreover, Shaw and Barrett-Power (1998) affirmed that diversity is a progressively significant element in institutions, which are becoming more diverse in respect of age, nationality, background, gender, ethnicity and other demographic traits. It has also been determined that when disentangling complex, non-routine issues, diverse groups are more efficient as they include a collection of personalities with different proficiencies, experience, capabilities and viewpoints. It has also been illustrated that boards with diverse membership with different abilities make more novel and higher quality decisions than boards with less diverse membership (Bantel and Jackson, 1989). The literature shows that numerous variables influence the association between diversity and board decision-making (in the case of this study, this could be the decision to disclose or withhold any risk information disclosures). Furthermore, risk disclosure studies have found that diversity significantly influences risk disclosure (Allini et al., 2015). Based on the above discussion, the following hypothesis was formulated:

H12: *There is a positive association between diversity of the top management team and the degree of risk disclosure*

5.13. Control variables

Control variables are incorporated in this study to reduce the influence of the above-stated determinants. This study incorporates as control variables two firm-specific variables, size and profitability, in line with prior literature (Elshandidy et al., 2013; Ntim et al., 2013; Khlif and Hussainey, 2014; Allini et al., 2015; Elshandidy and Neri, 2015).

6. METHODOLOGY

This section describes the research design of this investigation, including sample, data collection and techniques used to accomplish the aims of this research.

6.1. Sample and Data Collection

The sample consists of the annual reports of all Saudi listed banks over a five-year period. Following prior literature on the subject (Lipunga, 2014; Barakat and Hussainey, 2013), this paper excluded all non-financial corporations. Financial institutions are by nature risk-oriented institutions unlike non-financial corporations, and therefore their disclosure ought to be considered independently (Linsely and Shrives, 2005, 2006; Barakat and Hussainey, 2013). According to the Saudi Arabian Monetary Agency, there are 12 listed banks on the Saudi exchange market today. Unlisted banks in Saudi Arabia are excluded. Therefore, the researcher can state that a total of 12 listed banks are included in this study. All the annual reports of the selected sample were collected from the banks' homepages, with some of the variables being collected from DataStream and Bloomberg. This study covers a five-year period, during which the determinants of risk disclosure in the annual reports of listed banks in Saudi Arabia are examined. The selected annual reports cover the period from 2009 to 2013.

Annual reports are used in this investigation because of their wide coverage and availability. This study's focus on annual reports is due to their being the main source of information for shareholders as well as their growing use in statements, showing their value to user groups (Elshandidy et al., 2013; Barakat and Hussainey, 2013; Elshandidy and Neri, 2015). This is concurrent with Marston and Shrives (1991), who described them as the "main disclosure vehicle" and argued that annual reports are the most complete financial statements accessible to investors. Moreover, Beattie et al. (2002) affirmed that annual reports provide comprehensive narratives, information as well as explaining accounting figures, sketches and presents perspectives. Also they corroborate quantitative measures incorporated in the financial reports (Chugnh and Meador, 1984).

6.2. Content Analysis Approach

Content analysis has been widely used in social accounting research (Guthrie and Parker, 1989; Milne and Adler, 1999; Parker, 2005; Kamla, 2007). These studies analyze the information content disclosed in annual reports and acknowledge words and themes within the textual material (Beattie et al., 2004; Brennan, 2001). When analysing the content of a written document, words, phrases and sentences are coded against a specific schema of interest (Bowman, 1984). Krippendorff (1980: 21) described content analysis as "a research technique for making replicable and valid inferences from data". Furthermore, Bowman (1984) claimed that content analysis enables the collection of rich data since it can reveal relationships that other techniques cannot. However, a weakness of content analysis is that it is subjective (Linsley and Shrives, 2006). Therefore, validation practices are often used to override this problem (Bowman, 1984).

6.3. Risk Disclosure Index Development

For the purpose of this study, a risk disclosure index, which is a checklist of different disclosure items included in banks' annual reports, was developed (Arvidsson, 2003). During its construction, an extensive review of prior investigations was carried out. For an item to be included, it must have been used in previous published studies. The risk disclosure index was developed solely for the purpose of measuring the amount of risk disclosure in Saudi listed banks. The index included a total of 54 items that the researcher expected to be published in the annual reports of the sample banks. These 54 items fell into 8 categories: accounting policies, financial and other risks, derivative hedging and general risk information, financial instruments, reserves, segment information, business risk and compliance. Moreover, one of the important issues during crafting the disclosure index was whether or not some items should be weighted more heavily (i.e. given more importance) than others. In accounting research, both weighted and un-weighted disclosure indices are utilized (Cooke, 1989; Marston and Shrives, 1991; Owusu-Ansah, 1998). For the purpose of this paper, the un-weighted disclosure index was chosen because the study does not focus on a particular user group (Alsaeed, 2006; Naser et al., 2006). Instead the study addresses all users of annual reports and therefore there is no need to confer different importance levels to the disclosed risk items (Oliveira et al., 2006). The contents of each bank's annual reports were compared with the items listed in the Appendix and, on the bases of a dichotomous model, they were coded as 1 if disclosed or 0 if otherwise. This index coincides with prior literature on disclosure (Barako et al., 2006; Nazli and Ghazali, 2007; Owusu-Ansah, 1998; Oliveira et al., 2006).

The total score for a bank is:

$$TD = \sum_{i=1}^{n} d_i \quad (1)$$

Where d = 1 if the item is disclosed; 0 = if the item is not disclosed; n = number of items.

6.4. Reliability and Validity Measures

Weber (1988) argued that the classification procedure should be reliable and valid. The reliability and validity of content analysis approaches need to be reviewed carefully. In human-scored schemes, reliability, that is the reproducibility of the measurement, is a major concern (Marston and Shrives, 1991; Healy and Palepu, 2001). The preceding studies argued that content analysis is not reliable if it is conducted only once or only by one specific person (Neuendorf, 2002). Consequently, to ensure the content validity of the initial research instrument, it was reviewed independently by two other researchers. Subsequently, after the researcher received the independent researcher's comments and suggestions. A fourth experienced academic was required to discuss any ambiguities raised. The final disclosure checklist included 54 items. In terms of validity the research instrument (disclosure index) is valid if they can measure what they claim to measure (Field, 2009). In this study the index has measure what it claimed to measure; therefore the researcher can safely claim that the research instrument is valid. To ensure the reliability of the research instrument, the author and the two independent researchers scored three randomly selected banks. Then, the results from the three researchers were compared. Given that the final research disclosure index was agreed by all researchers, differences in the compliance scores from the researchers were insignificant. This method was adopted by Marston and Shrives (1991), who argued that the index scores awarded to firm could be considered reliable if other researchers could replicate the same results.

6.5. Regression Model

This study uses the following ordinary least squares (OLS) regression model to examine the relationship between risk disclosure in the annual reports and both corporate governance mechanisms and demographic traits in Saudi listed banks:

$$RISKD\ it= \beta 0+\beta 1CHS+\beta 2\ NOCH\text{-}FACTORS+\beta 3\ BSIZE+\beta 4\ INDEP+\beta 5\ NON+\beta 6\ ACINDEP+\beta 7\ ACSIZE+\beta 8\ ACMEET+\beta 9\ EDUC+\beta 10\ TENU+\beta 11\ GENDER+\beta 12\ DIVERSITY\ \beta 13\ SIZE+\beta 14\ PROF+\varepsilon \qquad (2)$$

Where
RISKD = risk disclosure score
β0 = the intercept
B1….. β14 = regression coefficients (See table 1 for explanation)
ε = error term
I = Bank
T = Year

Dependent variable: risk disclosure score. Following prior studies (Linsley and Shrives, 2006; Elzahar and Hussainey, 2012; Abdullah et al., 2015), content analysis was used to measure the level of risk disclosure in the annual reports. The number of risk-related words was used as a measure of risk disclosure levels.

Independent variables: To examine the determinants of risk disclosure, corporate governance and demographic traits, information was collected from different sources. Table I summarizes the measurement and definition of those variables.

Table 1. Summary of variable names, description and sources

Abbreviated name	*Full name*	*Variable description*	*Predicted Sign*	*Data source*
Dependent variables				
RISKD	Risk disclosure	Risk disclosure level based on risk index		Annual reports
Independent variables				
1. Corporate Governance characteristics				
BSIZE	Board size	Number of board members	+	Annual report
CHS	Internal Ownership	Percentage of shares held by internal shareholders	-	DataStream
NOCH-Factor	External Ownership	Percentage of shares held by external shareholders	+	DataStream
INDEP	Independent directors	Number of non-executive directors on the board of directors	+	Bloomberg Annual Report
NON	Non-executive directors	Dummy variable 1 if board contains non-executive directors and otherwise 0.	+	Bloomberg Annual Report
ACINDEP	Audit committee independence	Proportion of non-executive director on board.	+	Bloomberg Annual Report
ACSIZE	Audit committee size	Number of audit committee members	+	Annual report
ACMEET	Audit committee meetings	Number of audit committee meetings	+	Annual report
2. Demographic characteristics				
EDUC	Education	Dummy variable 1 if one of the board members holds a PhD period and otherwise 0.	+	Annual report
TENU	Tenure	Dummy variable 1 if the number of years the board member permanence on the board is above the sample median of 5 years, otherwise 0.	+	Annual report
GENDER	Gender	Dummy variable 1 if board contains female directors and otherwise 0.	+	Annual report
DIVE	Diversity	Dummy variable 1 if board contains more than one nationality and otherwise 0.	+	Annual report
3. Firm-specific characteristics (Control Variables)				
SIZE	Bank size	Natural logarithm of total assets	+	DataStream
PROF	Profitability	ROA (Return On Assets)	+	DataStream
LEV	Leverage	Long-term debt/ total assets	+	DataStream
LIQ	Liquidity	Current Ratio: Current Assets/Current Liabilities	+	Annual report
DIVID	Dividend payout	Dividends per share	+	DataStream
This table provides the description and measures of risk disclosure reporting, as dependent variables, and firm characteristics, corporate governance mechanism and demographic traits as independent variables. It also provides the source of each variable.				

7. EMPIRICAL ANALYSIS

7.1. Descriptive analysis

Table 2 shows the main descriptive statistics for the corporate governance variables and the demographic traits used in the analysis of the sample banks in this investigation. It shows the minimum, maximum, statistical mean and the standard deviation. Firstly, it shows that the mean total risk disclosure is 66.03%. It also shows that there is a large variation in risk reporting between the sampled banks, with a minimum of 51% and a maximum of 78%. It also shows that the mean of CHS holdings is 19% and the mean of NOCH-Factor ownership is 29.5%, while the mean board size is 10 directors, with a mean of 7 members of the board in the sample banks consisting of non-executive directors. Furthermore, the table shows that the independent directors mean is 5, with a minimum of 3 and a maximum of 8 independent directors. Secondly, the audit committee (AC) independence mean is 75, whereas the audit committee size ranges from 2 to 5 directors, with a mean of 3. There is also a large variation in the number of AC meetings between the sample banks, with a minimum of 3 meetings, a maximum of 11 and a mean of 5. Finally, this table also shows the demographic traits of the top management teams included in the descriptive analysis, which are gender, tenure, education and diversity. It is also important to note that all of these variables have been treated as a dummy variable (1-0). Where gender scored an overall mean of .08, tenure of the top board of directors scored a total mean of .6, while education scored a total mean of .7 and diversity scored a total mean of .3 in the entire sample of this investigation.

Table 2. Descriptive statistics

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
RISKD	60	.51	.78	.6603	.07059
CHS	60	0.00	69.00	19.1000	17.46056
NOCH-Factor	60	25.00	45.00	29.5000	5.08091
BSIZE	60	7.00	11.00	9.5500	.94645
INDEP	60	3.00	8.00	5.1333	1.62049
NON	60	1	11	7.37	2.718
ACINDEP	60	0.00	1.00	.7500	.43667
ACSIZE	60	2.00	5.00	3.7667	.96316
ACMEET	60	3.00	11.00	5.3667	1.95688
GENDER	60	0.00	1.00	.0833	.27872
TENU	60	0.00	1.00	.6000	.49403
EDUC	60	0.00	1.00	.7000	.46212
DIVE	60	0.00	1.00	.3333	.47538
SIZE	60	7.24	8.58	7.9940	.35203
PROF	60	-.01	.04	.0192	.00869
Valid N (listwise)	60				

This table presents the descriptive analysis for the corporate governance variables and the demographic traits used in the regression model for the sample banks in this investigation. RISKD: Risk disclosure score (based on an unweighted disclosure index); CHS: Internal ownership (Percentage of shares held by internal shareholders); NOCH-Factor: External ownership (Percentage of shares held by all external shareholders); BSIZE: Board size (Number of board members); INDEP: Independent directors (Number of non-executive directors on the board of directors); NON: Non-executive directors (Dummy variable 1 if board contains non-executive directors and otherwise 0); ACINDEP: Audit committee independence (Dummy variable; 1 if audit committee independence exists, and 0 otherwise); ACSIZE: Audit committee size (Number of audit committee members); ACMEET: Audit committee meetings (Number of audit committee meetings); GENDER: Gender (Number of females on the board); TENU: Tenure (Dummy variable 1 if the number of years the board member permanence on the board is above the sample median of 5 years, otherwise 0); EDUC: Education (Number of board members holding a PhD); DIVE: Diversity (Number of other nationalities of the board); SIZE: Bank size (Natural logarithm of total assets); PROF: Profitability (Return On Assets)

7.2. Regression analysis

The analysis of the risk disclosure of Saudi listed banks and their determinants led to some concrete results since six of the independent variables, namely Noch-Factors, board size, audit committee meetings, gender, size and profitability, are the main variables directing risk disclosure decisions in Saudi listed banks. The summary table below demonstrates that the R square and adjusted R square are high for the study under consideration, where both R square and adjusted R square are high at .706 and .576, respectively, supporting the explanatory power of the model. The Durbin-Watson test confirmed that there is no autocorrelation problem with the data. Moreover, the ANOVA table below indicates that the model is significant, with an F value of 5.458, confirming the fitness of the model used for the purpose of this study.

Table 3. Pearson correlation Matrix

	RISKD	*CHS*	*NOCH-Factor*	*BSIZE*	*INDEP*	*NON*	*ACINDEP*	*ACSIZE*	*ACMEET*	*GENDER*	*TENU*	*EDUC*	*DIVE*	*SIZE*	*ROA*
RISKD	1														
CHS	-.129	1													
NOCH-Factor	.411**	-.492**	1												
BSIZE	-.107	.364**	.073	1											
INDEP	-.171	.195	-.248	-.038	1										
NON	-.095	.290*	-.308*	.467**	.439**	1									
ACINDEP	.074	-.190	.325*	-.072	.335**	.050	1								
ACSIZE	.136	.243	-.062	.013	.335**	.454**	.141	1							
ACMEET	.054	.196	.153	.566**	.075	.459**	-.089	.190	1						
GENDER	.093	.061	-.215	.016	.050	.138	.174	-.242	-.212	1					
TENU	-.356**	.195	-.218	.007	.110	-.103	-.079	.121	.014	-.246	1				
EDUC	-.241	-.059	-.173	-.081	.326*	.251	.294*	-.046	.030	.197	.134	1			
DIVE	.375**	-.261*	.547**	.226	-.169	.114	.408**	-.086	-.024	.426**	-.433**	.077	1		
SIZE	.479**	.006	.071	.101	-.478**	-.052	-.225	.019	-.055	-.166	-.126	-.211	.112	1	
PROF	.271*	.329*	-.227	.283*	-.172	.200	-.279*	.219	.158	-.181	.039	-.148	-.055	.529**	1

This table presents the correlation matrix for the corporate governance variables and the demographic traits used in the regression model for the sample banks in this investigation. RISKD: Risk disclosure score (based on an un-weighted disclosure index, where equal weights were attached to all reported items within the checklist. Hence if an item is reported in the annual report of the bank scores "1" and if otherwise it scores "0"); CHS: Internal ownership (Percentage of shares held by internal shareholders); NOCH-Factor: External ownership (Percentage of shares held by all external shareholders); BSIZE: Board size (Number of board members); INDEP: Independent directors (Number of non-executive directors on the board of directors); NON: Non-executive directors (Dummy variable 1 if board contains non-executive directors and otherwise 0); ACINDEP: Audit committee independence (Dummy variable; 1 if audit committee independence exists, and 0 otherwise); ACSIZE: Audit committee size (Number of audit committee members); ACMEET: Audit committee meetings (Number of audit committee meetings); GENDER: Gender (Number of females on the board); TENU: Tenure (Dummy variable 1 if the number of years the board member permanence on the board is above the sample median of 5 years, otherwise 0); EDUC: Education (Number of board members holding a PhD); DIVE: Diversity (Number of other nationalities of the board); SIZE: Bank size (Natural logarithm of total assets); PROF: Profitability (Return On Assets). Note that ** and * indicate that there is a correlation significant at the 0.01 and at the 0.05 between the respective factors respectively.

Table 3, the Pearson correlation matrix is deployed to measure the strength and the direction of the linear relationship between any two variables. The results above in the correlation coefficient demonstrate positive a significant correlation between voluntary risk disclosure and NOCH-Factor at a value of .411**. They also show the same relationship between diversity at a value of .375**, size at 479**, profitability at .271* and risk disclosure. Moreover, the correlation matrix indicates a negatively significant association between tenure at a value of -.356** and voluntary risk disclosure. However, the table shows that the highest correlation was between bank size and voluntary risk disclosure at .479. Table 4 shows that there are insignificant associations between CHS, board size, independent directors, non-executive directors, audit committee independence, audit committee size, audit committee meetings, gender, tenure and education with voluntary risk disclosure in Saudi listed banks.

Table 4. Regression results for the corporate governance and the demographic variables

	Unstandardized coefficients		*t*	*Sig.*	*VIF*
	B	Std. Error			
(Constant)	-0.135	0.230	-0.590	0.558	
CHS	-0.000006660	0.001	-0.101	0.920	3.675
NOCH-Factor	+0.007	0.003	2.584	0.013	5.995
BOARDSIZE	-0.032	0.011	-2.911	0.006	3.070
INDEP	0.010	0.006	1.582	0.121	3.098
NON	-0.003	0.005	-0.507	0.615	5.347
ACINDEP	-0.007	0.020	-0.332	0.742	2.170
ACSIZE	0.010	0.009	1.031	0.309	2.325
ACMEET	+0.012	0.005	2.276	0.028	2.764
GENDER	+0.117	0.034	3.406	0.001	2.571
TENURE	-0.024	0.016	-1.485	0.145	1.766
EDUCATION	-0.022	0.016	-1.338	0.188	1.579
DIVERSITY	-0.005	0.028	-0.161	0.873	5.105
SIZE	+0.094	0.024	3.922	0.000	1.982
PROF	+2.644	1.047	2.525	0.016	2.316
Model Summary Adjusted R square: 0 .576 F value: 5.458 Sig. 0.000					
This table presents the regression results for the corporate governance variables and the demographic traits used in the regression model for the sample banks in this investigation. RISKD: Risk disclosure score (based on an un-weighted disclosure index, where equal weights were attached to all reported items within the checklist. Hence if an item is reported in the annual report of the bank scores "1" and if otherwise it scores "0"); CHS: Internal ownership (Percentage of shares held by internal shareholders); NOCH-Factor: External ownership (Percentage of shares held by all external shareholders); BSIZE: Board size (Number of board members); INDEP: Independent directors (Number of non-executive directors on the board of directors); NON: Non-executive directors (Dummy variable 1 if board contains non-executive directors and otherwise 0); ACINDEP: Audit committee independence (Dummy variable; 1 if audit committee independence exists, and 0 otherwise); ACSIZE: Audit committee size (Number of audit committee members); ACMEET: Audit committee meetings (Number of audit committee meetings); GENDER: Gender (Number of females on the board); TENU: Tenure (1 if the number of years the board member permanence on the board is above the sample median of 5 years, otherwise 0); EDUC: Education (Number of board members holding a PhD); DIVE: Diversity (Number of other nationalities of the board); SIZE: Bank size (Natural logarithm of total assets); PROF: Profitability (Return On Assets). Note that "+" indicates that there is a positive correlation or a proof of influence exists between the respective factors and "-"indicates that there is a negative correlation or proof.					

This study uses OLS regression analysis to examine the determinants of voluntary risk disclosure in Saudi listed banks. The coefficients table above demonstrates the interrelationships between the voluntary risk disclosure score as the dependent variable and a number of other variables as independents. Thus, before conducting the regression analysis, multicollinearity was tested by employing the Variance Inflation Factor (VIF) to detect any noises in the model. When carried out for the purpose of this investigation, this statistical test gave no indication of multicollinearity problems as shown in the table above. Since the VIF did not exceed 10 for any variable in any model, it was concluded that collinearity was not a serious problem (Neter et al., 1983; Naser et al., 2006). Moreover, it can be seen from the regression results table above that there is a positive significant relationship between NOCH-Factor, audit committee meetings, gender, size, profitability and voluntary risk disclosure. The coefficients on the variables are positive and statistically significant at .05, .05, .01, .01 and .05, respectively. Also, the table shows that there is a negatively significant association between board size and voluntary risk disclosure, with a coefficient value of .01, while the rest of the independent variables of both corporate governance mechanisms and demographic traits are insignificantly correlated with voluntary risk disclosure in Saudi Arabia.

8. DISCUSSION

This investigation found that ownership structure has a significant effect on voluntary risk disclosure. These findings are in line with prior empirical results that indicate banks with lower insider ownership (proxied by CHS) are not inclined to provide higher voluntary risk disclosure, whereas banks with higher outsider ownership (proxied by NOSH-Factor) are more prone to provide considerably higher levels of voluntary risk disclosure (Elshandidy et al., 2013; Abraham and Cox, 2007). Also, these results are in line with both agency theory and signalling theory, which propose that directors are only driven to offer higher levels of voluntary risk disclosure when there is a widely dispersed ownership structure to mitigate information asymmetries owing to external pressure (Mohobbot, 2005; Owusu-Ansah, 1998), implying that H1 and 2 are empirically supported. Also, the coefficient on audit committee meetings is .012 and is significant at .05 significance level. These findings show that banks with more frequent audit committee meetings are more motivated to disclose more risk information. These results are consistent with prior empirical findings (Karamanou and Vafeas 2005; Allegrini and Greco, 2013). Also, this outcome is consistent with agency theory, whereby internal and external monitoring practices complement each other in reducing agency conflicts and information asymmetry between different types of stockholders, implying that H8 is empirically supported. However, our results show that there is a negatively significant association between board size and voluntary risk disclosure, with a coefficient value at -.032 and significance at the .01 percent level. This is in line with some preceding research (Jia et al., 2009; Guest, 2009; Coles et al., 2008) as well as being concurrent with agency theory, which suggests that bigger boards are bad and corrupt (Jensen and Meckling, 1976) owing to free rider problems, such as expanded decision making time, raised costs, poor communication and monitoring practices, which impact negatively on board performance in general and risk disclosure in particular. Therefore, we reject H3. Yet, the other corporate governance variables (CHS, INDEP, NON, ACINDEP and ACSIZE) are found to have an insignificant correlation with voluntary risk disclosure in Saudi listed banks.

In terms of demographic characteristics, table 4 shows that banks with women on the top management board are more likely to disclose voluntary risk disclosure. The coefficient on gender is .117 and is significant at the .01 significance level. This effect is consistent with the previous empirical findings of Ntim et al. (2013) and Allini et al. (2015). Also, Adams and Ferreira (2009) and Nielsen and Huse (2010) reported that women on top management teams influence decisions positively. Moreover, this is consistent with upper echelons theory, which proposes that top management demographic characteristics, such as gender, could influence strategic decision-making, implying that H9 is empirically supported. Our findings do not support demographic traits (TENU, EDUC and DIVE) having a significant relationship with voluntary risk disclosure is Saudi Arabian listed banks.

Additionally, for the control variables, our findings report that size is correlated positively with voluntary risk disclosure at a .01 significance level. This relationship is consistent with a number of prior empirical investigations (Khlif and Hussainey, 2014; Elzahar and Hussainey, 2012; Abraham and Cox, 2007; Linsley and Shrives, 2006). This relationship confirms that directors of bigger banks are more motivated to convey risk information to investors to differentiate their institution from smaller ones (Khlif and Hussainey, 2014). This association is also consistent with both agency theory and signalling theory, which advocate that bigger institutions lean towards reporting more risk information to reduce agency costs and information asymmetry between insider and outsiders. Furthermore, the coefficient on profitability is 2.644 and is significant at a .05 percentage level. This effect is consistent with prior literature that examined profitability in relation to risk disclosure and observed the same findings (Deumes and Knechel 2008; Miihkinen, 2012; Khlif and Hussainey, 2014). This association between profitability and risk disclosure is also consistent with signalling theory. Helbok and Wagner (2006) and Linsely et al. (2006) confirmed that banks with superior risk management techniques tend to have greater levels of profitability, and hence directors have greater incentives to signal their performance and their capacity to manage risk successfully.

9. CONCLUSION

This investigation sought to empirically examine the impact of corporate governance and top team demographic traits on the levels of voluntary risk disclosure practices and to identify the determinants of voluntary risk disclosure practices in all Saudi listed banks from 2009 to 2013. The empirical findings show that banks of large size, high outsider ownership, high profitability, high regularity of audit committee meetings and mixed gender on the top management board of directors are more likely to demonstrate higher levels of voluntary risk disclosure practices. Also, the level of voluntary risk disclosure is negatively affected by board size. Moreover, as can be seen from the empirical findings of this investigation, external ownership, audit committee meetings, gender, size, profitability and board size are primary determinants of voluntary risk disclosure practices in listed banks on the Saudi Exchange Stock Market (Tadawul), while the rest of the independent variables of both corporate governance mechanisms and demographic traits are insignificantly correlated with the levels of voluntary risk disclosure practices in Saudi Arabian listed banks.

Our findings have several important implications, by informing banks' stockholders, regulatory bodies and any other interested groups about the importance of corporate governance and demographic determinants, which can be used to augment voluntary risk reporting in the banking industry in an effort to ensure information adequacy and increased market efficiency. The reported findings should be useful to accounting and risk regulators by providing information about the inadequacies of risk disclosure in Saudi and a more complete picture of risk components and determinants in listed banks. While this study does not explore the risk profiles of Islamic banks directly, the results somehow propose that Islamic banks are more likely to be risk-averse than their non-Islamic counterparts suggesting a worthy field for future research. These implications could extend to the governance, board demography and risk disclosure literature by theoretically justifying and empirically investigating the implications of such determinants and theories in regards to voluntary risk disclosure in the banking sector. This focus is significant because it provides insights into the determinants of voluntary risk disclosure in banks that operate in an environment regarded as being invariably opaque.

This study was limited to the employment of the annual report as this was regarded as the most important means of communication. Other available means in Saudi Arabia, such as interim reports, prospectuses, press releases and the Internet were not reflected in this study despite the possibility of them impacting upon the decision-making processes. These means could provide significant data for future research on risk disclosure. Such results could determine similarities and differences across both means of the data sources. Another limitation is that this investigation only focused on a single setting, Saudi Arabia. An extension of this investigation may be to compare voluntary risk disclosure in other emerging markets in the Middle East. Such investigation would offer valuable insights into the literature on disclosure. In spite of the noted limitations, the study did offer important insights into the determinants of voluntary risk disclosure in Saudi Arabia.

This study suggests a number of other venues for future research. Firstly, research could extend over a longer period of time. Secondly, this study could be extended by conducting comparative studies with other countries, preferably in the Middle Eastern countries due to similarities in the settings in order to explore any differences in the determinants of risk disclosure across such countries. Thirdly, little is known about the traits of the top managers and top management teams of Saudi corporations and how their psychological and sociological attributes impact the voluntary risk disclosure practices of the organisations they manage. Additional research could also be undertaken to study the economic consequences of risk disclosure practices in annual reports (for example, the effect on prices leading earnings, cost of capital, analyst following, firm value and the characteristics of analysts' forecasts).

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APPENDIX

Category and type of reported risks	**References**
Accounting Policies	
Risk Management	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000;
Objective of Holding Derivatives/ instruments	Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Abdullah et al., 2015;
Use of Estimates	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Hassan, 2009
Collateral Assets against Loans	Alfredson et al., 2007; Abdullah et al., 2015; Hassan, 2009
Financial Assets Impairment	Abdullah et al., 2015; Alfredson et al., 2007; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Other Assets Impairment	Alfredson et al., 2007; Abdullah et al., 2015; Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Hassan, 2009
Contingent Liabilities	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Contingent Assets	Alfredson et al., 2007; ICAEW, 1997, 2000; Abdullah et al., 2015; Hassan, 2009
Detailed risk management	Lopes and Rodrigues, 2007; Alfredson et al., 2007;
Contingency	Abdullah et al., 2015; Hassan, 2009;

Category and type of reported risks	**References**
Financial and other risks	
Pricing Risk	ICAEW, 1997, 2000; Abdullah et al., 2015, Lipunga, 2014;
Commodity risk	Abdullah et al., 2015;
Liquidity risk	Abdullah et al., 2015; Alfredson et al., 2007; ICAEW, 1997, 2000; Lipunga, 2014; Hassan, 2009
Credit risk	Lopes and Rodrigues, 2007; ICAEW, 1997, 2000; Lipunga, 2014
Capital Adequacy	Lipunga, 2014; Abdullah et al., 2015
Changes in Interest Rates	Abdullah et al., 2015
Credit Risk Exposure	Abdullah et al., 2015
Operational Risk	Abdullah et al., 2015; ICAEW, 1997, 2000; Lipunga, 2014
Insurance Risk	Abdullah et al., 2015; ICAEW, 1997, 2000
Market Risk	Abdullah et al., 2015; Ahmed et al., 2004; Lipunga, 2014
Interest Rate	Lipunga, 2014; Abdullah et al., 2015;
Currency risk	Lipunga, 2014
Exchange Rate	Abdullah et al., 2015
Sustainability Risk	
Sensitivity Analysis	Abdullah et al., 2015; Ahmed et al., 2004
Derivatives hedging and general risks information	
Cash flow Hedge	Alfredson et al., 2007; Lopes and Rodrigues, 2007; Abdullah et al., 2015
Equity Risk	Abdullah et al., 2015
Customer Satisfaction	Abdullah et al., 2015
Competition (Service Market)	Abdullah et al., 2015; ICAEW, 1997, 2000
Natural Disasters	ICAEW, 1997, 2000; Abdullah et al., 2015; Lipunga, 2014
Communications	Abdullah et al., 2015
Outsourcing	Abdullah et al., 2015
Reputation	Abdullah et al., 2015; Lipunga, 2014
Reputation risk	Abdullah et al., 2015; Lipunga, 2014
Physical disasters (Explosions and Fire)	Lipunga, 2014
Changes in Technology	Abdullah et al., 2015;
Financial instruments	
Derivatives	Hassan, 2009; Abdullah et al., 2015
Cumulative Change in Fair value	Lopes and Rodrigues, 2007; Alfredson et al., 2007; Abdullah et al., 2015;
Reserves	
General Reserves	Hassan, 2009; Abdullah et al., 2015
Statutory Reserves	Hassan, 2009; Abdullah et al., 2015
Other Reserves	Hassan, 2009; Abdullah et al., 2015
Segment information	
Geographical Concentration	Alfredson et al., 2007; Abdullah et al., 2015; ICAEW, 1997, 2000;
Customer Concentration	Hassan, 2009; Abdullah et al., 2015; ICAEW, 1997, 2000
Business risk	
General Financial Problems	Hassan, 2009
Regional Financial Problems	Hassan, 2009
Political risk	Abdullah et al., 2015
Diversification	
Performance	Abdullah et al., 2015;
Compliance with regulations	
Compliance with listing rules	Lipunga, 2014
Compliance with financial regulations	Lipunga, 2014
Compliance with companies act requirements	Lipunga, 2014
Compliance with other regulations and laws	Lipunga, 2014
Litigation risk	Lipunga, 2014
Health and Safety	Lipunga, 2014

QUANTITY VERSUS QUALITY: THE VALUE RELEVANCE OF CSR DISCLOSURE OF SAUDI COMPANIES

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Abstract

We offer a novel contribution by examining the impact of Corporate Social Responsibility (CSR) disclosure quantity and quality on firm value. We use a sample of 171 non-financial firms listed in the Saudi stock market for the period 2013-2014. We complement and extend the work of Hasseldine, Salama and Toms (2005) by measuring the quantity and quality of CSR disclosure and examining their impact on firm value. To measure CSR disclosure quality, we following Beest el al (2009) and capture all qualitative attributes of information quality as defined in the conceptual framework of the IASB (2010 a). We use a CSR disclosure index to measure the quantity of disclosure.
Our analysis shows a positive association between CSR disclosure quality and quantity and market capitalisation. However, we did not find the same results when we use either Tobin's Q or Return on Assets (ROA) as proxies for firm value. This suggests that both CSR disclosure quantity and quality have the same impact on firm value. However, the significance of this impact depends on whether the authors use market capitalisation, Tobin's Q or ROA.

Keywords: Corporate Social Responsibility, Disclosure Quantity versus Quality, Firm Value, Saudi Arabia

1. INTRODUCTION

Corporate Social Responsibility (CSR) disclosure quantity and quality have attracted major interest in accounting literature since the publication of a remarkable paper by Hasseldine, Salama and Toms (2005). Using a subjective measure of environmental disclosure quality, Hasseldine et al (2005:231) offer the first empirical evidence that the "quality of environmental disclosure rather than mere quantity has a stronger effect on the creation of environmental reputation amongst executive and investor stakeholder groups. They suggest that further investigation on the impact of CSR disclosure strategy and stock market value could be extremely useful in understanding the relevance of CSR disclosure quantity and quality. Our study aims to examine this important research issue.

In a recent study, Zahller, Arnold and Roberts (2015:155) provide evidence that "when CSR disclosures are higher quality, investors perceive organizational legitimacy to be higher, inferring that organizations should emphasize quantifiable, consistent, and comparable reporting". This implies that "high-quality voluntary CSR disclosure can help protect organizational financial market performance following an exogenous shock through the disclosure's effect on perceived legitimacy" (Zahller et al, 2015:174). Therefore, we expect that CSR quality should have a positive impact on firm value.

Zahller, et al (2015:174) consider two characteristics of information quality (the accuracy and completeness of CSR information) when measuring the quality of CSR disclosure. They suggest further research to consider "the factors producing high-quality voluntary CSR disclosures to understand how information characteristics interact with cognitive, affective, and behavioral user characteristics in affecting organizational performance. Our study is a response to Hasseldine et al (2005:231) and Zahller, et al (2015). We following Beest el al (2009) and capture all qualitative characteristics of information quality as defined in the conceptual framework of the IASB (2010). We use a CSR disclosure index to measure the quantity of disclosure. We then examine the impact of CSR quantity and quality on firm value in Saudi Arabia. Saudi Arabia provides a unique country context in which to analyse the impact of CSR disclosure quantity and quality on firm value because of its emerging economy with different religious, social and political systems and traditions. Daily life, business, law, economics and political aspects of the Saudi society are affected by Islamic principles. In addition, the country improved its corporate governance (CG) code in 2010. This strengthened CG code requires companies to disclose their CSR activities in their annual reports. Moreover, the code is affected by Islamic principles that have paved the way for the introduction of Islamic governance characteristics (Albassam, 2014), and this is bound to affect the CSR disclosure of Saudi Arabian companies.

The impact of CSR disclosure on firm values of Saudi Arabian companies has not been thoroughly documented, although there are some studies that have investigated CSR in Saudi Arabia (e.g.Habbash and Ibrahim, 2015; Mandurah et al., 2012). Furthermore, Nalband et al. (2013) observed CSR perceptions, practices and performance of listed companies in Saudi Arabia. Our study offers two major contributions. First, we offer a new measure for CSR disclosure quality for one of the developing countries, Saudi Arabia. Second, we are the first to examine the impact of the quantity and quality of CSR disclosure on firm values in Saudi Arabia.

We find a positive relationship between CSR disclosure quality/ quantity and market capitalisation. However, we did not find the same observation when we use either Tobin's Q or Return on Assets (ROA) as proxies for firm value. This suggests that both CSR disclosure quantity and quality have the same impact on firm value. However, the significance of this impact depends on whether the authors use market capitalisation, Tobin's Q or ROA.

The remainder of the paper is organised as follows: Section 2 discusses theories, Section 3 reviews the literature, Section 4 explains the research design, Section 5 reports the results and Section 6 concludes the research.

2. THEORIES

There are many theories that explain the relationship between CSR disclosure and the value of a company. We use the signalling and agency theories and the efficient market hypotheses to explain the relationship between these variables.

2.1 Signalling and Agency theory

Prior research shows that a company's voluntary disclosure impacts its value based on signalling theory (Sheu et al., 2010). The use of signalling theory explains why companies disclose CSR information to their stakeholders (Uyar et al., 2012). It is argued that voluntary disclosures in the annual report send signals to the marketplace that are expected to increase a company's net present value and consequently its stock market value (Gordon et al., 2010). In addition, prior research (i.e. Sheu et al. 2010) shows that disclosure reduces the information asymmetry between insiders (managers) and outsiders (stakeholders) and hence reduced agency conflicts between both parties. This leads to an increase in firm value (Sheu et al. 2010).

2.2 Efficient market hypotheses (EMH)

According to the Efficient Market Hypothesis, CSR information is expected to be of increased benefit to investors as this information may lead to positive or negative adjustments in company security prices, thus affecting the value of a company (Jensen, 1978).

3. LITERATURE REVIEW

A limited number of studies examine the impact of disclosure on firm value (Uyar et al., 2012). However, the results are mixed. For example, Hassan et al. (2009) find that mandatory disclosure has a negative relationship with firm value while voluntary disclosure has no impact on firm value. Da-Silva and Alves (2004); Sheu et al. (2010), Gordon et al. (2010);; Curado et al. (2011) and Uyar and Kiliç (2012) find that voluntary disclosure impacts firm value. In a recent paper, Elzahar et al. (2015) find a weak positive relationship between KPIs disclosure and firm value. Uyar and Kiliç (2012) noted that the relationship between voluntary disclosure and a company's value depends on the measure of a company's value (e.g., market to book value and market capitalisation).

Limited literature examines the value relevance of CSR disclosure. Cho, Lee, and Pfeiffer (2013) investigated the relationship between CSR performance and information asymmetry. They found that CSR performance is inversely related to information asymmetry. The association, however, can be found only in companies that have less institutional investors, implying that fully informed investors are bound to act upon information relating to CSR performance. Richardson et al. (2001) investigated the relationship between social disclosure and cost of equity capital. They found a positive association between social disclosure and cost of equity capital. Hussainey and Salama (2010) also provide evidence that higher levels of corporate environmental reporting scores improve investors' ability to anticipate future earnings. Ulmann (1985) argued that firms use social disclosures in order to manage relationships with their stakeholders. He suggested that social disclosure is a function of three dimensions: stakeholders' power, strategic posture and economic performance. Dhaliwal et al. (2011) found that firms that report non-financial social responsibility information are more likely to raise larger amounts of equity capital in the two years following the reporting, compared with non-reporting firms. From a signaling perspective, managers seeking finance assistance may wish to send good signals to the investors and debt holders. For investors, such communication is credible because managers making fraudulent signals will be penalized (Hughes, 1986). This suggests that firm value might be lowered due to investors' negative expectations with regard to the financial consequences of social and environmental aspects. Hasseldine et al.(2005) investigate the association between corporate environmental disclosure and corporate environmental performance measured by the environmental reputation. They find the quality of environmental disclosure more impact than the quantity of disclosure on the environmental reputation. Elliot et al. (2014) they find that association between CSR performance and investors' estimates of fundamental value that can be diminished by investors' explicit valuation of CSR performance.

To the best of our knowledge, there is no prior research on the impact of CSR disclosure quantity and quality on firm value (Habbash, and Ibrahim. 2015; Mondarah, et al. 2012), particularly in Saudi Arabia. Therefore, this study attempts to investigate this issue. Based on the above discussion and because of the mixed findings, we hypothesise that:

H1: *There is an association between the quantity of CSR disclosure and firm value in Saudi Arabia.*

Agency and signalling theories suggested that disclosure quality should help in correcting any firm mis-valuation. Both theories argued that disclosure quality should help in in reducing asymmetric information among the stock market participants, as well as between managers and investors. Therefore, firm value should be increasing as a result of disclosure quality through either reducing its cost of capital or increasing the cash flow to its shareholders or both (Elzahar et al, 2015). Prior research argues that there is little evidence on this research stream to deduct a cohesive conclusion on the relationship between disclosure quality and firm value (Hassan et al, 2009). In addition, Beattie et al. (2004: 233) argue that: "Researchers investigating the determinants and consequences of disclosure quality could be wasting their effort if the primary variable of interest Disclosure is not being measured with a sufficient degree of accuracy". Also, Beyer et al. (2010:311) review prior research different proxies for disclosure quality and conclude that: "a sensible economic definition of voluntary disclosure/ financial reporting quality and direct derivation of measures from that definition is missing from the literature. This lack of an underlying economic definition hinders our ability to draw inferences from this work, and we recommend that future research address this issue". In the CSR literature, Hasseldine et al (2005:231) showed that the quality (not the quantity) is more information for UK companies' reputation. Zahller, Arnold and Roberts (2015) showed that investors perceived organizational legitimacy to be higher for companies with higher levels of CSR disclosure quality. Hence, we expect that CSR disclosure quality should positively affect firm value. Therefore, we hypothesise that:

H2: *There is a positive association between the quality of CSR disclosure and firm value in Saudi Arabia*

4. RESEARCH DESIGN

4.1. Sample

The current study uses a sample of Annual Reports of Saudi Arabian non-financial companies listed on the Saudi Stock Exchange over the period of 2013-2014. The period chosen because it is close to the declaration of the Saudi governance code that included social contributions. In addition, the study is based on the most recent company Annual Reports that contain CSR disclosure. Moreover, non-financial companies are more likely to be utilised for their social and environmental impact, which can have a major influence on a company's reputation (Brammer and Pavelin, 2008).

The total number of non-financial companies listed in Saudi Stock Exchange for years 2013-2014 is 198. Following prior research (i.e. Hussainey and Salama, 2010), financial firms were excluded. In addition, companies with missing financial data and firms have been suspensions were excluded, this leaving a sample of 171 companies for both years. Table 1 shows the final sample sorted by industries.

Table 1. Sample classification among industries

Industry	*N*	*%*
Basic Material	28	16.4%
Consumer goods	27	15.8%
Consumer services	35	20.5%
Industrials	66	38.6%
Real states	4	2.3%
Telecommunication	7	4.1%
Utilities	4	2.3%
Total	**171**	**100%**

This Table provides the distribution of the sample amongst industries. The definitions of the industries are based on the Industry Classification Benchmark (ICB).

Annual Reports were collected from the official websites of companies. Governance data was manually collected from the companies' Annual Reports. All financial data is collected from Datastream. The table 2 shows Datastream codes for the financial data.

Table 2. Datastream Variables Definitions

Variable	*Measurement*
Leverage	The ratio of total debt to total capital (WC 08221)
Liquidity	Current ratio (WC 08106)
Cash dividends paid	Total dividends paid to common shareholders (WC 04551)
Asset growth	Total assets growth (WC 08621)
Capital expenditure assets	Capital expenditures as percentage of total assets (WC 08416)

4.2. Measuring CSR disclosure quantity and quality

This study develops two disclosure indices: one to measure the level of CSR disclosure quantity, and the other to measure CSR disclosure quality. The index for CSR disclosure quantity is based on prior research (e.g., Ng, 1995; Hackston & Milne, 1996; Hall, 2002; Newson & Deegan, 2002). This index consists of seven disclosure categories: (1) employees, (2) communities, (3) environmental issues, (4) products and services, (5) energy, (6) customers and (7) other disclosure items which are consistent and compatible with the Saudi Arabia culture and its economic environment. Appendix 1 details the disclosure index for CSR disclosure quantity. In determining the CSR disclosure quantity, an unweighted disclosure is commonly utilised. This approach has been adopted by several researchers in which an item scores one if it is disclosed and zero if it is not disclosed (Abdurouf, 2011; Haji, 2013; Aribi and Gao, 2010; Anwar et al., 2010).

Following prior research (e.g., Botosan, 2004; Jonas and Blanchet, 2000; Beest et al., 2009; Chakroun et al. 2014), this study develops a disclosure index to measure the level of CSR quality based on the qualitative characteristics of accounting information suggested in the conceptual frameworks of the International Financial Reporting Standards (IFRS) (2010A). This allows for the evaluation of the qualitative characteristics of financial information by weighted measure as provided in earlier studies (Beest et al., 2009; Chakroun & Hussainey, 2014). The study adopted the four qualitative characteristics of CSR information: "relevance," "faithful representation," "understandability" and "comparability" to assess the CSR disclosure quality in Annual Reports. The reliability and validity of our disclosure scores are checked by comparing the correlation between the scores produced by the first author with those produced by the second author for a sample of annual reports.

4.3. Measuring firm value

This study used three measurements of firm value. These are Tobin's Q ratio, market capitalization and return on assets (ROA). Although there is no agreement in the literature about an ideal measure for firm value (Mangena et al., 2012; Albassam, 2014), these measures are used extensively in prior studies. The standardization of this type of measure would be helpful to develop comparability with other studies (Munisi and Randoy, 2013).

Our first measure of firm value is the natural logarithm of a company's Tobin's Q ratio at the end of the fiscal year. Tobin's Q = [(total debt + market value of equity) / book value of total assets]. The second measure is the market capitalization (Uyar and Kilic, 2012). Market capitalization is measured as the market value of common equity at the end of a company's year of operations. The third measure is the return on assets (ROA) that determines a company's net income in relation to its total assets.

5. REGRESSION MODEL

To test the hypotheses (H1, H2), we control for corporate governance variables and firm characteristics. In particular, we consider the following variables: Board size, independent directors, governmental ownership, managerial ownership, and CEO duality, frequency of Board meetings, audit committee size, remuneration committee size, liquidity, leverage, dividends, asset growth and capital expenditure. In addition, the year and industry fixed effects were also included to control for the year and industry effect. Equation 1 examines the value relevance of CSR disclosure quantity while equation 2 examines the value relevance of CSR disclosure quality.

$$\text{Firm value} = \beta_0 + \beta_1 \text{ CSR Quan} + \beta_2\text{BSIZE} + \beta_3 \text{ INDTO} + \beta_4 \text{ GOVWN} + \beta_5 \text{ MANOW} + \beta_6 \text{ CEOD} + \beta_7 \text{ BMET} + \beta_8 \text{ ACZISE} + \beta_9 \text{ REMCOSZE} + \beta_{10}\text{LIQ} + \beta_{11} \text{ LEV} + \beta_{12} \text{ DIVI} + \beta_{13} \text{ ASTGTH} + \beta_{14} \text{ CAPEXAST} + \text{Year Fixed Effect} + \text{Industry Fixed Effect} \quad (1)$$

$$\text{Firm value} = \beta_0 + \beta_1 \text{ CSR Qual} + \beta_2\text{BSIZE} + \beta_3 \text{ INDTO} + \beta_4 \text{ GOVWN} + \beta_5 \text{ MANOW} + \beta_6 \text{ CEOD} + \beta_7 \text{ BMET} + \beta_8 \text{ ACZISE} + \beta_9 \text{ REMCOSZE} + \beta_{10}\text{LIQ} + \beta_{11} \text{ LEV} + \beta_{12} \text{ DIVI} + \beta_{13} \text{ ASTGTH} + \beta_{14} \text{ CAPEXAST} + \text{Year Fixed Effect} + \text{Industry Fixed Effect} \quad (2)$$

Where

***Firm** value measured by **TQ, ROA** and **MC; CSRQuan** refers to the quantity of CSR disclosure; **CSRQual** is the quality of CSR disclosure; **BSZE** is the total number of directors on board; **INDTO** number of independent directors in the firm board of directors, **GOVWN** Percentage of shares owned by government**, MANOW** is the aggregate percentage of shares hold by major shareholders (with at least 3% ownership), **CEOD** A dummy variable equals 1 if the chairman is the same person as the CEO of the firm,0 otherwise **BMET** is the total number of board meetings during the year; **ACSZE** is the is the total number of directors in audit committee;, **, REMCOSZE** Number of members of the firm remuneration committee, **LIQ** is firm liquidity, measured using the current ratio (current assets / current liabilities); **LEV** is firm leverage, measured using the ratio of total liabilities to total assets, **DIVI** Total dividends paid to common shareholders. **ASTGTH** is Firm asset growth ratio. **CAPEXAST** is capital expenditures assets, measured by Capital expenditures as percentage of total assets.*

5.1. Results

5.1.1 Descriptive statistics

Table 2 shows the descriptive statistics of CSR disclosure quantity and quality on firm value. The mean value of CSR disclosure quantity and quality is 9.433 and 0.334, respectively, which reveals that the value of CSR disclosure quantity in Saudi Arabian firms is higher than the value of CSR disclosure quality. In addition, the minimum and maximum values of CSR disclosure quantity range from 0.000 to 51.00. However, the minimum and maximum values of CSR disclosure quality range from 1.00 to 1.3.

Furthermore, this study uses three measurements (TQ, ROA and MC) to examine the impact of CSR disclosure on value in Saudi Arabia firms. As result, the mean value of LogTQ is 0.6647 and the minimum and maximum are 0.038 and 2.194, respectively. Moreover, the mean value of ROA is 8.976, the maximum is 36.530 and the minimum is -15.41. The mean value of MC is 15.040, whereas the minimum and maximum values are 12.88 and 19.628, respectively.

In terms of governance mechanisms, the mean value of Board size (BSZE) is 8.485 with a minimum value of 4.0 and maximum value of 12.0. This means that the Board size of Saudi Arabian firms ranges from 4-12 members. The mean value of the percentage of independent directors (INDTOR) in the Board is 4.064 with a minimum value of 0.00 and a maximum value of 11.0. In terms of ownership structure, the mean value of governmental ownership (GOVWN) is 0.032 and minimum and maximum values are 0.000 and 0.743, respectively. In addition, the mean value of managerial ownership (MANOWR) is 0.055 and the minimum is 0.000 and the maximum is 0.700. The mean value of the role duality of CEO (CEOD) is 0.357 with a minimum value of 0.000 and a maximum value of 1.0. The mean value of Board meetings (BMET) is 5.292; whereas, the minimum value is 0.000, and the maximum value is 16.0. The audit committee size (ACSZE) of Saudi Arabian firms has a mean value of 3.316 and its minimum value is 0.000 and its maximum value is 6.0. Furthermore, the mean value of remuneration committee size (REMUCOSZE) is 3.368 and the minimum value is 0.000 and the maximum value is 7.0.

With regard to firm characteristics, the mean value of firm liquidity (LIQ) is 1.39 and the minimum and maximum values are 0.070 and 5.770, respectively. The mean value of firm leverage (LEV) is 57.96 with a minimum value of 0.000 and a maximum value of 354.910. Furthermore, the dividends paid (DIVI) have a mean value of 493,507 and the minimum and maximum of 0.000 and 18,502,401, respectively. In addition, asset growth (ASTGTH) has a mean value of 8.736 and the minimum and maximum values of -28.730 and 75.120, respectively. Finally, the mean value of capital expenditure assets (CAPEXAST) is 7.558 and the minimum value is 0.000 and the maximum value is 56.950.

Table 3. Sample descriptive statistics

	N	*Mean*	*Std Dev.*	*Minimum*	*25%*	*Medium (50%)*	*75%*	*Maximum*
Log TQ	171	.6647	.4891	.038	.260	.582	.926	2.194
Log Capitalization	171	15.040	1.3786	12.88	14.036	14.694	15.977	19.628
Return assets	171	8.976	9.064	-15.41	3.480	7.810	12.580	36.530
CSR quant	171	9.433	9.517	.000	2.000	6.000	15.000	51.0
CSR qual	171	.334	.1417	.100	.2000	.325	.425	1.300
BSZE	171	8.485	1.606	4.00	7.000	9.000	9.000	12.0
INDTOR	171	4.064	1.587	.000	3.000	4.000	5.000	11.0
GOVWN	171	.0325	.1347	.000	.000	.000	.000	.7431
MANOWR	171	.0557	.1264	.000	.000	.000	.0450	.7000
CEOD	171	.357	.4804	.000	.000	.000	1.000	1.0
BMET	171	5.292	2.3230	.000	4.000	5.000	6.000	16.0
ACSZE	171	3.316	.9297	.000	3.000	3.000	4.000	6.0
REMUCOSZE	171	3.368	1.0677	0.000	3.000	3.000	4.000	7.0
LIQ	171	1.393	1.275	.0700	.480	.960	1.770	5.770
LEV	171	57.961	67.515	.000	8.200	32.760	87.490	354.910
DIVI	171	493507	1858755	0.000	23.000	65000	306000	18502401
ASTGTH	171	8.736	13.750	-28.730	.000	6.200	14.550	75.120
CAPEXAST	171	7.558	8.760	.000	1.470	4.630	11.090	56.950
Firm value measured by **TQ, ROA** and **MC; CSRQuan** refers to the quantity of CSR disclosure; **CSRQual** is the quality of CSR disclosure; **BSZE** is the total number of directors on board; **INDTO** number of independent directors in the firm board of directors, **GOVWN** Percentage of shares owned by government**, MANOW** is the aggregate percentage of shares hold by major shareholders (with at least 3% ownership), **CEOD** A dummy variable equals 1 if the chairman is the same person as the CEO of the firm,0 otherwise **BMET** is the total number of board meetings during the year; **ACSZE** is the is the total number of directors in audit committee;, **, REMCOSZE** Number of members of the firm remuneration committee, **LIQ** is firm liquidity, measured using the current ratio (current assets / current liabilities); **LEV** is firm leverage, measured using the ratio of total liabilities to total assets, **DIVI** Total dividends paid to common shareholders. **ASTGTH** is firm Assets growth ratio, **CAPEXAST** is capital expenditures assets, measured by Capital expenditures as percentage of total assets.								
***, **, * indicate significance at .001, .05 & .1 level.								
This table provides the descriptive statistics of CSR disclosure quantity and quality, in addition to explanatory variables.								

5.1.2 Correlation analysis

Gujarati and Porter (2009) show that variables have high correlation if the correlation is higher than 0.80, and thus conclude that multi-collinearity among variables is acceptable if the correlation coefficients are less than 0.80. Table 3 shows the Pearson correlation. It shows that correlations are relatively low (less than 0.80) among all variables which indicate that there is no multi-collinearity problem.

An additional check for multi–collinearity was performed by calculating the Variance Inflation Factor (VIF) after each regression model. Earlier research has stipulated that if the VIF value is more than 10, then there is certain to be a multi-collinearity problem. The mean and maximum values of the VIF investigations were formulated with the regression results to show that there is no need to be concerned with this problem (Field, 2009).

Table 3 shows that CSR disclosure quantity is positively correlated with market capitalization at 0.371 (5% significance level). However, there is no correlation between CSR disclosure quantity and the other measurements. It provides evidence that CSR disclosure quantity is statistically correlated positively with some corporate governance variables such as BSZE at 0.182 (10% significance level), CEO duality at 0.191 (10% significance level), ACSZE at 0.173 (10% significance level), and correlated positively and negatively with firm characteristics, such as dividends paid at 0.287 (5% significance level) and CAPEXAST at -0.187 (10% significance level).

In addition, the CSR disclosure quality is associated positively with market capitalization at 0.305 (5% significance level). However, there is no correlation with the two other measurements. Table 3 shows that it is correlated with one variable of corporate governance, such as managerial ownership at 0.199 (5% significance level), and with firm characteristics, such as dividends paid at 0.338 (5% significance level).

Moreover, the Pearson correlation matrix indicates a significant association between CSR disclosure quantity and quality with some firm characteristic variables. This study finds that there is a positive relationship between CSR disclosure quantity and quality and both are significantly correlated with dividends paid at 0.287 and 0.338, respectively (5% significance level).

This result is consistent with prior research, such as Elliott, Jackson, Peecher and White (2014), who show that CSR disclosure is negatively associated with firm value. According to Klein et al. (2005), firm value rises with greater corporate governance disclosure, thus we suppose that voluntary disclosure has a positive impact on the firm value. Previous studies (Sheu et al., 2010; Gordon et al., 2010) pointed out that voluntary disclosure has an impact on firm value based on the signalling theory. Consequently, more disclosure signals give a better governance mechanism and reduce agency conflicts.

Table 4. Pearson correlation matrix

	CSR quant	CSR qual	LogTQ	Log Capitalization	Return assets	BSZE	INDTO	GOVWN	MANOW	CEOD	BMET	ACSZE	REMCOSZE	LIQ	LEV	DIVI	ASTGTH	CAPEXAST
CSR quant	1	.668**	.037	.371**	.118	.182*	.001	.079	.021	.191*	.063	.173*	.000	-.008	-.095	.287**	-.048	-.187*
		.000	.630	.000	.123	.017	.991	.301	.788	.012	.414	.024	.996	.914	.216	.000	.536	.014
CSR qual		1	.054	.305**	.024	.092	-.098	.096	.199**	.108	-.029	.142	.071	.036	-.080	.338**	.054	-.127
			.486	.000	.756	.232	.203	.209	.009	.159	.704	.064	.357	.639	.296	.000	.481	.097
LogTQ			1	.009	.553**	-.148	-.065	-.105	.210**	.095	-.040	-.047	.031	.195**	-.522**	-.015	.145	.245**
				.910	.000	.053	.401	.172	.006	.214	.606	.540	.684	.011	.000	.851	.058	.001
Log Capitalization				1	.284**	.371**	-.099	.426**	.026	.116	.177*	.304**	.272**	.030	.183	.562	-.014	-.016
					.000	.000	.200	.000	.734	.131	.021	.000	.000	.694	.017	.000	.854	.831
Return assets					1	.157*	.060	-.165*	.130	.173*	.010	-.016	.089	.271**	-.362**	.114	.109	.197**
						.041	.438	.031	.089	.023	.897	.840	.248	.000	.000	.137	.157	.010
BSZE						1	.352**	.089	-.020	.049	.047	.165*	.286**	-.004	.081	.088	.004	-.129
							.000	.245	.798	.527	.543	.031	.000	.956	.291	.253	.960	.093
INDTO							1	-.099	.049	-.038	.011	.062	-.018	.046	-.074	-.087	-.054	-.164*
								.200	.525	.622	.888	.421	.820	.546	.339	.257	.481	.032
GOVWN								1	-.107	-.022	.119	.278**	.254**	-.030	.226**	.495**	-.035	.012
									.163	.771	.122	.000	.001	.701	.003	.000	.647	.873
MANOW									1	-.050	-.155*	-.098	-.089	-.064	-.069	-.070	.245**	.142
										.514	.043	.202	.246	.408	.369	.365	.001	.065
CEOD										1	-.073	.062	-.017	-.033	-.147	.177*	.044	-.135
											.343	.418	.826	.670	.055	.021	.563	.077
BMET											1	.172*	.189*	-.113	-.073	.158*	-.203*	.033
												.024	.013	.143	.346	.040	.008	.669
ACSZE												1	.635**	.001	.121	.216**	-.236**	-.133
													.000	.986	.116	.004	.002	.082
REMCOSZE													1	-.021	.090	.249**	-.166*	-.049
														.786	.241	.001	.030	.526
LIQ														1	-.301*	.122	.009	-.143
															.000	.111	.906	.063
LEV															1	-.060	-.069	-.129
																.437	.373	.094
DIVI																1	-.114	-.042
																	.138	.584
ASTGTH																	1	.339**
																		.000
CAPEXAST																		1

Firm value measured by **TQ, ROA** and **MC; CSRQuan** refers to the quantity of CSR disclosure; **CSRQual** is the quality of CSR disclosure; **BSZE** is the total number of directors on board; **INDTO** number of independent directors in the firm board of directors, **GOVWN** Percentage of shares owned by government**, MANOW** is the aggregate percentage of shares hold by major shareholders (with at least 3% ownership), **CEOD** A dummy variable equals 1 if the chairman is the same person as the CEO of the firm,0 otherwise **BMET** is the total number of board meetings during the year; **ACSZE** is the is the total number of directors in audit committee;, **, REMCOSZE** Number of members of the firm remuneration committee, **LIQ** is firm liquidity, measured using the current ratio (current assets / current liabilities); **LEV** is firm leverage, measured using the ratio of total liabilities to total assets, **DIVI** Total dividends paid to common shareholders. **ASTGTH** is firm Assets growth ratio, **CAPEXAST** is capital expenditures assets, measured by Capital expenditures as percentage of total assets.

This table provides the pearson correlation of CSR disclosure quantity and quality, in addition to explanatory variables.

5.3 Regression result

Tables 4 and 5 show the results of OLS regression analyses. Table 4 shows the results of the value relevance of CSR disclosure quantity (Model 1), while, Table 5 reports the results of the value relevance of CSR disclosure quality (Model 2).

The regression tables show that F-values of Model 1 are 5.997; 4.667 and 13.242 for Tobin's Q model (TQ), return on assets (ROA) model and the market capitalisation (MC) model, respectively. F-values of Model 2 are 5.982; 4.672, and 10.883 for TQ; ROA and MC models, respectively. These values indicate that both Models 1 and 2 are statistically significant. Moreover, the adjusted R-Squared of Model 1 for the three measurements (TQ, ROA, MC) are 0.382, 312 and 0.602, respectively. Adjusted R-Squared of Model 2 are 0.381, 0.312 and 550, respectively for TQ, ROA and MC models.

In terms of CSR disclosure, there is a significant positive association between CSR quantity and firm value proxied by market capitalization (MC) at a 1% level of significance. However, the CSR disclosure quantity is not statistically significant with Tobin's Q ratio or ROA at any level of significance. Regarding CSR disclosure quality, there is a significant positive relationship between CSR disclosure and firm value measured by market capitalization (MC) at a 5% level of significance. On the other hand, there is no statistical significance with Tobin's Q or ROA at any level of significance. Our analysis shows a positive association between CSR disclosure quality and quantity and market capitalization. However, we did not find the same results when we use either Tobin's Q or Return on Assets (ROA) as proxies for firm value. This suggests that both CSR disclosure quantity and quality have the same impact on firm value. However, the significance of this impact depends on whether the authors use market capitalisation, Tobin's Q or ROA. Therefore, it is not safe to accept H1 and H2.

Prior research (e.g. Hassan et al. 2009) finds that voluntary disclosure has a positive but insignificant association with firm value. On the other hands, the result shows that the mandatory disclosure has a negative association with firm value and highly significant. Dybvig & Warachka (2015) argued that Tobin's Q does not measure firm performance and it provides the two new measures for the firm value which are efficiency measure and assesses cost discipline. Consequently, this shortage of statistical significance supports the view that there is a conflicts relationship of determining the relationship between CSR disclosure and firm value. In addition, there is no agreement in the literature about an ideal measure for firm value (Mangena et al., 2012; Albassam, 2014). The finance theory suggestion that more public information increases firm value by reducing the firm's cost of capital or increasing the cash follows that accrue to shareholders ((Botosan & Plumlee, 2002). Furthermore, firm value should be increasing as a result of disclosure quality through either reducing its cost of capital or increasing the cash flow to its shareholders or both (Elzahar et al, 2015). Dhaliwal et al. (2011) found that firms that report non-financial social responsibility information are more likely to raise larger amounts of equity capital in the two years following the reporting, compared with non-reporting firms. From a signaling perspective, managers seeking finance assistance may wish to send good signals to the investors and debt holders. Looking at the control variables, we noted that the impact of firm characteristics and corporate governance on firm value is not the same in our models. This is because of the definition of our dependent value (firm value) and our independent variable (CSR quantity versus quality).

Table 5. Regression result of CSR quantity

	Tobin Q			Return on assets (ROA)			Market capitalization (MC)		
	Coefficient	**t- Statistics**	**Sign**	**Coefficient**	**t- Statistics**	**Sign**	**Coefficient**	**t- Statistics**	**Sign**
Constant	.745***	3.265	.001	-4.889	-1.096	.275	11.540***	22.361	.000
CSR quan	.002	.416	.678	.022	.286	.775	.045***	4.942	.000
BSZE	-.028	-1.237	.218	1.083**	2.449	.015	.202***	3.948	.000
INDTOR	-.018	-.848	.398	-.075	-.179	.858	-.098**	-2.042	.043
GOVWN	.199	.621	.535	-15.744**	-2.510	.013	1.999***	2.756	.007
MANOWR	.467*	1.852	.066	6.038	1.224	.223	1.447**	2.536	.012
CEOD	.110	1.604	.111	2.934**	2.196	.030	.081	.526	.600
BMET	-.008	-.528	.599	.377	1.303	.194	.045	1.333	.184
ACSZE	-.028	-.611	.542	-.729	-.820	.414	.145	1.407	.161
REMUCOSZE	.075*	1.844	.067	1.071	1.351	.179	.048	.525	.601
LIQ	.062**	2.231	.027	1.484***	2.751	.007	.041	.655	.513
LEV	-.003***	-4.437	.000	-.028**	-2.370	.019	.001	.928	.355
DIVI	-.008	-.764	.446	-007*	1.732	.085	-.007**	2.585	.011
ASTGTH	-.001	-.366	.715	-.027	-.515	.607	.007	1.154	.250
CAPEXAST	.006	1.437	.153	.262***	3.308	.001	.019**	2.020	.045
Adjusted R-Squared	.382			.312			.602		
F -test **F Sig.**	5.997*** .000			4.667*** .000			13.242*** .000		
Durbin-Watson	1.335			1.255			1.294		
Observation	171			171			171		

Firm value measured by **TQ, ROA** and **MC; CSRQuan** refers to the quantity of CSR disclosure; **CSRQual** is the quality of CSR disclosure; **BSZE** is the total number of directors on board; **INDTO** number of independent directors in the firm board of directors, **GOVWN** Percentage of shares owned by government**, MANOW** is the aggregate percentage of shares hold by major shareholders (with at least 3% ownership), **CEOD** A dummy variable equals 1 if the chairman is the same person as the CEO of the firm,0 otherwise **BMET** is the total number of board meetings during the year; **ACSZE** is the is the total number of directors in audit committee;, **, REMCOSZE** Number of members of the firm remuneration committee, **LIQ** is firm liquidity, measured using the current ratio (current assets / current liabilities); **LEV** is firm leverage, measured using the ratio of total liabilities to total assets, **DIVI** Total dividends paid to common shareholders. **ASTGTH** is firm Assets growth ratio, **CAPEXAST** is capital expenditures assets, measured by Capital expenditures as percentage of total assets.

***, **, * indicate significance at .001, .05 & .1 level.

This table reports the Regression Results of the impact of CSR disclosure quantity of the firm value

Table 6. Regression result of CSR quality

	Tobin Q			Return on assets (ROA)			Market capitalization (MC)		
	Coefficient	**t- Statistics**	**Sign**	**Coefficient**	**t- Statistics**	**Sign**	**Coefficient**	**t- Statistics**	**Sign**
Constant	.759***	3.187	.002	-4.255	-.915	.362	11.404***	19.931	.000
CSR qual	-.019	-.079	.937	-1.838	-.386	.700	1.214**	2.075	.040
BSZE	-.025	-1.112	.268	1.161***	2.666	.009	.249***	4.657	.000
INDTOR	-.020	-.920	.359	-.132	-.312	.755	-.112**	-2.155	.033
GOVWN	.181	.568	.571	-16.127**	-2.586	.011	1.659**	2.162	.032
MANOWR	.473*	1.824	.070	6.505	1.283	.201	1.182*	1.894	.060
CEOD	.111	1.626	.106	2.929**	2.194	.030	.151	.918	.360
BMET	-.007	-.482	.631	.384	1.337	.183	.067*	1.898	.060
ACSZE	-.023	-.520	.604	-.633	-.724	.470	.228**	2.119	.036
REMUCOSZE	.069*	1.768	.079	.959	1.252	.213	-.057	-.606	.545
LIQ	.060**	2.185	.030	1.451***	2.700	.008	.015	.233	.816
LEV	-.003***	-4.456	.000	-.028**	-2.417	.017	.001	.780	.436
DIVI	-.008	-.609	.543	.007**	1.985	.049	-.007***	3.549	.001
ASTGTH	-.001	-.353	.725	-.026	-.495	.621	.007	1.141	.256
CAPEXAST	.005	1.332	.185	.251***	3.165	.002	.013	1.363	.175
Adjusted R Square	.381			.312			.550		
F -test **F Sig.**	5.982*** .000			4.672*** .000			10.883*** .000		
Durbin-Watson	1.322			1.246			1.184		
Observation	171			171			171		

Firm value measured by **TQ, ROA** and **MC; CSRQuan** refers to the quantity of CSR disclosure; **CSRQual** is the quality of CSR disclosure; **BSZE** is the total number of directors on board; **INDTO** number of independent directors in the firm board of directors, **GOVWN** Percentage of shares owned by government**, MANOW** is the aggregate percentage of shares hold by major shareholders (with at least 3% ownership), **CEOD** A dummy variable equals 1 if the chairman is the same person as the CEO of the firm,0 otherwise **BMET** is the total number of board meetings during the year; **ACSZE** is the is the total number of directors in audit committee;, **, REMCOSZE** Number of members of the firm remuneration committee, **LIQ** is firm liquidity, measured using the current ratio (current assets / current liabilities); **LEV** is firm leverage, measured using the ratio of total liabilities to total assets, **DIVI** Total dividends paid to common shareholders. **ASTGTH** is firm Assets growth ratio, **CAPEXAST** is capital expenditures assets, measured by Capital expenditures as percentage of total assets.

***, **, * indicate significance at .001, .05 & .1 level.

This table reports the Regression Results of the impact of CSR disclosure quantity of the firm value

6. CONCLUSION

This study aims to examine the impact of quantity and quality of CSR disclosure on the value of a firm. It uses a sample of Saudi Arabian, non-financial listed firms over the period of 2013-2014. It uses three measurements of firm value (Tobin's Q, ROA and MC). The study finds that both CSR disclosure quantity and quality are significantly associated with the firm value measured by MC. However, both CSR disclosure quantity and quality are not significantly associated with TQ and ROA as proxies of firm value.

This study offers important implications for the users of Annual Reports in Saudi Arabia and for companies as well. This study finds evidence that the disclosure of CSR could affect the value of firms. It is provides important implications for managers of Saudi firms by encourage and pay more attention to the CSR activities in the firm's operations and highlights the importance of this type of disclosure to their firms.

The study has some limitations that could be considered as avenues for future research. First, it focuses only on three measurements of firm value which are Tobin's Q, return on assets and market capitalisation. It would be interesting to use other measures for firm value, such as scale efficiency measures, as suggested by Dybvig & Warachka (2015). Second, this study focuses on the CSR disclosure of non-financial firms only. It would be interesting to examine the association between CSR disclosure and firm value for financial companies. We finally suggest that further research could examine the economic consequences of CSR disclosure quantity versus quality by looking at the impact of disclosure on analysts' forecasts; share price anticipation of earnings and the cost of capital.

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APPENDICES

Appendix1: CSR disclosure quantity index

1. Employee	**5. Environmental Issues**
Employee Data	Environmental policy statement
Training &Development	Designing facilities harmonious with environment
Employees Benefit	Using recycling material
Pension	Sponsoring environmental activities
Work place	pollution
2. Community	Waste management
Community investment	Conservation of natural resources
Contribution to national economy	**6. Energy**
Education	Disclosing the company energy policies
Health and safety	Conservation of energy
Social Loan	Disclosing increased energy efficiency of products
Social activities support	**7. Other Disclosures regarding to Saudi environment**
Funding scholarship programs	Charitable society for the holy Quran memorization holly
Human rights	Ongoing charity (WAGFF)
Charity & Donation	Hajj donations
volunteering	Others disclosure related to Sharia activities
Establish non-profit project	
3. Products and Services	
Developing & innovating new products	
Products & services quality	
ISO & other awards	
Guidance campaigns	
4. Customer	
Information of commercial and marketing	
Meeting customer needs	
customer feedback	
Customer service	
Customer satisfaction	
Existing of certificated systems of quality	

Appendix 2: The index to measure of CSR disclosure quality adopted from Beest et al. (2009 and Chakroun et al. 2014)

Relevance			
Question no	**Question**	**Likert's**	**Literature**
R1	To what extent does the company disclosed the CSR in the annual report?	1 = No disclose about CSR 2- Disclosed of CSR information limited (boilerplate paragraph). 3 = Disclosed for Forward-looking information. 4 = Apart subsection of CSR. 5 = Extensive information useful for making expectation.	e.g. McDaniel et al., 2002; Jonas and Blanchet, 2000 Chakroun et al. 2013
R2	To what extent does the presence of non-financial company in terms of business opportunities and to what extent contribute to the society and environment?	1 = No non-financial information 2 = Little non-financial information, no useful for forming expectations 3 = Useful non-financial information 4 = Useful financial information, helpful for developing expectations 5 = Non-financial information presents additional information which helps developing expectations	e.g. Jonas and Blanchet, 2000 Chakroun et al. 2013
Faithful representation			
F1	To what extent does the company, in the discussion of CSR in the annual report, highlight the positive events as well as the negative events?	1 = No positive & negative events, are mentioned 2 = Negative events only mentioned in footnotes 3 = Emphasize on positive events 4 = Balance positive/negative events of CSR 5 = Impact of positive/negative events of CSR is also explained	e.g. Razaee, 2003; Cohen et al., 2004 Chakroun et al. 2013
F2	To what extent does the company provide more explain of CSR information?	1 = No description of CSR 2 = Information on CSR limited, 3 = Apart subsection of CSR 4 = Extra attention paid to information concerning CSR 5 = Comprehensive description of CSR	e.g. Jonas and Blanchet, 2000
Understandability			
U1	To what extent is the annual report presented of CSR in a well-organized manner?	1 = Very bad presentation (no text of CSR) 2 = Bad presentation (text only) 3 = Poor presentation (text and graphs) 4 = Good presentation (text, graphs and ratio) 5 = Very good presentation (full paragraph with more descriptive)	e.g. Jonas and Blanchet, 2000 Chakroun et al. 2013
U2	To what extent does the presence of graphs and tables clarifies the presented information of CSR?	1 = No graphs 2 = 1-5 graphs 3 = 6-10 graphs 4 = 11-15 graphs 5 = > 15	e.g. Jonas and Blanchet, 2000
Comparability			
C1	To what extent is the information of CSR in the annual report comparable to information provided by other organizations?	1 = No comparability (no paragraph) 2 = Limited comparability (one paragraph) 3 = Moderate comparability (two paragraph) 4 = Very much comparability (two paragraph with numbering) 5 = Very extensive comparability (more than above)	e.g. IASB, 2008; Jonas and Blanchet, 2000. Chakroun et al. 2013
C2	To what extent does the company presents financial index numbers of CSR and ratios in the annual report?	1 = No ratios 2 = 1-2 ratios 3 = 3-5 ratios 4 = 6-10 ratios 5 = > 10 ratios	e.g. Cleary, 1999

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Conference concept

The way of doing business has changed unrecognizable since the time when the first corporations were created. It has chained substantially even during the last 20 years. Separation of the ownership and control in corporations creates the whole range of sophisticated processes and procedures in the activity of any company and its governance. Company's performance and strategy mostly depend on whether shareholders and directors can create efficient control system over managers and whether managers can provide a smooth day to day activity of business without excessive risks. To what extent the corporation should be transparent, what level of the shareholder activism is optimal, how to motivate but not to force executives to gamble with the company, how to manage risk, how to work ethically: all these issues arose from the corporate governance, ownership and control paradigm. Very important role in this the process of corporate governance plays the third party – regulators who on their side wish to increase market stability and efficiency through new reforms and stricter rules of the "game". The conference will provide the platform for academics and practitioners to analyze past and actual practices and regulations in corporate governance and estimate future trends and upcoming challenges for the mentioned issues and outline possible scenarios of their development.

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Key Topics

- Corporate governance
- Corporate Governance regulation
- Reforms in Corporate Governance
- Board of directors
- Minority/Majority shareholders
- Shareholder activism
- State/Private/Family ownership
- M&As, corporate reorganization
- Audit
- Executive remuneration
- Transparency, accountability and misreporting
- Risk management and corporate governance

INTERNATIONAL CONFERENCE "REPORTING, INVESTOR RELATIONS, CAPITAL MARKETS - CHALLENGES AND OPPORTUNITIES IN ACCOUNTING AND FINANCE", LEIPZIG (GERMANY) NOVEMBER 9-10, 2016

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- etc.